



***OSCAIL: CREATING A DIGITAL FRAMEWORK FOR IRELAND'S  
ARCHAEOLOGICAL ARCHIVES***

*FINAL PROJECT REPORT APRIL 2020*

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## 1. EXECUTIVE SUMMARY

The *OSCAIL* project funded by Creative Ireland since October 2018 has proven to be a substantial project with the potential to progress on a long-term phased basis. The project's main aims of its initial phase have been accomplished. These consisted of drawing attention to the wealth and potential of Irish archaeological archives and to initiate a dialogue between the representatives of repositories of these archives on making archaeological data available as Open Data and on the creation of a long-term digital strategy.

The pilot project was divided into three actions:

- Action 1: a pilot project to construct a thesaurus for archaeological object terms was undertaken by the Discovery Programme, in collaboration with the Irish Antiquities Division of the National Museum of Ireland (NMI). To date in Ireland, an object thesaurus has not been constructed that has been widely adopted within the sector. The absence of a thesaurus was highlighted in a survey conducted by The Discovery Programme in 2014 as part of the EU funded ARIADNE project. The Creative Ireland/*OSCAIL* pilot project in the NMI was the first step towards redressing this problem. Ideally a thesaurus will provide indexing and retrieval support and will assist in the integration of archaeological datasets to enable them to be made available as Link Open Data (LOD).
- Action 2: a seminar was hosted by the Discovery Programme and the Heritage Council in the Royal Irish Academy on 22 March 2019. The aim of the seminar was to initiate a dialogue among stakeholders towards making archaeological data available as Open Data. Speakers on the day were from a variety of sectors including archaeology, digital, archives and cultural heritage. The seminar was attended by professionals and interested groups and individuals from across the cultural heritage sector. Similar issues were identified across the various institutions, namely, the absence of agreed thesauri, devising an appraisal policy regarding retention of archival material, conservation of paper and digital archives, training creators of archives in relation to metadata and appraisal, lack of resources or no long-term commitment to accomplish a proper national digital strategy for cultural heritage, the need to continue the dialogue and to highlight the need for a long-term, well-informed and resourced strategy that would unlock the potential of Irish archaeological archives to various audiences.
- Action 3: a series of four podcasts was produced. The podcasts illustrate the link between archaeological objects and the contextual information about them that is contained in various archives. The find circumstances of some of Ireland's best known archaeological treasures are discussed: the Ardagh Hoard, the Tara Brooch and the Inisfallen (or River Laune) Crozier. The podcasts were launched in June 2019 and are available on the Creative Ireland and Discovery Programme websites. Podcasts could become an educational resource for the many schools that visit the NMI and other museums throughout the country. The *OSCAIL* team has made contact with the Education Department of the National Museum of Ireland in Kildare Street to discuss how best to facilitate their use of the podcasts. It is hoped

that the Creative Ireland team's expertise and contacts in communications could be used to trial the podcasts in schools. The promotion of the podcasts to schools will begin in those areas close to where the archaeological objects mentioned in the podcasts were first discovered and move out from there to a wider national audience. It is intended that the communication network of the local heritage officers, the History Teachers' Association and the Art History Teachers' Association and the Scoilnet website will be used for this purpose.

The approach underlying *OSCAIL* is to create a long-term, informed digital strategy for Irish archaeological archives through an inclusive dialogue that identifies challenges and possibilities, organically constructs a policy and an infrastructure, and that creates the conditions for proper, long-term resourcing to enable the archaeological and archival community to implement the policy and infrastructure on an on-going basis.

The most significant obstacle identified as a result of the initial phase is the absence of a long-term strategy to deal with the digitisation of archaeological archives, and the problem of intermittent resourcing of projects in all institutions. This has led to the loss of project memory as staff contracts are terminated and to the problem of obsolescent electronic archives. While digitisation is identified as a priority in many government policies, in the cultural sphere no long-term, informed and well-resourced strategy exists. If any policy is to be implemented it needs to be informed and based on building a phased, long-term strategy and infrastructure. The *OSCAIL* project could become a template for projects in other fields if a dedicated team is provided with an opportunity to develop it further.

There is the potential for collaboration at a European level through the COST programme and specifically the SEADDA COST (Saving European Archaeology from the Digital Dark Ages). This would allow Ireland to engage with other Member States trying to find solutions to similar challenges. As a consequence of joining this COST action, taking part in a large scale application under HORIZON 2020 (and its replacement) might be a possibility.

While there are many areas of *OSCAIL* that could be advanced further in the future, the present partners are not equipped to take it further. The Heritage Council will, however, use the findings from *OSCAIL* to inform its work to develop policy advice in the cultural heritage sphere.

## 2. INTRODUCTION: THE ORIGINS OF THE OSCAIL PROJECT

### 2.1 IRELAND'S ARCHAEOLOGICAL ARCHIVE: OPENING UP A NATIONAL CULTURAL ASSET

Antiquarians and archaeologists working in Ireland beginning with Roderick O'Flaherty and the Welshman Edward Llyud in the seventeenth century have amassed a hugely valuable archive of material relating to the country's built and cultural heritage. The value of this archive not only relates to the information contained in it about archaeological landscapes and monuments but it is also a valuable historical archive in its own right. The range of archival material is substantial and only a small number of collections can be mentioned in this report. They include written descriptions and maps of the nineteenth-century Ordnance Survey of Ireland compiled by among others the eminent scholars John O'Donovan and George Petrie. These documents detail surviving monuments, folklore associated with them, and often the conditions in the country as the Ordnance Survey progressed in the 1830s and 40s. The National Museum of Ireland holds a huge archive relating to the national collection from the original registers compiled for the Royal Irish Academy by William Wilde (father of Oscar Wilde), to drawings by George DuNoyer (others are preserved in the Royal Society Of Antiquaries of Ireland) and the NMI topographical files, papers detailing the find circumstances of objects by county recorded since the 1930s. Excavation reports and photographic archives are extensive. The main repository of these reports is the National Monuments Service, DCHG while historical archives dating back to the nineteenth century are among the OPW archives now housed in the National Archives of Ireland. Other excavation archives and photographic collections are held by the universities. There are also many other lesser known repositories in Ireland. These include private collections that house legacy collections of nineteenth and twentieth-century antiquarians, and public and private libraries and museums.

With the advent of digitisation in recent decades, sporadic attempts have been made to produce electronic resources, digital images and databases, from this valuable national asset. While these efforts have been based on a genuine recognition of its significance, they have tended to lack coordination at national level and be subject to occasional rather than long-term funding. As a result many projects have been undertaken on a small-scale, the memory built up by teams working on them has often been lost, projects have not been completed, and many of these electronic resources have become obsolete due to lack of sustainability strategies. The primary aim of OSCAIL is to attempt to address these problems by initiating a national dialogue in the cultural heritage sector and specifically in relation to the archaeological archive.

### 2.2 THE EU ARIADNE PROJECT

The ARIADNE project (Advanced Research Infrastructure for Archaeological Dataset Networking in Europe), an EU FP7 CORDIS programme conducted its first phase

between 2013 and 2017. Its mission and outcomes were summarized as follows in its final report:<sup>1</sup>

*The mission of the ARIADNE project (Advanced Research Infrastructure for Archaeological Dataset Networking in Europe) is to bring together and integrate existing archaeological research data infrastructures, so that researchers can use the various distributed datasets and new technologies as an integral part of the archaeological research methodology. To achieve these objectives ARIADNE implemented an integration infrastructure which provides useful information services for archaeology, and related stakeholders, but also to a wider range of potential users requiring access to collections and datasets. Integrating datasets from researchers across Europe into a common portal faced technical challenges. Achieving interoperability, to enable a search across all the different datasets to return relevant results, implicated agreeing on common standards and terminology. Creating a network of researchers and institutions who are interested in sharing their data and in contributing to building standards is the social dimension of ARIADNE that was also another important achievement of the project.*

A number of actual outcomes resulted from ARIADNE including the establishment of the ARIADNE portal (<http://portal.ariadne-infrastructure.eu>) that offers a central point of access to over two million records of archaeological resources made available from partner institutions throughout Europe. While this resource is of great use to researchers, the ARIADNE project revealed the fragmented nature of EU member States infrastructures and the lack of interoperability between their archaeological data repositories. Certain countries such as the Netherlands, Germany and the UK have developed integrated systems while others, including Ireland, have fragmented systems in which institutions holding large archaeological archives (electronic and paper) have sporadically developed their own systems when funding has become available. The problem is best expressed in the ARIDANEplus - the current phase of ARIADNE - project description (it is necessary to quote this lengthy extract as in effect it encapsulates the issues that beset Ireland's national archaeological archive):<sup>2</sup>

*If ARIADNE did not exist, any archaeological study concerning such research questions would need to access a number of data repositories located in each of the relevant regions/countries, and possibly others of a thematic nature, with no common perspective nor common user interface and general search tools – let alone research services. Furthermore, the data schemas and languages used vary among the different data infrastructures, according to the diverse national official languages and approaches, so any integration process requires a labour-demanding process of collaborative work with data owners, concerning the mapping of the metadata descriptors of individual datasets or the mapping of data schemas of their infrastructure. In addition, incorporating their language in multilingual thesauri and other authority files, if not already present, is also necessary. Such collaboration requires a significant effort in time and resources, especially for large data infrastructures: for them voluntary adherence of repository managers to the*

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<sup>1</sup> Final summary report - ARIADNE: <https://cordis.europa.eu/project/rcn/106384/reporting/en>. Accessed 17 August 2019.

<sup>2</sup> ARIADNEplus project: [https://ariadne-infrastructure.eu/wpcontent/uploads/2019/02/ARIADNEPlus\\_synopsis-short.pdf](https://ariadne-infrastructure.eu/wpcontent/uploads/2019/02/ARIADNEPlus_synopsis-short.pdf). Accessed 17 August 2019.

*integrating process is in general feasible only if some funding is added to available local resources.*

The approach adopted by ARIADNE took account of these parameters. Its action developed at various levels:

- *Convincing data owners that sharing their data was socially important and scientifically useful, as the advantages of a global registry where all the archaeological information was recorded and made available would benefit each researcher in the archaeological community.*
- *Support the effort necessary to start the integration process, providing the resources required by data providers. When forerunners and early adopters take up this approach and the integration process produces a critical mass, the major problems present in the starting phase are resolved, and the effort required to join in is less demanding, but still present...*

In sum, it was concluded that (quoting the ARIADNE final report):

- *Key archaeological data infrastructures are generally location-based; with a few exceptions for scientific thematic repositories.*
- *The absence of one or more of such key data infrastructures reduces the effectiveness of all the integration, in proportion to the importance and the extension of the local infrastructure, as they are the sole place where data to be integrated can be found. Large gaps would weaken the integrated infrastructure accordingly.*
- *Starting the integration process requires resources, which local infrastructure managers do not have available. Maintaining it can instead be supported with much less trouble and with no (or very limited) external funding. Thus, we can conclude that most, if not all, national data infrastructures are key ones, as their absence would reduce the integration power of the ARIADNE initiative and its impact on archaeological research; and that their managing organizations must be involved in the project as partners to provide them with the resources necessary to start the integration process and to carry it out completely.*

Ireland participated in Phase 1 of the ARIADNE project through the Discovery Programme: Centre for Archaeology and Innovation Ireland. It is not currently part of ARIADNEplus.

### 2.3 OSCAIL: Ireland's response to ARIADNE

A dialogue was initiated between the Discovery Programme team and their colleagues in the National Museum of Ireland, the National Monuments Service, the National Architectural Inventory, Dublin City Council and the Digital Repository of Ireland. As part of ARIADNE a survey was undertaken by a digital archivist of the data sets (electronic and paper) kept in the main repositories, the condition of the repositories,

progress in curating, preserving and digitising and the state of funding and personnel working on these archives in the individual institutions. The overall conclusions of the survey, which was a very preliminary overview, revealed many common problems. This initiative was also formulated as a potential legacy project in the context of the Decade of Centenaries commemorations.

A proposal 'OSCAIL - Ireland's Cultural Heritage Data Programme' was adopted by the Discovery Programme and the Heritage Council in 2015. It was summarised as follows:

*OSCAIL is a multi-agency proposal led by the Heritage Council and the Discovery Programme. The proposal seeks to draw attention to the wealth and potential of Ireland's cultural heritage archives and to propose a long-term infrastructural strategy to bring this data into the digital age. Its primary objectives are to:*

- *Allow the world to explore Irish culture and heritage*
- *Provide a lasting and accurate digital record of cultural heritage in Ireland*
- *Improve access and efficiency to digital information of our shared past*
- *Improve research opportunities for Irish culture and heritage*
- *Encourage businesses and tourists to come to Ireland*

*The proposal presents an opportunity for a substantial 2016 legacy project that with long term modest investment is likely to have a considerable impact.*

The OSCAIL proposal as drafted in 2015 suggested various pathways towards achieving these objectives. Among the priorities were:

- Making these data set available in standard digital formats online for a wide range of uses
- Providing coordination and guidance on a range of standards within cultural heritage data, including metadata, controlled vocabularies, linked open data (LOD) and archival data formats
- Aligning with the current strategies of state agencies and departments, DRI, IRC, NGOs, academic institutes, professional consultants and others to store and retrieve cultural heritage data

It was envisaged that a small-scale coordinating infrastructure would be put in place to undertake the delivery of OSCAIL while recognising that this proposal involved long term - but not necessarily considerable - financial support to ensure that it was sustainable.



## 2.4 TOWARDS IMPLEMENTING OSCAIL: CREATIVE IRELAND AND THE EUROPEAN YEAR OF CULTURE

The Government's production of the Creative Ireland Programme 2017-2022 offered an opportunity for the OSCAIL project to fit into an official cultural policy, and in particular, with Pillar 4.3 'Investing in our Creative and Cultural Infrastructure':<sup>3</sup>

*The Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs [subsequently renamed Department of Culture, Heritage and the Gaeltacht] will work with cultural institutions and other key stakeholders to develop an overall capital strategy for the cultural and heritage sector, to include digitisation and the building of cultural collections, feeding into the Mid-term Review of the Capital Programme in mid-2017.*

The national ambition to improve the infrastructure of preservation and digitisation of cultural collections was consolidated by the EU Commission's first ever European Framework for Action on Cultural Heritage. OSCAIL is clearly aligned to the report's observations on digitisation:<sup>4</sup>

*Digitisation still focuses mainly on capturing the visual appearance of objects, collections or sites. With heritage being both tangible and intangible, the challenge is to develop more dynamic and personalised digital resources. Through the Horizon 2020 Societal Challenge 6 programme, the European Commission will fund research and innovation projects on advanced digitisation and curation of digital assets, with a view to develop new technologies and methods that will help present cultural heritage in a comprehensive and attractive way. This call for proposals, with a tentative budget of EUR 20 million, will be published in the end of 2019.*

As mentioned in the above extract, a call for proposals relating to advanced digitisation and curation of digital assets will be made under the Horizon 2020 programme at the end of 2019. If OSCAIL were to be part of such call it would require match funding, official support and be part of a transnational network.

## 2.5 OSCAIL IMPLEMENTATION PHASE 1 SUPPORTED BY NATIONAL CREATIVITY FUND

A Service Level Agreement was agreed between the Department of Culture, Heritage and the Gaeltacht and the Discovery Programme on 29 October 2018 whereby a sum of €23,606 was allocated by the Department under the National Creativity Fund to embark on a first phase of implementing OSCAIL's objectives.

Both Parties agree the following outputs:

- Seek to engage with relevant agencies regarding their archaeological archives and the issues outlined above

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<sup>3</sup> *Clár Éire Ildánach. Creative Ireland Programme 2017-2022*, p. 27.

<sup>4</sup> *Commission Staff Working Document. European Framework for Action on Cultural Heritage*. Brussels, 5.12.2018 (SWD) 2018 491 final, p. 25.

- Work on the practicalities of managing such an archive and assessing a conservation and digitisation programme through a pilot project with the NMI
- Organise a seminar to which all relevant agencies will be invited Invite representatives of Logainm, DANS and ADS to address the seminar
- Produce a report on the findings of the NMI project and suggestions towards the next steps in formulating OSCAIL
- Organise two public lectures and videos relating to specific archives

### 3. THE OSCAIL TEAM AND KEY PARTICIPANTS

The OSCAIL project has been directed since 2015 by Beatrice Kelly, Head of Policy and Research at the Heritage Council and Edel Bhreathnach, CEO at the Discovery Programme (2013-2019).

Beatrice Kelly has led the development of heritagemaps.ie since 2010 which is now the main source for the exploration of over 300 data sets on Ireland's heritage from museum collections to field names. She is responsible for the Museum Standards Programme for Ireland and is the main Heritage Council contact point for the Irish Archives Resource initiative. She coordinated the European Year of Cultural Heritage programme in Ireland in 2018.

Edel Bhreathnach was CEO of the Discovery Programme: Centre for Archaeology and Innovation from 2013-2019. Prior to that she was Assistant Director of the UCD Mícheál Ó Cléirigh Institute for the Study of Irish History and Civilisation which primarily dealt with the collection of significant archives, manuscripts and early printed books held by the Irish Franciscans. She initiated the Monastic Ireland project which received an Irish Research Council Project Award in 2015 and the Mapping Death project which was funded under the Heritage Council's INSTAR programme in 2008. Dr Bhreathnach is a medieval historian and Celtic scholar who has worked on the Discovery Programme's Tara Research Project since 1991. She contributed to the recently published Cambridge History of Ireland (volume 1).

Louise Kennedy and Fiona Caulfield were the digital archivists who carried out the core research.

### KEY PARTICIPANTS

The most important partners with the OSCAIL team were Dr Maeve Sikora, Keeper of Irish Antiquities, National Museum of Ireland and Dr Matthew Seaver, Assistant Keeper, NMI. This resulted from a discussion with Dr Sikora and Dr Lynn Scarff, Director NMI and a decision to initiate a pilot digital project on the card index of objects in the NMI's Irish Antiquities Division.

The seminar held in the Royal Irish Academy on 22 March 2019 brought together representatives from UCC, National Monuments Service, Logainm, ADS (UK), TII, DCHG, NMI, NLI, DRI, UCD, RIA, OPW, the Heritage Council and the Discovery Programme.

## PODCASTS

Four podcasts were produced as part of Phase 1. The podcast project was coordinated by Dr Linda Shine< Outreach Officer, The Discovery Programme and produced by Mike Liffey of Real Smart Media. The participants involved were Dr Griffin Murray, UCD School of Archaeology, Dr Niamh Whitfield, Independent Scholar, Ragnall Ó Floinn, former NMI Director and Aideen Ireland, former archivist, National Archives of Ireland.

## 4. OUTCOMES AND OUTPUTS

The outcomes and outputs of the Creative Ireland funded OSCAIL projects are detailed following the headings agreed under Sections 4 and 5 of the Service Level Agreement:

### *4.1 Seek to engage with relevant agencies regarding their archaeological archives*

*Organise a seminar to which all relevant agencies will be invited including representatives of Logainm, DANS and ADS to address the seminar*

A seminar entitled 'OSCAIL: Creating a dialogue on archaeological resources in Ireland' was held in the Royal Irish Academy on 22 March 2019 (Appendix 1: programme). The aim of the seminar was to begin the dialogue towards making archaeological data available as Open Data. Speakers on the day came from a variety of sectors including archaeology, digital, archives and cultural heritage. The seminar was attended by professionals and interested groups and individuals from across the cultural heritage sector. Presentations were given by Dr Holly Wright (Archaeology Data Service, University of York), Dr Brian Ó Raghallaigh (Logainm, DCU), Rónán Swan (Transport Infrastructure Ireland), Kevin Long (Digital Repository of Ireland), Dr Ruth Johnson (Dublin City Council), Edward Bourke (National Monument Service DCHG), Dr Maeve Sikora (National Museum of Ireland) and Fiona Caulfield (OSCAIL Project Archivist, The Discovery Programme). Similar issues were identified across the various institutions, namely, the absence of agreed thesauri, devising an appraisal policy regarding retention of archival material, conservation of paper and digital archives, training creators of archives in relation to metadata and appraisal, lack of resources or no long-term commitment to accomplish a proper national digital strategy, the need to continue the dialogue and to highlight the need for a long-term, well-informed and resourced strategy that would unlock the potential of Irish archaeological archives to various audiences.

The most significant outcome from the RIA seminar was a sense that a sectoral dialogue was beneficial and that steps could be taken towards the creation of common thesauri,

interoperability and joint initiatives. It was agreed that the sector needed a stronger voice to persuade funders and the public that a valuable national asset had yet to be conserved, resourced and made accessible now and for future generations. Views aired at the seminar have since fed into the OSCAIL team's plans for 2019/2020 and possible long-term strategies below.

#### *4.2 Work on the practicalities of managing such an archive and assessing a conservation and digitisation programme through a pilot project with the NMI*

*Produce a report on the findings of the NMI project and suggestions towards the next steps in formulating OSCAIL*

Once it was agreed with Dr Scarff and Dr Sikora that a pilot project would be initiated in the Irish Antiquities Division, the digital archivists Louise Kennedy and Fiona Caulfield (who replaced Ms Kennedy from January 2019) in collaboration with Dr Sikora selected a particular archive - the index cards describing objects kept in the Division - as a relatively small-scale but representative corpus of moveable Irish archaeological objects from which to construct an object thesaurus (Appendices 2 and 3: detailed technical reports on the pilot project produced by Fiona Caulfield on which the summary below is based).

The aim of the pilot project was to see how an object thesaurus could be constructed for Irish archaeological terms. So far, in Ireland, there has not been an object thesaurus constructed that has been widely adopted within the sector. The primary uses of the thesaurus would be to provide indexing and retrieval support and to aid the integration of archaeological datasets to enable archaeological object data to become available as Linked Open Data. The pilot object thesaurus was constructed according to the guidelines outlined in *ISO 25964*.

From the many objects recorded in the index cards, fourteen object types were selected. The objects chosen include some unique to Ireland (e.g. Bann flake) and object types that are intrinsically linked (i.e. armlet and bracelet, knife and dagger). The selected object types consist of armlet, bann flake, bracelet, brooch, dagger, eel spear, fish spear, hammerhead, knife, pin, spear, spearhead, spearbutt and spoon. Once the selected object types were chosen, the next stage was to choose preferred term definitions. According to the guidelines outlined in *ISO 25964*, the initial step is to list all the concepts that might be useful for retrieval purposes within the domain of archaeological objects represented by the sample object types. Existing vocabulary resources for archaeological object terms were consulted. Although other resources were also looked at, the Getty AAT thesaurus and the FISH archaeological object thesaurus, which are both open thesauri, were used as the main sources of reference for terms. It should be noted that all of the thesauri consulted for the pilot project are ISO compliant and follow the guidelines outlined to maximise the usability and navigability of each thesaurus. Previous attempts to construct an archaeological object thesaurus by the Irish Division of Antiquities within the NMI were also looked at to see what existing work had been carried out. In addition to this, colleagues and experts with experience in thesauri construction were also consulted. Following on from the selection of the relevant terms, the next step was to select the preferred terms to represent the object types. The

definition of a preferred term is a 'descriptor term used to represent a concept when indexing'. As guidance to the selection of preferred terms, *ISO 25964* states that 'each term in a thesaurus is generally restricted to whichever single meaning serves the needs of a retrieval system most effectively'. In general, the preferred terms for the object types identified for the pilot project were mostly taken from the FISH thesaurus as that is specifically an archaeological object thesaurus which aims to provide 'guidance for the recording of archaeological objects in Britain and Ireland covering all historical periods'. Following the selection of preferred terms for the object types, the next step undertaken was to begin arranging them into a hierarchical structure. Structuring the terms using a hierarchical structure would allow users to navigate their way up and down the thesaurus structure, to select the most relevant term to match their requirements.

Having tackled the pilot project, certain conclusions became apparent. A number of factors need to be considered when planning to construct a thesaurus:

- The construction requires a lot of time and resources and should not be undertaken lightly. It can also be costly to undertake and maintain and requires long-term commitment from funders and the archaeological sector.
- Intended users and how knowledgeable they might be in thesaurus construction and use need to be defined.
- Existing software should be evaluated to see if it would limit the usability of the thesaurus.
- Having clear objectives is important as different stakeholders of the thesaurus have different expectations from it so by getting stakeholders to agree to a clear set of objectives enables effective teamwork.
- Decisions also need to be made regarding the features of the thesaurus. For example, the type of display and format (either paper, electronic, or both) of the thesaurus.
- The format for updating the thesaurus and integrating it into different existing systems needs to be determined. It is important to note that whatever decisions are taken, the thesaurus should maintain consistency.
- Individuals or institutions responsible for the construction, maintenance and dissemination of the thesaurus should be established.
- Human resources need to be evaluated to ensure there are enough people available to take responsibility for the construction and sustainability of the thesaurus.
- Software decisions need to be made, including whether the thesaurus management software will be open source, commercial or custom built and what form of technical support is required. How the thesaurus will be integrated with other applications and systems should also be examined.
- It needs to be established whether there is enough funding available to support all of the outlined considerations above.

In her concluding remarks on the NMI pilot project Ms Caulfield offered her assessment as to the next steps if the thesaurus is to progress beyond the scope of the pilot project:

- **Review:** In order to expand the scope of the pilot archaeological thesaurus, it will need considerable dedication and collaborative efforts from across the archaeological sector. The current pilot project will need to be reviewed, especially with regard to the object terms. This can be done by a review panel or advisory team. This should include experts knowledgeable in the subject area of archaeology and also, individuals knowledgeable in thesaurus construction.
- **Time to think of interoperability:** The next stage of construction will need to focus on the interoperability of the thesaurus and how to link it into Linked Open Data (LOD). The term Linked Data ‘refers to a set of best practices for publishing and connecting structured data on the Web. Key technologies that support Linked Data are URIs (a generic means to identify entities or concepts in the world), HTTP (a simple yet universal mechanism for retrieving resources, or descriptions of resources), and RDF (a generic graph-based data model with which to structure and link data that describes things in the world)’. One way to achieve making the thesaurus available as LOD is by using SKOS (Simple Knowledge Organisation System) which is a data model and vocabulary expressed in the Resource Description Framework Schema (RDFS) designed to make controlled vocabularies such as thesauri available on the WEB with the ability to express hierarchical relationships. The SKOS format enables existing structured vocabularies such as thesauri to be converted into Linked Data thereby enabling the use of the semantics of the relationships between the various terms in the vocabularies. SKOS is also broadly compliant with ISO 25964 and has been used to make other thesauri available as Linked Data including FISH thesauri and Getty AAT.

## 5. PUBLIC ENGAGEMENT OUTCOMES

The original idea with regards to the public engagement aspect of the OSCAIL/Creative Ireland project was to hold two public lectures and to make a video on the subject of Ireland’s archaeological archives (para. 4.3 SLA). After much deliberation it was decided that the audience reach of the lectures and video could be limited, and, therefore, that an experiment in creating podcasts might be a more creative resource that would reach greater numbers of the public and a wider demographic. Further detailed consideration was given as to how to transform a seemingly academic and technical topic into an output that would engage the public. The solution was to present the archive and its stories in podcasts, and in particular the stories of some well-known archaeological objects such as the Tara Brooch and the Ardagh Chalice as retrieved from archives and other sources. These would be balanced by lesser known objects and also by the story

of antiquarians whose collections and archives are the bedrock of today's national collection. Four podcasts were produced:<sup>5</sup>

- **Podcast 1:** presented by Dr Griffin Murray, Department of Archaeology, University College, Cork. Dr Murray recounts the incredible tale of how the River Laune or Inisfallen Crozier was at first mistaken for a salmon... and then a gun, when it was initially discovered in County Kerry!
- **Podcast 2:** Dr Niamh Whitfield, scholar in early medieval metalwork from Britain and Ireland, details the intriguing story of how a 700 AD brooch found on the County Meath coast came to be associated with the Hill of Tara and later known as the iconic Tara Brooch.
- **Podcasts 3:** Ragnall Ó Floinn, former Director of the National Museum of Ireland, outlines how the Ardagh hoard - best known for the Ardagh Chalice - was discovered by a teenager digging for potatoes in Limerick in 1868. Ó Floinn also recounts the subsequent disputes over the precious find's ownership.
- **Podcast 4:** Aideen Ireland, formerly of the National Archives of Ireland, delves into the collection of archaeological objects assembled by the Irish Home Rule nationalist politician, Sir Thomas Henry Grattan Esmonde. Detailed in Grattan Esmonde's personal archive, these objects appeared to have been lost when his Wexford home was destroyed by anti-treaty Republicans in 1923. The fascinating archive is the only record of the objects to survive.

## Glendalough Exhibition

Dr Matthew Seaver, NMI Irish Antiquities Division has assembled an exhibition of the objects discovered over the years at the monastic site of Glendalough, Co. Wicklow. He will be working with the local community and Ms Deirdre Burns, Heritage Officer, Wicklow CoCo and the Glendalough Heritage Forum (led by Professor Graham Warren, UCD School of Archaeology) on a complimentary virtual exhibition which in 2019/2020 will be linked into the OSCAIL podcast series.

## 6. IMAGES AND PROMOTIONAL MATERIAL SECTION

Podcasts: <http://www.discoveryprogramme.ie/resources/digital-resources/86resources/digital/308-discoveryprogramme-podcasts>

## 7. FINDINGS, EVALUATIONS AND RECOMMENDATIONS

### 7.1 FINDINGS

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<sup>5</sup> <http://www.discoveryprogramme.ie/resources/digital-resources/86-resources/digital/308discoveryprogramme-podcasts>

The dialogue initiated at the seminar in March 2019, and indeed discussions that took place as part of the ARIADNE project, identified many issues relating to the conservation, interoperability and accessibility of the national archaeological archive.

The overriding problem encountered by the institutions holding these archives was the lack of stable human and capital resources to tackle conservation and accessibility challenges. Many institutions had received intermittent funding over the years as official interest in digitisation waxed and waned without a long-term sustainable official policy or strategy. This resulted in a lot of work being done by teams and once the funding ran out the team's project memory was lost and often without curation electronic resources became obsolete or difficult to access. Similarly, without a long term and sustainable strategy regarding the paper archive and its conservation, and even policies on the retention of archival material, each institution has attempted to cope with these problems to varying degrees and often dictated by the availability of human resources. Some archives, such as the NMI's topographical files and the NMS's monuments' records and files, are heavily accessed by researchers and archaeological consultants for planning purposes. The Dublin City and County Archaeology GIS Project, which has sourced and mapped all available licensed archaeological reports and complementary historical data up to 2012 for County Dublin, is an attempt to relieve the pressure on the NMI and NMS and to make all records accessible online.<sup>6</sup> It, however, needs to be brought up to date. It also provides a template for all other local authorities but to expand such a project both the national institutions and the local authorities would need to be part of a properly funded and sustainable national project.

The dialogue further highlighted the absence of agreed thesauri and metadata and the lack of training creators of archives in relation to metadata and appraisal. The complexity of such technical tasks is highlighted in Fiona Caulfield's technical report on the NMI pilot project and this is compounded by problems of cooperation between and within institutions, especially where 'territorial' or 'political' boundaries prevent dialogue. One of the most important missions of the OSCAIL project has to be the continued development of the institutional dialogue that was initiated at the RIA seminar with a view to gradually convincing those who are sceptical or wary of sharing their expertise and their strategies with colleagues.

## 7.2 EVALUATIONS AND RECOMMENDATIONS

Clearly, there is a case to continue the inter-agency dialogue and to fully evaluate the condition of the various archaeological archives as well as to progress the pilot project with the NMI, to expand the educational aspects of the projects, and to initiate a number of other pilot projects identified as a result of the initial phase. The guiding goal of OSCAIL is to create a long-term, informed and sustainable national digital strategy for Irish archaeological archives through an inclusive dialogue that identifies challenges and possibilities, organically constructs a policy and an infrastructure, and that creates the conditions for proper, long-term resourcing to enable the archaeological and archival community to implement the policy and infrastructure on an on-going basis.

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<sup>6</sup>The results of the project can be read at the following site-<http://www.heritagemaps.ie/>



## **Future Actions for follow up on OSCAIL findings**

The next steps need to be led by a dedicated team with the relevant expertise in archiving and digital heritage, and based in one institution.

**POLICIES:** Later phases of OSCAIL should begin to focus on the drafting of policies to lay the foundation of a digital archival infrastructure for archaeological data. This requires input from the archives and archaeology sectors.

**Dialogue:** A second seminar should be organised to ensure the continuation of the inter-institutional dialogue initiated in March 2019. The professional and institutional relationships formed during the first phase of OSCAIL should be carried forward and developed further, to allow for the sharing of expert advice and the pooling of resources.

**Champions:** It might be worthwhile to consider selecting of champion(s) to help lead the project and to this valuable asset in public fora. Ideally, these individuals would include professionals with a background in archaeology, archives or digital preservation.

**Collaboration:** OSCAIL should continue its partnership model eg. Working with the National Museum of Ireland, Logainm. Collaboration with ADS (Archaeological Data Service) and the FISH (Forum on Information Standards in Heritage Vocabularies) should also be explored.

**Pilot Projects:** Additional pilot projects should also be considered e.g.

- **Audit of Material:** This audit is regarded as part of a long-term strategy. It would involve an audit or survey of archaeological data held in Irish archaeological and cultural institutions. The identification of the nature and range of archaeological datasets held by the main institutions responsible for archaeological data in Ireland was the aim of the survey conducted by The Discovery Programme in 2014. However, the data collected needs to be updated and a collective overview achieved.

The undertaking of an audit of archaeological material would have many benefits including serving as a guide for the formation of policies, outlining preservation and storage needs and ensuring the development of a digital infrastructure to meet requirements to facilitate access to Irish archaeological data. Another possible focus of the audit might involve assessing the loss of memory to the archaeological record within the commercial sector in Ireland due to the closure of commercial archaeological companies following the economic collapse in 2008 and the subsequent fragmentation of the archaeological record.

- **Dublin City Council GIS Pilot Project:** The previous GIS digitisation project run by Dublin City Council was a phased project that digitised material up to 2012 which is now available on Heritage Maps. At some stage in the long term OSCAIL could look at the potential of digitising GIS material from 2012 to the present day. The focus of the

project would be to increase accessibility to archaeological data and to focus on how Dublin City Council addressed issues regarding limited resources and how this might be applied to OSCAIL.

## **ARCHIVE PROJECTS**

- **Pilot thesaurus:** The current pilot project to construct an Irish archaeological object thesaurus should be continued in collaboration with the National Museum of Ireland (NMI). As part of the next phase, an informal advisory group could be brought together to look at issues being raised by the pilot thesaurus project. In addition to this, the advisory group should contact the FISH team in the UK, in order to review FISH's object thesaurus and to decide whether it is appropriate to use and/or refine that thesaurus rather than creating a new thesaurus for Irish archaeological terms.

**OUTREACH PROJECTS:** Outreach projects, such as podcasts and exhibitions, should be continued in order to generate public knowledge and awareness of the potential of making archaeological data available.

## **8. CONCLUSION**

The funding provided by Creative Ireland to the OSCAIL project enabled the team to initiate the first substantial steps towards creating a cultural heritage data framework for Ireland. The project achieved many of its original aims including (i) establishing the inter-institutional dialogue (ii) starting a genuine thesaurus project and partnership with the NMI and (iii) producing materials for outreach use. These were practical and modest steps achieved with a relatively small fund.

There is an identified national need to further work in this area, and this report identifies potential next steps.

Edel Bhreathnach

Beatrice Kelly

## Appendix 1 RIA Seminar Programme March 2019

### OSCAIL: CREATING A DIALOGUE ON THE ARCHAEOLOGICAL RESOURCES IN IRELAND

A seminar organized by The Heritage Council, The Discovery Programme and Creative Ireland

In the Royal Irish Academy, Dawson Street, 22 March 2019, 11.00-15.00hrs

**11.00** Edel Bhreathnach, The Discovery Programme. - *Introduction*

**11.10** Holly Wright, Archaeology Data Service - *Collaborative approaches to data stewardship and curation: A view from the Archaeology Data Service*

**11.20** Dr Brian Ó Raghallaigh, Logainm - *Developing the infrastructure for the Placenames Database of Ireland ([logainm.ie](http://logainm.ie))*

**11.30** Q&A

#### Break

**12.00** Rónán Swan, *Transport Infrastructure Ireland - Digital Heritage Collections – a case study in open data*

**12.30** Kevin Long, Digital Repository of Ireland - *DRI and Open Data.*

**12.40** Q&A

#### **13.00 Break for lunch (lunch will be provided)**

**13.30** Ruth Johnson, Dublin City Council - *The County Dublin Archaeology GIS: a collaborative model for enabling access to archaeological data.*

**13.40** Rachel Barrett, National Monuments Service - *Making Do & Getting Better: managing the State's archaeological collections.*

**13.50** Maeve Sikora, National Museum of Ireland and Fiona Caulfield. - *The Discovery Programme - Oscail research pilot project for archaeological resources: some examples from the Irish Antiquities Division's card index*

**13.50** Q&A

**14.15** Discussion

**14.50** Beatrice Kelly – Concluding remarks

Appendix 2 Thesaurus report 1

Appendix 3 Thesaurus report 2