

# 10<sup>th</sup> Century Artificial Caves in Southern Iceland

Kristborg Þórsdóttir



No. 1

Archaeology Now

2024

## Board of Editors

Kathryn Catlin, Dept. of Chemistry and  
Geosciences, Jacksonville State University,  
Jacksonville, AL • **Journal Co-Editor**

Grace Marie Cesario, School of Humanities,  
University of Iceland, Reykjavík • **Journal  
Co-Editor**

Joerg-Henner Lotze, Eagle Hill Institute,  
Steuben, ME • **Publisher**

Anthony Newton, School of Geosciences,  
University of Edinburgh, Edinburgh, Scotland,  
UK

Brenda Prehal, Eagle Hill Institute, Steuben, ME  
• **Journal Co-Editor**

Chase Uy, Eagle Hill Institute, Steuben, ME •  
**Production Editor**

## The research in this article was supported by:



The Institute of  
Archaeology (Iceland)



The Oddi Society

◆ *Archaeology Now* (ISSN 2771-2125) is a new journal that publishes peer reviewed photo essays that provide significant academically-rigorous interim updates from ongoing excavations prior to the publication of a final report or research papers, or overviews of isolated "finds". Retrospective highlights in photo essay format of already-published research are also considered for publication. All submissions should be presented in an authoritative public service format that is of interest to all who are curious to learn more about archaeology. All photos have detailed captions.

◆ It is an open access journal that follows an article-by-article online publication model for rapid availability to a global audience.

◆ Indexing - *Archaeology Now* is a young journal whose indexing at this time is by way of author self-entries in Google Scholar and Researchgate. Its indexing coverage is expected to become comparable to that of the Institute's first 3 journals (*Journal of the North Atlantic*, *Northeastern Naturalist*, and *Southeastern Naturalist*) These 3 journals are included in full-text in BioOne.org and JSTOR.org and are indexed in Web of Science (clarivate.com) and EBSCO.com.

◆ The journal co-editors and staff are pleased to discuss ideas for manuscripts and to assist during all stages of manuscript preparation. The journal currently does not have any publication charges. Instructions for Authors are available online on the journal's website (eaglehill.us/anow).

◆ It is co-published with the *Journal of the North Atlantic*, *Northeastern Naturalist*, *Southeastern Naturalist*, *Caribbean Naturalist*, *Eastern Paleontologist*, and other journals.

◆ It is available online in full-text version on the journal's website (eaglehill.us/anow). Arrangements for inclusion in other databases are being pursued.

---

**Cover Photograph:** Standing cave (1.b) during excavation, facing east. The walls in front of the archaeologists hard at work (Lísabet Guðmundsdóttir to the left and Kristborg Þórsdóttir (author) to the right) belong to the latest phases of use. Blocks of sandstone have fallen from the roof closest to the mouth of the cave. However, the vaulted shape of the roof is preserved in the middle. Photo: Stefán Ólafsson, Institute of Archaeology in Iceland.

---

*Archaeology Now* (ISSN 2771-2125) is published by the Eagle Hill Institute. Mailing Address: PO Box 9, 59 Eagle Hill Road, Steuben, ME 04680-0009. Phone: 207-546-2821 Ext. 4. E-mail: office@eaglehill.us. Website: eaglehill.us/anow. Copyright © 2024, all rights reserved. Published on an article by article basis. *Archaeology Now* is an open access journal. **Authors:** Submission guidelines are available at eaglehill.us/anow. **Co-published journals:** The *Journal of the North Atlantic*, *Northeastern Naturalist*, *Southeastern Naturalist*, *Caribbean Naturalist*, and *Eastern Paleontologist*, and other journals, each with a separate Board of Editors. The Eagle Hill Institute is a tax exempt 501(c)(3) nonprofit corporation of the State of Maine (Federal ID # 010379899).

---

## 10<sup>th</sup> Century Artificial Caves in Southern Iceland

*In the last few years an interconnected system of artificial caves has been the focus of archaeological investigations at the historic farm Oddi in southern Iceland. A large part of the system is in ruins but a small cave connecting to one of the bigger caves is still standing. This is the first major excavation of artificial caves in Iceland, making it a challenging and exciting venture. The caves seem to have been in use from the 10<sup>th</sup> to the 12<sup>th</sup> century AD. Some unexpected discoveries have been made regarding animal sacrifices and building offerings, giving a rare insight into the cosmology of the people living in Oddi at the time.*

Artificial caves form a part of the building heritage of Iceland and are almost solely found in southern Iceland, due to the suitable geology of the area. The caves were made by carving vaulted tunnels into soft bedrock, mostly sandstone but also palagonite tuff. Standing caves have a long research history stretching back to the beginning of the 20<sup>th</sup> century. Many are still in use, and most are thought to be post-medieval although they are notoriously difficult to date. Some 170 caves are recorded in the published catalogue *Manngerðir hellar á Íslandi* (Hjartarson et al. 1991). A popular opinion is that the artificial caves were inhabited by Irish monks before the Norse settlers arrived in Iceland (ca 870 AD), even though no evidence to support this has been presented yet. Claims of a pre-settlement date on debris from one cave (Ahronson 2014) have not been substantiated (Guðmundsson 2015:176).



Image 1. The system of artificial caves in Hellirsdalur can be seen in the foreground in this image. It is within the homefield of the historic farm Oddi, just over 300 m southwest of the farmhouse and church. In the upper right corner is the active volcano Hekla, a majestic yet ruthless neighbor. Many artificial caves seem to have been dug out in the hills closest to the church and farmstead. These have all been out of use for centuries and there is no trace of them in placenames or documentary sources. These caves have not been dated yet, but some preliminary coring suggests that some of them are contemporary with the oldest part of the cave system in Hellirsdalur dating back to the 10<sup>th</sup> century AD (Þórsdóttir (Ed.) 2020). Photo: Kristborg Þórsdóttir/Institute of Archaeology in Iceland.



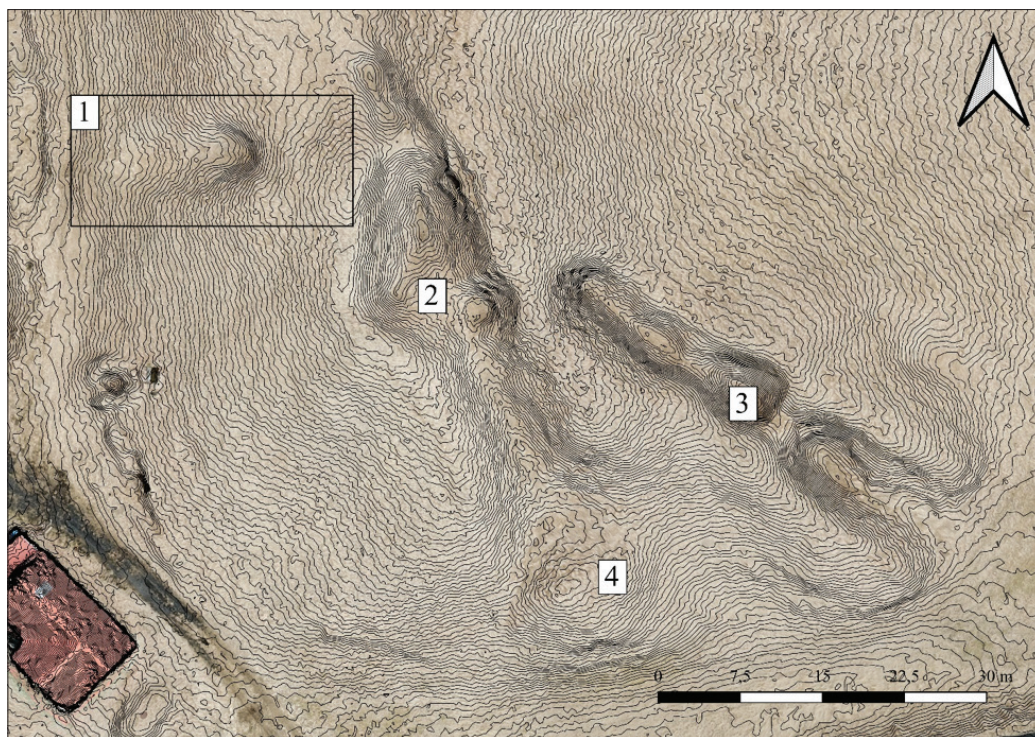


Image 2. A contour model of the system of caves in Hellirsdalir in Oddi was made prior to excavation. The caves are just over 300 m southwest of the farm and church in Oddi, within the homefield. The numbers in the image refer to different areas of the system. Area 1 has a small standing cave and a connected turf house where the research focus has been in the first years of the project. Area 2 is the largest cave of the system, measuring roughly 50 m in length. The northern part of the cave seems to have collapsed years or decades after its making around the middle of the 10<sup>th</sup> century and the southern part had already collapsed by 1100 AD. Area 3 is a collapsed cave that was connected to the cave in Area 2 and is thought to post-date it. Area 4 is a large mound at the mouth of the collapsed cave. Image: Ragnheiður Gló Gylfadóttir and Garðar Guðmundsson/Institute of Archaeology in Iceland.

The making and use of artificial caves in Iceland is a tradition that dates to the first decades after the Norse settlement and was continued into the 20<sup>th</sup> century. Their number is much greater than the catalogue published in 1991 suggests, since many of them have collapsed or been lost to natural processes. This is evident from placenames including the word *hellir* (e. cave) where there is no visible evidence of any cave, natural or artificial. Recent investigations in Oddi support this and there it seems that the making and use of artificial caves was common. In Oddi, it is mostly the topography that is indicative of closed or collapsed caves, rather than placenames or documentary sources. It appears that most of the small hills within the property were used for making caves (Þórsdóttir 2021). Digging out caves had the advantage that they could last for centuries and did not require as much maintenance as the traditional turf houses that had to be rebuilt on a regular basis since they would only last a few decades.

The research presented in this article started in 2020 and is the first major excavation of artificial caves in Iceland. It forms part of *Oddarannsóknin*, the Oddi project, multi-disciplinary research on the literary culture in Oddi, a regional center of learning and the seat of the Oddaverjar, one of Iceland's most powerful families in the 11<sup>th</sup>–13<sup>th</sup> centuries AD (Þórsdóttir 2021, 2023, 2024 [forthcoming]).

The earliest documentary source mentioning an artificial cave in Iceland is a story among the miracles of St Þorlákr, collected in 1199 AD to support his canonization (Íslensk fornrit





Image 3. An overview of the excavation areas in Oddi at the end of the 2023 field season. 1.a: Turf house in front of cave 1.b seems to have been used as a barn. 1.b: The only part of the system of caves in Hellirsdalur that is still standing. The cave and turf house have been dated using tephrochronology and seem to have been in use from ca 950–1100 AD. 2.a: The northern part of a collapsed cave. The sandstone in this part of the hill is extremely soft and it seems as though this part of the cave collapsed very early, blocking the entrance to cave 1.b. Many animal bones were found in two different places within the collapse, including a dog skull and a large part of a horse. These bones seem to have been a sacrificial offering. 2.b: South of the collapse in area 2.a there is a massive turf wall that seems to have been built to close off the ruined part of the cave. 2.c: Under an ancient spoil heap (see nr. 4 in Image 2) there is a sunken turf house in front of the mouth of the large collapsed cave (see nr. 2 in Image 2). This house is contemporary with house 1.a and cave 1.b and was in use ca 950–1100 AD. 2.d: The rest of the bigger of the two collapsed caves seems to have been in complete ruins by 1100 AD. Sometime between 1158 and 1250 AD, part of the rubble from the cave was dug out, forming the spoil heap on top of house 2.c and a large turf house was built in the ruined cave. This house is likely a byre, slightly sloping south. 2.e: An oblong pit is in front of byre 2.d and was presumably used for collecting and storing manure to be used in the spring as fertilizer for the homefield. At the bottom of the pit there was a horse grave, another sacrificial offering in connection with the construction of the byre and pit. Photo: Kristborg Þórsdóttir/Institute of Archaeology in Iceland.



XVI:126–127). The story is about a cattle cave in Oddi which collapsed and killed all twelve of the cattle inside, except for one cow which was rescued thanks to an invocation to the saint. It has been suggested that the cave of this story is one of the collapsed caves in Hellirsdalir (“Cave Valleys”) in the south end of the homefield in Oddi where there are two long and deep depressions, the ruins of artificial caves as can be seen in Image 2.

There are at least three caves in Hellirsdalir, two large collapsed caves and a small cave that is still standing. They form an interconnected system of caves, with an estimated total size of about 300 m<sup>2</sup>. Turf buildings were built in front of the mouths of all three caves. The exact size of those is not known, except for the one connected to the smallest cave which measured 20 m<sup>2</sup>. Based on tephrochronology (Sigurgeirsson 2020, 2022) the parts of the system of caves that have been exca-



Image 4. The turf house (1.a) in front of a standing cave (1.b) at the beginning of its excavation. The walls have been outlined in white for clarity. Thick layers of homogenous sand were on top of the house and some of the sand can be seen on both sides of the house in this photo. The black stripes in the section above the mouth of the cave are prehistoric layers of tephra. The house is almost solely built of turf and was extremely well preserved. Its floor slopes towards the mouth of the cave and it is most likely that it served as a barn for winter fodder.





Image 5. The preservation of the turf in the walls of house 1.a in front of cave 1.b was extraordinary. They were more than two meters high closest to the mouth of the cave. The parts of the walls sitting directly on the sandstone bedrock around the mouth of the cave were made of strips of turf (strengur) and the other parts of the walls were made of blocks of turf (klambra) with strips of turf in between the rows of blocks. Large amounts of sand were in the mouth of the cave, a deliberate act to seal off the cave and backfill the ruin of the house. The sand is most likely crumbled sandstone from the construction of the cave. Photo: Kristborg Þórsdóttir/Institute of Archaeology in Iceland.

vated (see Image 3) seem to have been constructed around 950 AD and were out of use by around 1100 AD. The story here is more complex than it seems at first sight and is just starting to unfold. The hills in the homefield of Oddi are very well suited for cave making. They consist of extremely soft sandstone, making it an easy task to dig into. However, it must have taken considerable time and effort to dig out this cave system which will have been at least 600 m<sup>3</sup> given that the height of the caves was at least 2 m as it was in the small standing cave. The soft sandstone that made the caves easy to construct also meant that they could not last very long as the people in Oddi would learn.

The caves in Oddi seem to have been used for livestock, although this has only been confirmed for the small cave still standing (1.b in Image 3). The story of the cattle cave mentioned earlier is independent evidence of caves in Oddi being used for cattle, although we can at this point not say for sure that the collapsed caves were byres. We do know that the larger of the two ruined caves cannot be the cave mentioned in the story because it collapsed about a century before that event. The best argument that we have to support a theory of the caves being byres is that in the bigger collapsed cave (2.a in Image 3) there are traces of hay, suggesting that it was used for storing winter fodder. Few farm animals, other than cows, were housed during winter in this period in Iceland. During excavation in the summer of 2023, a possible ruin of a byre (2.d in Image 3) with a pit for collecting and storing manure (2.e in Image 3) was discovered in the ruin of the larger collapsed cave. This could indicate that there was a





Image 6. The interior of the standing cave (1.b) before excavation, facing east. Large amounts of rubble from the ceiling were in the inner most part of the cave. Blocks of rocks carved out in sandstone were placed along the northern wall of the cave and can be seen to the left in the image. They belong to later phases of use and were not part of the original design of the building. It is likely that they were used to strengthen the roof. Photo: Kristborg Þórsdóttir/ Institute of Archaeology in Iceland.



Image 7. Standing cave (1.b) during excavation, facing east. The walls in front of the archaeologists hard at work (Lísabet Guðmundsdóttir to the left and Kristborg Þórsdóttir (author) to the right) belong to the latest phases of use. Blocks of sandstone have fallen from the roof closest to the mouth of the cave. However, the vaulted shape of the roof is preserved in the middle. Photo: Stefán Ólafsson/ Institute of Archaeology in Iceland.



tradition of locating byres at this place in the homefield, with a turf byre replacing the earlier, collapsed cave byre. It is also possible that this location was preferred to a new one to make use of other parts of the cave system if they were still standing at that time.

These artificial caves are enormous in size. If they are in fact byres dating to the first centuries of settlement in Iceland, they would be by far the largest byres excavated or identified so far. Quite a few byres have been excavated from the 9<sup>th</sup> to the 14<sup>th</sup> century AD, most in southern Iceland (Berson 2002) and it has been estimated that the average byre housed around 20 cattle (Karlsson 2009:128–132). Even if half of the bigger caves in Oddi were used for winter fodder, there still would have been room for 90 cattle, not including the small cave that could have been used for calves since it is much smaller than the other caves and it does not seem to have the distinctive central paving found in most byres. It remains of course to be seen if central paving did occur in cave byres. Historical documents such as charters and appraisal records suggest that no more than 30 cows were owned by the church in Oddi from the late 13<sup>th</sup> century AD up until the 20<sup>th</sup> century (Guðmundsson 1931:132–165, 177–194).

Cut marks are still visible on the walls and roof inside the only part of the cave system in Oddi that is still standing, presumably made by shovels or axes. No graffiti or carved images were found inside the cave, and it is likely that such was never present, though it cannot be ruled out that markings may have been erased by wear or decay of the soft sandstone. We do however get a glimpse of the ideas and cosmology of the people in Oddi during the first centuries after the settlement of Iceland through the sacrificial animal bones found in several places within the cave system, presumably deposited for protection and prosperity (see further in caption for Image 8).

The excavation of the system of artificial caves in Oddi will hopefully continue in the following years, giving us a better understanding of their use, initial construction, and development.



Image 8. A horse femur was discovered embedded in the turf wall at the mouth of the cave seen in Image 7. It was placed there deliberately and has been interpreted as a building offering since it has no structural significance. Dark, organic soil was found surrounding the bone, indicating that there was meat on the bone at the time of its placement in the wall. More animal bones have been found in the excavations in Oddi, many of which have been interpreted as sacrificial offerings. Most of these bones are from horses, but also sheep and a dog (Cecario 2023). Photo: Lísabet Guðmundsdóttir/Institute of Archaeology in Iceland.

**Author.** Kristborg Þórsdóttir. Institute of Archaeology, Bræðraborgarstígur 9, 101 Reykjavík, Iceland. Email Address: kristborg@fornleif.is.

**Acknowledgements.** This research was initiated and supported by the Oddi Society and made possible with funding from the project Literary Culture of the Icelandic Middle Ages, and The Antiquities Fund of the Institute of Archaeology (Iceland). Many thanks to all the participants in the excavations and fellow researchers in the Oddi project.

### Literature Cited

- Ahronson, K. 2014. *Into the Ocean. Vikings, Irish, and Environmental Change in Iceland and the North.* University of Toronto Press, Toronto, Canada.
- Berson, B. 2002. A contribution to the study of the medieval Icelandic farm: The byres. *Archaeologia islandica* 2:34–60.
- Cecario, G.M. 2023. Animal Bones from Oddi. Appendix I in Þórsdóttir (Ed.) 2024 [forthcoming]. *Oddarannsóknin. Fornleifarannsóknir í Odda 2022.* Unpublished report FS929-20203. Fornleifastofnun Íslands, Reykjavík, Iceland.
- Guðmundsson, G.J. 2015. Ritdómur. Kristján Ahronsson: *Into the Ocean. Vikings, Irish, and Environmental Change in Iceland and the North.* *Saga* 53, 2:174–177.
- Guðmundsson, V. 1931. *Saga Oddastaðar.* Published by the author, Reykjavík, Iceland.
- Hjartarson, Á., G.J. Guðmundsson and H. Gísladóttir. 1991. *Manngerðir hellar á Íslandi. Menningarsjóður,* Reykjavík, Iceland.
- Íslensk fornrit XVI. Biskupasögur II. Egilsdóttir, Á. and Kristjánsson, J. (Ed.). 2002. *Hið íslenska fornritafélag,* Reykjavík, Iceland.
- Karlsson, G. 2009. *Lífsbjörg Íslendinga. Handbók í íslenskri miðaldasögu III. Háskólaútgáfan,* Reykjavík, Iceland.
- Sigurgeirsson, M.Á. 2020. *Fornleifarannsókn í Odda á Rangárvöllum sumarið 2020. Gjóskulagarannsókn. Greinargerð 03/2020.* Appendix II in Þórsdóttir (Ed.). 2021. *Oddarannsóknin. Fornleifarannsóknir í Odda 2020.* Unpublished report FS830-20201. Fornleifastofnun Íslands, Reykjavík, Iceland.
- Sigurgeirsson, M.Á. 2022. *Fornleifarannsókn í Odda á Rangárvöllum. Gjóskulög. Greinargerð 01/2022.* Appendix II in Þórsdóttir (Ed.). 2023. *Oddarannsóknin. Fornleifarannsóknir í Odda 2021.* Unpublished report FS877-20202. Fornleifastofnun Íslands, Reykjavík, Iceland.
- Þórsdóttir, K. (Ed.). 2021. *Oddarannsóknin. Fornleifarannsóknir í Odda 2020.* Unpublished report FS830-20201. Fornleifastofnun Íslands, Reykjavík, Iceland.
- Þórsdóttir, K. (Ed.). 2023. *Oddarannsóknin. Fornleifarannsóknir í Odda 2021.* Unpublished report FS877-20202. Fornleifastofnun Íslands, Reykjavík, Iceland.
- Þórsdóttir, K. (Ed.). 2024 [forthcoming]. *Oddarannsóknin. Fornleifarannsóknir í Odda 2022.* Unpublished report FS929-20203. Fornleifastofnun Íslands, Reykjavík, Iceland.