

Archaeology Research Excavation Grant 2021

Alan Hawkes

1. Title: Dr

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2. Email:

3. Grant programme

Archaeology Research Excavation Grant

4. Year awarded

2021

5. Title of project

The Rathcoran Hillfort Project

6. Summary of report (Min. allowed 100 words)

This report presents the preliminary results of on-going post-excavation analysis associated with 5 seasons of excavation of an Early Neolithic hilltop enclosure (Rathcoran) in the townlands of Collinarrig Upper, Pinnacle and Tuckmill Hill, Co. Wicklow (Hawkes 2017; 2018; 2019; 2020; 2021). This year, much of the focus was concentrated on processing and analysis of soil samples for charcoal and other archaeobotanic remains to identify suitable samples for a comprehensive programme of radiocarbon dating. According to Lyons (2021, 10), 'environmental evidence from hilltop enclosures and Hillforts is under-represented, largely due to the paucity of environmental evidence that can survive from key contexts or are sampled in the field. Charcoal has traditionally been identified only as part of the radiocarbon programme, however, more robust analyses of charcoal from sites like Rathcoran produces a new corpus of data that can build upon current archaeological evidence for hillfort research'. The analysis is now given greater credence by the fact that Rathcoran is confirmed to be a rare Neolithic hilltop enclosure, possible of the causewayed variety of which only five are currently known in Ireland.

Charcoal and plant macrofossil analysis

A total of 40 soil samples were selected for full analysis by Dr Susan Lyons. 982 charcoal fragments weighing 209.4 grams and representing 8 wood taxa were identified from the Rathcoran samples. Oak (*Quercus* sp.) dominated accounting for 58% (529 counts) of the identified assemblage. Pine cf. Scots' Pine (*Pinus sylvestris*) (87 counts), hazel (*Corylus avellana*) (83 counts), and willow (*Salix* sp.) (78 counts) each accounted for 9% of the charcoal identified. Pomaceous woods (*Maloideae* spp.) (42 counts) made up 5% of the assemblage, with elm (*Ulmus* sp.) (33 counts) at 3% and alder (*Alnus glutinosa*), cherry-type (*Prunus* sp.), ash (*Fraxinus excelsior*) and birch (*Betula* sp.) all at 2% or less (≤ 20 counts). Other charred material included hazelnut shells recovered from inside the outer bank, the quarry hollow, and the internal ditch. Charred emmer wheat was found at the base of the internal ditch. The notable presence of hazel and willow charcoal is also significant within the context of the Rathcoran samples, particularly since they were recorded from deposits where

oak charcoal was lower. Much of this material was also classified as young diameter roundwoods (<11 years) reflecting the remains of possible wattling.

Aside from 6 previously dated remains, 15 additional samples were selected from the identified remains for dating, including charred hazelnut and cereal remains from securely sealed deposits across 5 different trenches. No dating evidence was recovered Trench 6. Samples were selected by Dr Susan Lyons and submitted to Dr Stephen Hoper Chono Lab, Queens University Belfast for dating.

The results of this dating programme are pending as of November 2021. Bayesian analysis by Dr Kevin Kearney who has recently conducted Pollen analysis in the landscape will follow.

Pottery analysis

A quantity of prehistoric pottery was recovered from two separate contexts within an excavated quarry hollow (Trench 5), in 2020. At the base of the ditch, 14 fragments (total weight 197g) were recovered and identified by Dr Eoin Grogan (2021) as coming from a single Early Neolithic carinated vessel. The pot is well-fired, and the upper external surface may have been burnished. At a much higher level in the trench, an overlying Neolithic backfill was found another small assemblage of pottery (25 sherds, 11 fragments; total weight 160g) from a single early Bronze Age Bowl Tradition vessel. The preserved sherds indicate a sparsely decorated vessel with simple, elongated, oval whipped cord ('maggot') impressions along the rib.

A single sherd of burnished ware recovered from a pit in Trench 4 was identified by Elaine Lynch (2020) as coming from a Middle Neolithic vessel. This is consistent with a radiocarbon date from willow charcoal, also found within the pit.

Excavations in 2021 of a potential internal ditch to the monument produced another fine assemblage of pottery along with charred cereal remains identified as emmer wheat (Susan Lyons pers comm.). Preliminary identifications suggest this pottery is also of the Early Neolithic carinated variety but the analysis is ongoing. While small this is an important assemblage that extends considerably the range of prehistoric activity on the hilltop identified through earlier excavations.

Lipid analysis

The Early Neolithic carinated ware from the quarry hollow (Trench 5) was selected for further scientific analysis with the objective to determine whether absorbed organic residues were preserved in three sherds (rim and two body sherds). This was conducted by Dr Julie Dunne of Bristol University.

The analysis was successful. The Rathcoran vessel showed a large accumulation of lipids along the rim, suggesting the boiling (heating) of milk-based produce. The presence of ketones, which are thought to accumulate gradually with repeated use, suggests the vessel was used for the sustained processing of dairy products at high temperatures (Dunne et al. 2021, 9).

This work is ongoing. The body of lithics and coarse stone tools were recovered from Trench 3, Trench 4, and Trench 5, with a small number of possible finds from Trench 2 and Trench 7. They comprise struck lithic material of flint and chert with a stone axe fragment, a hone, a quartz burnishing stone, a granite hammer stone, and several rounded stones.

Report production

A full aerial survey of the enclosure was conducted in 2020 and 2021 by Aidan

Harte. 3D Photogrammetry surveys of each trench were conducted with additional support by UCC. All onsite hand drawings are now fully digitized to report standard. Artefact and samples lists have been digitized and preliminary reports for each season have been completed.

7. Date the report was submitted **Nov 19, 2021**

8. Please provide two appropriate images



9. Please outline the objectives of the project

The central objective of the Rathcoran Hillfort Project was to obtain information on the design of the enclosing elements and the methods and materials employed in the construction of one of the largest prehistoric enclosures in Ireland. It was hoped to obtain dating evidence for the construction and abandonment of the enclosure. There was also the possibility of recovering artefacts and environmental evidence relating to the occupation of the site. This information was deemed vital to our understanding of the hilltop and the local area. Recent surveys and excavation reveal the Baltinglass landscape was a seminal area in both the Late Bronze Age and Early Neolithic with the construction of large hilltop sites over a 3000 year period. The Neolithic landscape in Baltinglass is one of the most extensive known in Ireland, with evidence for the three largest enclosures from this time period in Ireland, Rathcoran being the most impressive and well-preserved. We know very little about these sites in Ireland, but their appearance is paralleled in Britain and Western Europe with the influx of farming, where they have been interpreted as enclosures built to forge new communities through acts of large-scale communal activities; seasonal meeting places, and trading centres. These monuments are associated with Ireland's first farmers, and as such, have a strong archaeological and cultural importance, and are integral to how we study this period of Irish history, and on a broader scale, of how we study the spread of farming throughout Europe and the cultural 'packages' that accompanied it.

10. Please describe the methodology used in conducting the research

Archaeological excavation over five seasons with a research design and excavation methodology prepared and agreed with the relevant licensing authority.

Individual methodologies pertinent to each specialist were used in conducting the charcoal, lithic, and pottery/lipid analysis.

11. Please outline the findings of

The overall objective of the 'Rathcoran Hillfort Project' is to explore the

your research and/or milestones achieved

construction origins of the monument, mainly through investigation of each of the ramparts.

Five seasons of excavation have successfully answered these central research questions and has brought to close outstanding queries relating to the construction origins of the site. Trenches targeting each of the enclosing elements have confirmed that the prominent hilltop location was first enclosed by a timber oak palisade during the Early Neolithic (c.3762-3525 BC). The fence was supported by a low earthen/stone bank (c.2.9m wide by 1m high), material for which was extracted from an internal ditch that was c. 4.2m wide and 1.2m deep. This ditch contained a burnt layer near the base that contained hazel charcoal, charred hazelnut shell, Neolithic carinated ware, charred emmer wheat (Susan Lyons, pers comm.), and a burnishing stone. After the fence line was destroyed by fire along the north-western side, it was immediately replaced with a substantial stone and earthen bank that was retained on the outside by an impressive revetment. The stone from this bank was shale quarried from large hollows that were intentionally backfilled afterwards, sealing an additional carinated pottery vessel used to cook milk-based produce. The internal ditch was backfilled at this time, sealing the aforementioned burnt layer. The outer enclosing element and associated ditch was also added at this time (3636-3377 BC), with the primary bank material derived from soil excavated from the ditch. This was overlain with a large stone component, excavated from adjacent quarry hollows. Finds recovered from the inside of the outer bank included a broken polished stone axe, a hone stone, several struck lithics including flint and chert hollow scrapers, seemingly deposited together and overlain with several flat stones and quartz stone. Later Neolithic activity relating to quarrying for the building of the central passage tomb was also found during the excavation of two terraced platforms. One contained a large linear pit that contained a sherd of Middle Neolithic pottery. There was no evidence uncovered to suggest these were roofed structures for habitation. Bronze Age occupation however was identified within one of the backfilled Neolithic quarry hollows. A hearth was found along with several sherds of pottery from an Early Bronze Age vessel. It is possible some intermittent activity took place at the site during the 2nd millennium BC with some later remodelling of the ramparts c.800 years later. This is evidenced by the dating of charcoal found under the stone mantle at the top of the inner bank.

12. a) Please provide details of the dissemination of the outcomes from this project (inc. publications, presentations, outreach, media etc.) including details of any social media/web platforms used to publicise this project

Since the project began, I have published two papers that provide a preliminary summary of the results. I have also presented the results at two IAI conferences and for students at University College Cork, one of which was online. I have given a talk in the local community for Heritage Week in 2019 and 2021 I provided a powerpoint presentation that was published online.

Hawkes, A. 2019. Archaeological excavations on Baltinglass Hill: An update. *Journal of the West Wicklow Historical Society* Vol. 10, 11-16.

Hawkes, A. 2018. Excavations at Rathcoran Hillfort, Co. Wicklow. *Institute of Archaeologists of Ireland Autumn Newsletter* Issue 18, Series 2, 21-23.

b) No. of Academic Papers/articles published:

2

c) No. of Lectures given/outreach events involved in:

4

e) How will you continue to communicate the results of your

Now that the post-excavation analysis is nearing completion, full publication of the results is envisaged. This will take the form of two articles in peer-reviewed

project and what are your publication plans?

journals such as the Proceedings of the Royal Irish Academy and the Proceedings of the Prehistoric Society. A summary account will also be prepared for Archaeology Ireland.

A full account of the results along with a greater analysis of the Neolithic landscape of Baltinglass will also be published as a book with colleagues Dr James O'Driscoll (University of Aberdeen) and Professor William O'Brien (UCC).

16. How did the grant enhance your professional development

The grant process aided my professional development immensely and afforded me the pleasure to work with other eminent archaeologists and experts I would not otherwise have the opportunity to meet.

17. What plans (if any) do you have to further your proposal/project

It is envisaged that some further archaeological survey/excavation work may take at the site or immediate landscape in the future.

