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Magmatic Memories: Eldfell, 1973

Rhian H. Meara*[α], Arnar Árnason[β], Osian H. Elias[α], Helga Hallbergsdóttir [ϒ], and Sigurjón B. Hafsteinsson[δ]

[α] Geography Department, Swansea University, SA1 8PP, UK.
[β] School of Social Science, University of Aberdeen, UK.
[ϒ] Eldheimar Museum, Gerðisbraut 10, 900 Vestmannaeyjabær, Iceland.
[δ] Faculty of Sociology, Anthropology and Folkloristics, University of Iceland, Iceland.

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Abstract

2023 marked the 50th anniversary of the 1973 Eldfell eruption on the island of Heimaey, Iceland. The eruption began unexpectedly at 1:50 a.m. on the 23rd of January 1973, creating a need to evacuate all 5300 residents to the Icelandic mainland by fishing fleet. The eruption is synonymous with the islanders' fight to save their town by spraying cold seawater onto the advancing lava flows. Previous research has focussed on the physical volcanology and igneous petrology of the eruption and the wider Vestmannaeyjar Volcanic System; however, very little research has focussed on the social impacts of the eruption. Fieldwork identified how the 1973 eruption is remembered and commemorated by the residents of Heimaey both in public and private settings. Over 50 memorials are discussed, including artworks, sculptures, museum exhibitions, in-person events, and online digital repositories that highlight connections to the eruption itself and to life before the eruption. Interviews and surveys with the local community draw attention to the ongoing impacts of the eruption—for example, traumatic responses to hazard events such as the Eyjafjallajökull eruption in 2010. A predominantly positive community narrative of the event has persisted for several decades. The narrative depends on the belief that no deaths were caused by the eruption, the successful rebuilding and recovery of the town, and the resilience of the residents. The last ten years, however, have seen a change in how the community discuss their experiences of the eruption, with a new focus on the loneliness, bullying, isolation, danger, and trauma experienced during the event.

Ágrip

Árið 2023 voru 50 ár liðin frá Eldfellsgosinu 1973 á Heimaey. Eldgosið hófst óvænt klukkan 01.50 þann 23. janúar 1973 og þurfti að flytja 5.300 íbúana til Íslands með fiskiskipaflota. Eldgosið er samheiti við baráttu eyjarskeggja við að bjarga bænum sínum með því að úða köldum sjó á hraunið. Fyrri rannsóknir hafa beinst að eðlisfræðilegri eldfjallafræði og bergfræði gossins og víðara eldfjallakerfi Vestmannaeyja, hins vegar hafa mjög litlar rannsóknir beinst að félagslegum áhrifum gossins. Vettvangsvinna leiddi í ljós hvernig eldgosið 1973 er minnst og minnst af íbúum Heimaeyjar bæði í opinberu umhverfi og einkaumhverfi. Fjallað er um yfir 50 minnisvarða, þar á meðal listaverk, skúlptúra, safnsýningar, persónulega viðburði og stafrænar geymslur á netinu sem draga fram tengingar við eldgosið sjálft og lífið fyrir gos. Í viðtölum og könnunum við nærsamfélagið er vakin athygli á viðvarandi áhrifum eldgossins, til dæmis áfallaviðbrögðum við hættulegum atburðum nútímans eins og Eyjafjallajökulsgosinu 2010. Aðallega jákvæð samfélagsfrásögn af atburðinum hefur verið viðvarandi í nokkra áratugi. Frásögnin byggist á þeirri trú að engin dauðsföll hafi orðið af völdum eldgossins, árangursríkri endurreisn og endurheimt bæjarins og seiglu íbúanna. Síðustu tíu ár hafa hins vegar orðið róttækar breytingar á því hvernig samfélagið fjallar um upplifun sína af eldgosinu, með nýrri áherslu á einmanaleika, einelti, einangrun, hættu og áföll sem urðu fyrir atburðinum.

Keywords: Eldfell; Heimaey; Iceland; Eruption; Community; Memory.

Dedication

We dedicate this paper to the memory of Árni Johnsen, Guðgeir Matthíason, and the other Vestmannaeyingar who are gone but not forgotten. Their experiences and memories of the Eldfell eruption in 1973 have contributed greatly to the content of this research. We are grateful for the opportunity to join in the island's collective approach to recording the unique history of the eruption.

1 Introduction

2023 marked the 50th anniversary of the Eldfell eruption on the island of Heimaey, in the Vestmannaeyjar archipelago, south Iceland (Figure 1). The eruption is known to many due to the residents' fight to save their town and harbour from advancing lava flows. By pumping millions of cubic metres of cold sea water onto the active lava fronts, residents were able to save all but 400 homes and businesses, nearly 1/3 of the island, from destruction (H. Hallbergsdóttir, pers. comm.). Six months after the eruption began the community were returning and re-establishing their homes on the island.

In this paper, we focus on how the 1973 eruption is remembered and commemorated by the residents of Heimaey. We present a catalogue of more than 50 memorials including physical objects, digital content, and regular in-person events.

The memorials presented in this paper connect with several aspects of geography such as theories of landscapes [e.g. Wylie 2009], sonic geographies [e.g. Birdsall and Drozdzewski 2017], migration [e.g. Hoskins 2007], affective and emotional

* r.h.meara@swansea.ac.uk

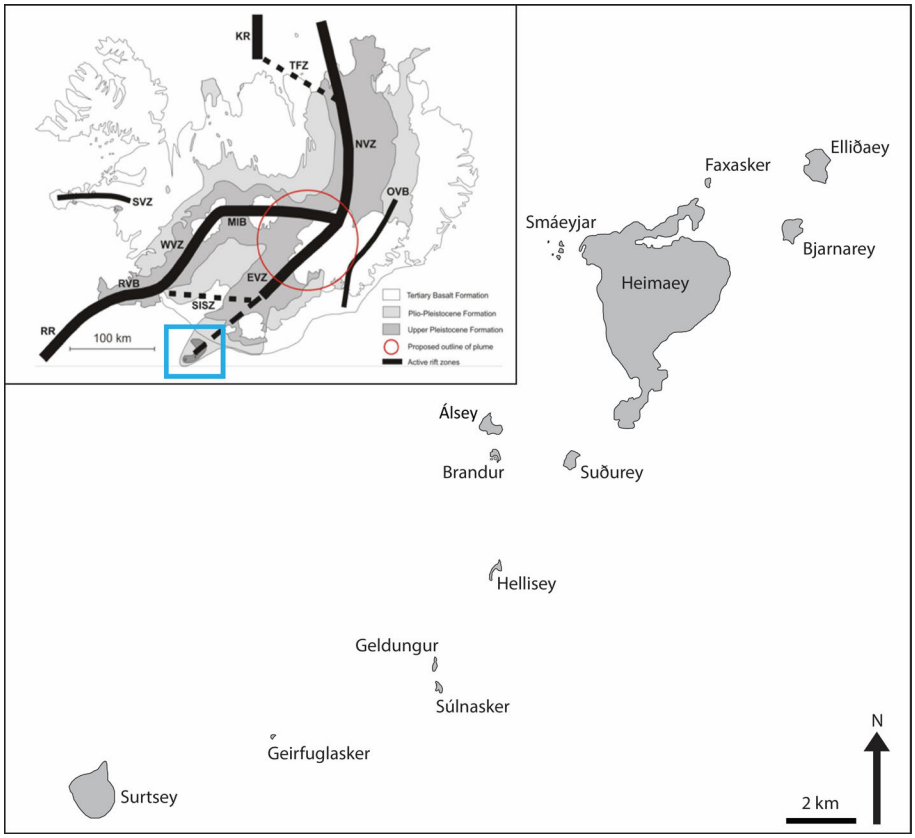


Figure 1: Heimaey and the islands of the Vestmannaeyjar archipelago: Elliðaey, Bjarnarey, Faxasker, Smáeyjar, Álsey, Brandur, Suðurey, Hellisey, Geldungur, Súlnasker, Geirfuglasgker and Surtsey. Heimaey is the only permanently inhabited island. Inset: Active rifting structures within Iceland, the inferred location of he Icelandic mantle plume (red circle), and the regional geological subdivisions. Kolbinsey Ridge (KR), Tjörnes Fracture Zone (TFZ), Northern Volcanic Zone (NVZ), Öræfi Volcanic Belt (ÖVB), Eastern Volcanic Zone (EVZ), Mid-Iceland Belt (MIB), South Iceland Seismic Zone (SISZ), Western Volcanic Zone (WVZ), Snæfelssnes Volcanic Belt (SVB) and the Reykjanes Ridge (RR). Heimaey and the Vestmannaeyjar archipelago are located to the south of Iceland as part of the propagating Eastern Volcanic Zone—EVZ (blue box; adapted from Thordarson and Larsen [2007]).

geographies [e.g. Pile 2010], geographies of identity [e.g. Johnson 1995], geographies of absence [e.g. Drozdzewski 2012], more-than-representational theory [e.g. Lorimer 2005], geographies of memory [e.g. Jones 2015], geotourism [e.g. Ólafsdóttir and Dowling 2014], and geoheritage [e.g. Martí-Molist et al. 2022]. Investigating each of these connections would provide a significant insight into the post-disaster recovery of the community on Heimaey. However, the broad readership of this publication calls for an accessible introduction and overview of the Eldfell eruption for both Earth and social scientists. We will highlight connections between this and other research, but deeper theoretical connections will be explored in subsequent publications. Our aim in this particular paper, what we hope to contribute to the existing literature, is an overview of the eruption in Heimaey; a sense of the particular place the eruption has in the unfolding of the effects it had on the people of Heimaey; a survey of the different forms in which the eruption is memorialised on the island; and some of the emotional reactions these memorials have on people locally. This overview of the socio-volcanology of Eldfell 1973 is brought to an audience more familiar with the geochemistry and physical volcanology of the eruption, and not the lasting impact it had on the local community.

2 Heimaey, Vestmannaeyjarbær, and the Eyjafólk

Vestmannaeyjar, known in English as the Westman Islands, is an archipelago of 15 volcanic islands plus smaller skerries, located ~9 km to the south of the Icelandic mainland [Pfeffer et al. 2020, Figure 1]. Heimaey is the largest island in the archipelago at 13.4 km^2, and home to the town of Vestmannaeyjabær. Heimaey is the only permanently inhabited island in the archipelago and has a current population of ~4600 [Eyjafréttir 2023b, Aug 10]. The island economy is driven by the fishing and tourist industries. Residents of Heimaey are often referred to as "Eyjafólk" (*Islanders*) or "Vestmannaeyingar" (*People from Vestmannaeyjar*) and typically have long-standing familial connections to the island. The outer islands are uninhabited and used largely for grazing sheep; however the islands of Elliðaey, Bjarnarey, Suðurey, Álsey, Brandur, Hellisey, and Súlnasker include hunting lodges used by islanders during the puffin hunting season (E. Baldursson, pers. comm.). Surtsey, the youngest island in the archipelago, was formed during an eruption in 1963–1967 and is closed to visitors to enable scientists to research wildlife and vegetation development on the island [Magnússon et al. 2022]. Vestman-

Figure 2: Fire fountains at the Eldfell volcano during the 1973 eruption taken from the northwest of the island near the Harbour. Photo: Sigurjón Einarsson, used with permission.

naeyjar is also home to the largest puffin colony in the world which reached a maximum of 830,000 breeding pairs in 2010 [Hansen et al. 2021].

3 Geological context: the Vestmannaeyjar Volcanic System (VVS)

The Vestmannaeyjar Volcanic System marks the southernmost tip of the propagating Eastern Volcanic Zone in Iceland (Figure 1). The Vestmannaeyjar archipelago shows evidence of both sub-marine and sub-aerial eruptions, 22 of which have occurred in the last 10,000 years [Mattsson and Höskuldsson 2003]. Eruptions are typically monogenetic, volumetrically small, and dominated by phreatomagmatic through to effusive activity [Mattsson and Höskuldsson 2003]. Magmas are characterised by alkali basalts (including hawaiite and maugearite) typical of propagating rift compositions [O'Nions and Grönvold 1973; Mattsson and Höskuldsson 2003; Higgins and Roberge 2007]. The most recent confirmed eruptions within the Vestmannaeyjar Volcanic System are Helgafell (c. 5900 years BP [Sigmarsson 1996]), Surtsey (1963), and Eldfell (1973), the latter of which is the focus of this paper.

4 The Eldfell 1973 eruption

The eruption of Eldfell volcano began at 1:50 a.m. (local time) on the 23rd of January, 1973. Within ~5 hours, the island's population of around 5300 people had been evacuated by boat and aeroplane to the mainland [Helgadóttir 2011; Hjartardóttir 2015]. Those who stayed behind were firefighters, police, and emergency workers, who worked to protect the town, help with evacuations, and rescue personal belongings [Arnardóttir 2015].

The early phases of the eruption were dominated by lava fire fountains erupting from a 1.6 km-long fissure on the eastern side of the island, which predominantly produced ash and tephra [Figure 2; Thorarinsson et al. 1973]. After a few days, the centre of activity became more focussed, forming a >100 m-high volcanic cone to the north-east of the Helgafell crater [Self et al. 1974]. Unusually strong south-easterly winds transported tephra across the town of Heimaey, burying houses, streets, and businesses to a depth of up to 6 m [Thorarinsson et al. 1973; Helgadóttir 2011; Pfeffer et al. 2020]. The eruption style developed over time to include ʻaʻā lava flows [Mattsson and Höskuldsson 2003; Dunning 2008]. Lavas flowed towards the east forming new land, extending the size of the island from ~11.2 km^2 to 13.44 km^2 [Höskuldsson 2004]. Lavas flowing towards the north covered a section of the town, resulting in the loss of homes, businesses, and farmland on the eastern side of the island (Figure 3). Lava flows began encroaching on the harbour—a key piece of infrastructure linked to the islands' fishing industry—and protecting the harbour became the main priority for those who remained on the island. A system was established to pump cold sea water onto the advancing lava flows [Figure 4; Williams 1997; Dunning 2008]. The aim was to cool and solidify the molten material, creating a barrier to divert the remaining lava away from the harbour

Figure 3: Map of eastern Heimaey, showing the harbour to the north, the Eldfell crafter to the south-east and the town of Vestmannaeyjarbær to the west. The blue line represents the pre-1973 coastline, the area to the east of this line is the new land created by the eruption. The shaded lines and red squares in the centre of the map represent the streets and buildings that were lost beneath the lavas in 1973. Visible street names include: Strandvegur, Viðisvegur, Njarðarstígur, Laugarbraut, Bakkastígur, Urðarvegur, Landgata, Austurhlið, Grænahlið, Austurvegur, Kirkjubæjarbraut, Oddsstaðarbraut, Búastaðabraut, and Gerðisbraut. Street names missing from the above image due to scale include Formannabraut, Heimatorg, and Suðurvegur. (Photo: `https://map.is/vestm/`, used with permission).

[Helgadóttir 2011]. The project was ultimately successful—the advancing lavas were stopped before they encroached fully onto the harbour. Despite the lavas having changed the original shape of the harbour, it remained a viable working port, enabling the fishing community to continue their trade and historic lifestyle on Heimaey.

The islanders who were evacuated to the mainland had to establish new lives—find new homes, schools, and employment [Helgadóttir 2011]. The Icelandic government established an emergency fund that paid to import 479 new prefabricated houses from neighbouring Nordic countries. These were built across Iceland [Pálsson 2014; Adalgeirsdottir 2021]. Securing schooling and employment opportunities for the displaced islanders proved difficult, and families were often separated as women and children stayed on the mainland while men were involved with both rescue work and maintaining the fishing industry on Heimaey [Helgadóttir 2011; Þórsdóttir 2017].

The eruption was officially declared over on the 3rd of July 1973. An extensive clean-up operation was mounted to clear the tephra [Figure 5; Hjartardóttir 2015]. The tephra was reused across the island—e.g. in road construction, and expansion and improvement of the runway at the island's airport. In total, 2.8 million m^3 (DRE) of tephra was removed during the clean-up process [Self et al. 1974]. Land reclamation in the form of revegetation of the lavas was also undertaken—soil was imported and spread onto the lavas along with grass seeds, turf, and fertilizers (Figure 6). Revegetation was undertaken to minimise the on-going damage to homes and cars caused by the tephra reworking during strong winds [Helgadóttir 2011]. However, revegetation also helped to lessen the emotional impact of the changed and blackened landscape on those returning to live on the island [Hafsteinsson and Árnason 2020].

Overall, some 400 houses were lost beneath the lava, and at least another 650 suffered damage during the eruption. A new residential area was developed in the west of the island

Figure 4: Cold sea water was pumped consistently onto the advancing lava flows. The aim was to cool and solidify the molten material to form a dam, forcing the lavas to find an alternate route away from the harbour. Photo: Sigurjón Einarsson, used with permission.

to house those who had lost their homes [Helgadóttir 2011]. The clean-up and land reclamation work on Heimaey cost a total of ISJ 626.6 million (ISK 280.67 million / $2.01 million in 2023 values). This was paid for by the "Viðlagasjóður" or National Contingency Fund [Helgadóttir 2011]. Islanders began to return to Heimaey as early as May 1973, and by early 1974 over 2000 people had returned [Þórsdóttir 2017]. Some residents, however, chose never to return [Erlingsdóttir 2018].

5 Methods

This project uses a mixed methods approach to understand the events of the 23rd of January 1973 and how those events are commemorated by the community on Heimaey. Prior to data collection, the project was approved by Swansea University's ethics committee.

5.1 Field work

Field work in Heimaey was undertaken in 2019, 2022, and 2023 (field work opportunities were impacted during 2020 and 2021 due to the COVID-19 travel limitations). Visual evidence of the eruption and its commemoration was collected and the sociogeological history of the island was documented.

5.2 Ethnography

Ethnographic research was conducted during field work to understand specific aspects of community commemoration. Research was conducted at the Eldheimar museum, through participation in the Goslokahátíð festivals in 2022 and 2023, and through independent walking tours across the new lava flows and around the town of Vestmannaeyjabær.

Digital ethnography [Góralska 2020] was conducted on the "Heimaklettur" Facebook group—the local community social media group. The group is private, and access to its content must be granted to participants by the group moderator. The group comprises ~13,000 individuals who have connections to Heimaey (e.g. they are current or previous residents; they have family connections to the island, etc.). Posts and discussions of interest focussed on the shared memories and discussions of the evacuation, life on the mainland, and recovery work on the island, as well as the 50th anniversary celebrations. Contributors were contacted by direct messages on Facebook and asked permission to reference their content in this paper and to participate in interviews with the authors to discuss their experiences in more detail.

5.3 Surveys

In March 2022 an online survey was shared with the "Heimaklettur" Facebook page. The survey showed examples of public commemoration, including physical objects and artworks, a local museum dedicated to the eruption, and the annual Goslokahátið festival. Participants were asked about their knowledge of the examples, to discuss what emotional re-

Figure 5: Residents and volunteers cleared 2.8 million m^3 of ash and scoria, which reached depths of up to 3 m, to support the return of the community to the island. Some areas were cleared using machinery and diggers, while other areas such as the cemetery had to be cleared by hand. Photo: Sigurgeir Jónasson, used with permission.

sponses the examples generated, and to suggest other examples that might have been missed by the authors. Participants were asked how they and their families remembered and commemorated the eruption in more private settings and were asked to reflect on how the community of Heimaey could commemorate the eruption in the future. The survey was available both in English and Icelandic. A total of 81 people replied to the survey. Respondents were aged 18–79, however the majority (70 respondents) were aged between 50–79 and therefore had first-hand experience of the eruption and its impacts. Fifty respondents identified as women and thirty-one identified as men. Thirty-three respondents were currently residents of Heimaey, while forty-seven had lived in Heimaey but no longer did—many as a direct result of the eruption. The survey questions are available on request from the author.

5.4 Interviews

Interviews were conducted in 2022 and 2023 both in person and online. Interviewees were identified through several pathways:

i) Through surveys collected for this research project.

ii) Identified through digital ethnographic work and approached for further discussions linked to their posted content.

iii) Via community networks on Heimaey.

iv) Identified in archived documents such as photographs of the eruption or newspaper articles and subsequently approached to participate in interviews.

Overall, 21 interviews were completed between 2022 and 2023. Eighteen were conducted face to face in Heimaey during the 49th and 50th Goslokahátið festivals, and three were completed online during the same period. The online interviews were with individuals who no longer live on Heimaey, and/or lived in different time zones (for example, some respondents reside in the USA).

Interviews lasted between 30 minutes and 1 hour and 50 minutes. Participants could choose to conduct the interviews in either English or Icelandic. Most interviews were conducted in the participants' homes, two were conducted at Hótel Vestmannaeyjar, and two at the Sagnheimar museum. Twelve participants were women, and nine were men. All participants were over the age of 50 and have first-hand experience of the eruption except for one individual who was born shortly after the eruption.

Figure 6: Reclamation work on the island included revegetation of the barren landscape. Revegetation bound the remaining loose ash particles which were being reworked by strong winds, causing further damage to properties and cars. Photo: Sigurgeir Jónasson, used with permission.

The semi-structured interviews were tailored to each individual. Photo elicitation techniques [Pyyry et al. 2021] were also used during the interviews with the use of archived photographs, including images of the eruption and areas of Heimaey from before 1973. Example questions are available on request from the author.

Archived interview footage of island residents was also collected and analysed at the Sagnheimar museum. Further footage was provided by Jóhanna Ýr Jónsdóttir, a local historian who developed the "Útlendingur Heima" documentary for the 40th anniversary of the eruption in 2013 [Jónsdóttir and Jónsson 2014] and the "Eldheimar Pompeii of the North" documentary produced by Jón Karl Helgason and Kristín Jóhannsdóttir [Helgason and Jóhannsdóttir 2018].

5.5 Archive research

Archived photographs were identified and collated from Sigurgeir Jónasson, a photographer based in Heimaey* and from the Heimaslóð website† run by the town council of Vestmannaeyjarbær.

Archived newspapers were sourced from the timarit.is website‡. Articles were identified in the main Icelandic newspapers and magazines—Morgunblaðið, Tíminn, Dagur, Vísir, Alþýðublaðið, and Eyjafréttir. More recent online news articles have also been sourced from websites linked to Morgunblaðið, Eyjafréttir, Tígull, Fréttir, Heimildin, Vísir, and Veðurstofa Íslands.

6 Memorials to the Eldfell Eruption

During the 20th century, public memorials typically came to commemorate individuals or groups of people who had died, perhaps in tragic accidents or through wars. Atkinson-Phillips [2020] however notes that the purpose of public memorials has changed in the 21st century. Now memorials are often created to remember lived experiences, loss, and trauma, and to commemorate those who survived as well as those who died. Their work focusses on Australia, looking at the memorials to the Stolen Generations and loss induced by wildfires, however there are clear connections to the types of memorials identified in Heimaey, which commemorate the loss and lived experiences of the Eyjafólk.

The 1973 eruption changed both the physical and cultural landscape of Heimaey. The Eldfell edifice and the Eldhraun lavas remain constant physical reminders of the event, however the eruption is also remembered and commemorated in several other ways across the island. The following sections introduce the memorials, which are grouped into four themes: 1. Locating commemoration, 2. Experiencing commemoration, 3. Commemoration for whom? and 4. The uncommemorated. Figure 7 shows the location of each memorial on the island, and an interactive digital map can also be accessed§.

6.1 Locating commemoration

People, places, and events are commonly remembered by the erection of monuments or memorials. War memorials remember fallen soldiers [e.g. Awbery 2017], protest art works commemorate lost villages and communities [e.g. Griffiths 2014], and historical events of national and cultural importance are remembered through sculptures [e.g. Kelleher 2002]. Often the location of a memorial is as significant to the performance of commemoration as the memorial itself. Location may be selected due to geographical connections of the individual(s) involved [e.g. Bairsto and Gelbier 2013; Atkinson-Phillips 2020], or for proximity (or not) to a known event location [e.g. Sturken 2015]. Locations are often selected to ensure maximum impact of the memorial, or in some cases to control the narrative and discourse surrounding certain events or individuals [e.g. Viego-Rose 2011; Drozdzewski 2012].

The location of memorials to the Eldfell eruption on Heimaey are significant, with many showing strong relationships to specific spaces and places. Many of these memorials are found on the eastern side of the island and clearly claim a connection to life before the eruption. This area is now covered by the Eldhraun lavas which were emplaced during the

*https://sigurgeir.is/
†https://heimaslod.is
‡https://timarit.is/
§https://arcg.is/04fT15

Figure 7: Location map of the Eldfell memorials on Heimaey. Red squares - Street signs. Yellow triangles - Lost homes and buildings. Blue vertical rectangle - Blátindur. White horizontal rectangle - Water tank and electricity cables. Orange pentagon - Eldheimar and Sagnheimar museums. Green diamond - Geothermal power. Purple circle - Guðgeir's painting. Green columns - Fimm Öskusúlur. Grey hexagon - Flakkarin. Pink arch - Hraunkæling pump. Green heart - Light house. Yellow stars - Tröllkerlingin, Bjargfugl, Fæðing Sálar and Friðarstólpinn art works. Orange arrows - Hraun og Menn. Red cross - Landakirkja Church. Upside down purple triangle - Rauðhús town council building. White cross - Lighthouse refuse bin. Pink circle - Reverend Jón's monument. Purple square - Wooden cross.

eruption, covering residential housing and farmland, as well as part of the town centre (Figure 3). The area, known as Austurbær, was home to the Péturstún play park, the Miðhúsa swimming pool, the Urðaviti lighthouse, the Skálholt retirement home, and Kirkjubær farm (Figure 8). The memorials discussed in this section show clear connections between what is being remembered and the chosen location, ensuring ongoing commemoration of the lost landscape and everything it represented to the Eyjafólk.

6.1.1 *Memorials to lost places*

Footpaths across the lavas pass by wooden signposts carved with Icelandic words. Each sign bears the name of a street lost beneath the lavas and is located directly above where the original street would have been (Figure 9). The signposts were created by Skógræktarfélag Vestmannaeyja (The Vestmannaeyja Forestry Association) in 2002 to mark the 30th anniversary of the eruption [Eyjafréttir 2002, Apr 18].

There are also memorials to individual buildings located across the lava field. Figure 10 shows several memorials commemorating the locations of individual homes. Each memorial notes the name of the building, when it was built, when it was destroyed, and how far beneath the lavas the building now sits. Some memorials also note the names of individuals associated with the buildings. "*Sveinsstaðir*" was built in 1894 by Sveinn Jónsson and Guðrún Runólfsdóttir and was lost under the lavas on the 27th of March, 1973 (Figure 10A). "*Þingholt*" was built in 1908 and lost on the same day (Figure 10B). "*Höfn*" was built in 1926 by Tómas M. Guðjónsson and was lost on the 26th of March, 1973 (Figure 10C). "*Jónsborg*" was built in 1912 and its memorial records the present-day family tree of descendants associated with the property, enabling visitors to appreciate the lasting role homes and places play in social history (Figure 10D).

There are similar memorials to buildings and businesses that were significant to the local community. Figure 11 shows memorials for Herjólfsbær, Kiwanis Club House, the power station at Heimatorg, and Magnús's Bakery. Many of these memorials were created in line with major anniversaries of the eruption [Eyjafréttir 1998, Sep 7; 2022c, Nov 2]. The memori-

Figure 8: Archived images from the Austurbær region of Vestmannaeyjarbær on the island of Heimaey. [A] Péturstún play park. [B] Miðhúsa swimming pool. [C] Urðaviti Light House. [D] Skálholt retirement home. [E] Kirkjubær farm. [F] The garden at Bólstaðarhlíð, home to Ingibjörg Ólafsdóttir. (Photos: https://heimaslod.is, used with permission.)

Figure 9: Signposts have been erected on top of the Eldhraun lavas identifying the location of streets that were lost during the 1973 eruption. Street signs read from L-R: Austurhlíð, Austurvegur, Bakkastígur, Búastaðabraut, Formannabraut, Grænahlíð, Heimatorg, Heimagata, Kirkjubæjarbraut, Landagata, Laugarbraut, Njarðarstígur, Suðurvegur, Urðarvegur and Viðisvegur. Photographs: Rh. H. Meara.

Figure 10: Memorials to individual homes located on the Eldhraun lavas immediately above the original location of the houses. [A] Sveinsstaðir, [B] "Þingholt", [C] Höfn and [D] Jómsborg. Photographs: Rh. H. Meara.

als are typically in Icelandic; however, some are bilingual with explanations in both English and Icelandic.

These memorials are reminiscent of visiting loved ones buried in a graveyard. The "headstones" have names, dates of "birth" and "death", pictures of the lost "individuals", there are beautiful wildflowers growing at their bases, and the space is calm and peaceful. The "headstones" provide a glimpse into life before the eruption and represent the loss of much more than a building. These homes, clubs, and shops were integral to the community who lived here, and their ongoing commemoration, and the continued bond to the lost area, is key to those individuals who were displaced by the eruption. Their loss, and subsequent commemoration, form an eruption-induced "deathscape" of sorts—a site of private or shared experience and remembrance [Maddrell and Sidway 2010; Maddrell 2013]. The anthropomorphising and commemoration of the lost homes and landscape complement the work of Árnason and Hafsteinsson [2020] who discuss ecological grief, in particular the public mourning of the Icelandic glacier Okjökull which succumbed to the impacts of climate change in the 2010s.

Blátindur was another family home commemorated after its destruction by the lavas. Blátindur was located at Heimagata 12b and was only partially covered by the lavas in 1973. The house stood in this state for several years, until it finally collapsed in 2013. In 2017, part of the house was rebuilt as a monument to the eruption and the lost areas. The building work was paid for by the local authority and was debuted during the Goslokahátíð (end of eruption) celebration that year (Figure 12). An information board in Icelandic and English notes the history of the building.

Commemoration does not always require a new formalised memorial [Arnold-de Simine 2015]. There are several instances in eastern Heimaey where buildings and infrastructure were only partially destroyed by the lavas and have subsequently been preserved in their final ruined form, a monument

A B C D

Figure 11: Memorials to individual buildings and businesses located on the Eldhraun lavas immediately above the original location of the houses. [A] Herjólfsbær, [B] Kiwanis Club House, [C] The power station at Heimatorg, and [D] Magnús's Bakery. Photographs: [A]–[C] by Rh. H. Meara, [D] by H. Hallbergsdóttir, used with permission.

A

B

C

Figure 12: The home Blátindur, located at Heimagata 12b, was partially covered by lavas during the Edlfell eruption in 1973. The building finally collapsed in 2013, but a replica was built in 2017 as part of the Goslokahátið celebrations. Information boards in Icelandic and English tell the story of the building. Photographs: [A] https://heimaslod.is used with permission), [B]–[C] Rh. H. Meara.

in themselves. These structures relate to day-to-day life from before the eruption. While some homes have personalised headstone memorials as noted above, others are remembered only by discrete areas of building rubble found within the lava field. These are typically located away from the more accessible footpaths and are easily missed by those without local knowledge (Figure 13A). Even rubble from the original Blátindur house can be seen in the lavas behind the new façade (Figure 13B). The water tank at Skansinn is another example of such structures (Figure 14). The tank stored water for the Miðhúsa swimming pool located a short distance away, now buried under the lavas. The pool was opened in 1934 and was heated using the cooling water from the nearby power station at Heimatorg. The pool became a firm favourite for the islands' children and young people who typically learnt to swim there. Preserving the tank by default preserves the memory of the pool and everything it meant to the islanders. Also located at Skansinn are the partially buried pylons that once brought electricity to Heimaey from the mainland (Figure 15). Both the tank and the pylons have information boards in both Icelandic and English.

6.1.2 *The Eldheimar museum*

The Eldheimar museum showcases both the eruption of 1973 and the 1963 eruption of Surtsey, the youngest island in the archipelago [Hafsteinsson and Árnason 2020; Árnason and Hafsteinsson 2023]. The location of Eldheimar is key. The museum has been built in the shadow of the Eldfell and Hel-

A

B

Figure 13: Building rubble within the lava field from buildings destroyed in 1973. [A] Rubble from houses located on Bakkastígur. [B] Rubble from the original Blátindur building on Heimagata. Photographs: Rh. H. Meara.

Figure 14: The water tank at Skansinn provided sea water to the local swimming pool and fish factories. The tank was damaged and partially covered by the Eldhraun lavas in 1973. Photograph: Rh. H. Meara.

gafell volcanoes. Inside, the central exhibit is the house located at Gerðisbraut 10 which has been excavated from the 1973 tephra (Figure 16). Visitors to the museum can see the impacts of the eruption on the property and can use interactive technology to see items that were left behind when the owners evacuated. The story of the families who lived at Gerðisbraut 10, and other nearby properties is told in the documentary "*Eldheimar Pompeii of the North*" [Helgason and Jóhannsdóttir 2018].

6.1.3 *Geothermal heating and artwork*

After the eruption ended, the residents of Heimaey were able to utilise the residual heat in the lava flows to create geothermal power. By 1978, geothermal power and heating was supplied to most of the houses on the island. Over time, the lavas cooled, and by 1988, the system was shut down. Information boards and a chimney linked to the original structures are located on the Eldhraun lavas (Figure 17).

There are several artworks associated with commemoration of the eruption. Two in particular, are relevant to the discussion of locating commemoration.

First is a painting of the Urðarvegur district of eastern Heimaey painted by the local artist Guðgeir Matthíasson in 2003 (Figure 18). The painting is located at the Mjölskemma F.E.S. (*Fiskimjölsverksmiðja Einars Sigurðsson*) on Ægisgata. Guðgeir was known to paint from memory, without using photographs for reference, meaning the painting is not an exact replica of Urðarvegur [Hallbergsdóttir 2011]. The location of the painting is important. Guðgeir worked at the F.E.S. and was a resident of Urðarvegur before the eruption. Since his death in 2022, the painting now acts as a memorial both to the lost areas and to Guðgeir himself.

Second is the art instillation "Fimm Öskusúlur" created by the local artist Marinó Sigursteinsson (Figure 19). The instillation comprises five concrete columns with a tephra pebbledash. The height of each pillar denotes the depth of ash fall at its exact location. The pillars were created in 2008 to commemorate the 35th anniversary of the eruption. Each pillar is accompanied by an information board in Icelandic, English, German, and Chinese, alongside images of these specific locations during the eruption.

Marinó Sigursteinsson has also created several other notable artworks and information boards for the island. Most recently, Marinó unveiled a new information board at Flakkarinn during the 2023 Goslokahátíð celebrations (Figure 20). During the eruption, the north-western flank of the

Eldfell cone collapsed into the vent. Sections of the flank were carried away on the surface of the advancing lava flows. A smaller piece named "Þorbjörn" was quickly stranded. The larger "Flakkarinn" or "Drifter" was transported north. Over time Flakkarinn slowed and became stranded in the lavas at the northern-most point near the harbour. This area is now known locally as Flakkarinn and acts as a scenic look-out point for the islands of Elliðaey and Bjarnarey, as well as Eyjafjallajökull on the mainland. This is where the new notice board is located.

Figure 21 shows a piece of equipment that was used to pump cold seawater onto the advancing lava flows during the eruption. This pump is known as the Hraunkæling Memorial and can be found in the carpark on Eldfellsvegur. The location of the memorial is representative of the areas where the rescue workers would have been working back in 1973.

Figure 15: Half-buried electricity pylons are also located in Skansinn. Electricity was transported from the mainland to Heimaey for the first time in 1962 and these pylons were part of the required infrastructure. Photograph: Rh. H. Meara.

Figure 16: Gerðisbraut 10 forms the central exhibit in the Eldheimar museum on the island of Heimaey. Visitors cannot enter the house due to the structural damage caused by burial by several meters of volcanic ash, however interactive technology allows remote viewing of individual rooms. Photograph: Rh. H. Meara.

The most recent addition to the place-based commemoration of the eruption is the Heimaey lighthouse, again located in the Skansinn district (Figure 22). The lighthouse itself is not a memorial to the eruption. However, during the 2023 Goslokahátíð, the lighthouse was painted by the local artist Viðar Breiðfjörð Helgason [Tígull 2023, July 3]. The artwork is an homage to the boats that carried the islanders to safety on the 23rd of January 1973. In this instance, the exact location of the lighthouse is not important, however its proximity to the harbour where the evacuation took place, is integral to the memorial's impact.

Participants of the survey were asked about their emotional response to the memorials across Heimaey. Several answers highlighted the street signs, Marinó's columns, Blátindur, and Guðgeir's painting. Some felt sadness, while others noted that the memorials were comforting and provided a tangible connection to what they had lost.

> *"The road signs, however, bring back bittersweet memories of my neighbourhood, which is gone,*

Figure 17: Information boards and a cooling tower associated with the geothermal power plant developed on Heimaey in the late 1970s. Photographs: Rh. H. Meara

Figure 18: Painting by Guðgeir Matthíasson located at the Mjölskemma F.E.S. Ægisgata, painted in 2003, shows the lost Urðarvegur district that was lost to the lavas in 1973 [Hallbergsdóttir 2011]. Photograph: Rh. H. Meara.

Figure 19: The artist Marinó Sigursteinsson created “Fimm Öskusúlur”—five ash-coated pillars to represent the depth of ash and scoria that covered the island during the eruption. The pillars were created to mark the 35th anniversary of the eruption ending in 2008. [A] Located on Birkihlíð, marks 260 cm. [B] Located outside the cemetery on Kirkjuvegur, marks 180 cm of ashfall. [C] Located outside Hotel Vestmannaeyjar on Vestmannabraut, marks 137 cm of ashfall. [D] Located on the corner of Strandvegur and Skildingarvegur, marks 75 cm of ashfall. [E] Located outside Ráðhús on Kirkuvegur, marks 165 cm of ashfall. Photographs: Rh. H. Meara.

Figure 20: A new information board created by Marinó Sigursteinsson detailing the formation of “Flakkarin” or “The Drifter”. Flakkarin was formed when the north-western flank of the Eldfell cone collapsed during the eruption. Photograph: Rh. H. Meara.
Figure 21:

Figure 21: The Hraunkæling memorial comprises an original pump that was used to spray cold water onto the advancing lavas in 1973. Photograph: Rh. H. Meara.

Figure 22: The Heimaey lighthouse was painted during Goslokahátið celebrations in 2023 by local artist Viðar Breiðfjörð Helgason. The boats painted onto the lighthouse represent the boats that evacuated the islanders to the mainland during the first night of the eruption on the 23rd of January, 1973. Photograph: Rh. H. Meara.

> *streets, neighbours, and friends I used to played with."*

> *"Yes, the street signs for Kirkjubæjarbraut, although most of the houses there stand today, my family's house was destroyed but the memories about it and the playground east of the street live on."*

> *"Maríno's columns show the height of the ashes and the enormous work that was involved in cleaning the town."*

> *"Yes, Guðgeir's picture, which is of Urðarvegur. My childhood haunts. There's the house my parents owned, and I grew up in. I spend a lot of time looking at this picture and let my mind wander."*

This section has highlighted the connection between the memorials and their location on the island of Heimaey. Many of the memorials described commemorate the Austurbær district, and their purpose is to remember life before the eruption rather than the eruption itself. The loss of this area, its landscape and community remain a significant moment in the island's history. Eyjafólk, both resident and the diaspora, continue to remember what was lost through engagement with the memorials. Even in 2023, fifty years on from the eruption, a new memorial to a lost building was erected with a strong community presence for its unveiling ceremony [Eyjafréttir 2022c, Nov 2].

Location-based commemoration is not exclusive to Heimaey. Wars, tragedies, and natural disasters are often commemorated in situ, drawing attention to these events and their connections to their natural environments and landscapes. The town of Beichuan, China, was destroyed during a 7.9 M earthquake in 2008 and has since been preserved in its ruinous state as a memorial to the event [Arnold-de Simine 2015]. In situ tsunami height markers are used in the USA, Japan, and Indonesia to educate local populations on the dangers of future events [Sugimoto et al. 2010]. The 1999 Chi-Chi tremor, Taiwan, is commemorated by an earthquake museum built to preserve damaged infrastructure, including a school running track that shows a 2 m vertically off-set fault scarp [Migoń and Pijet-Migoń 2019].

In situ commemoration provides communities and individuals with a specific place to remember lost loved ones and homes, to remember shared histories, and to educate and prepare future generations for similar future events. They can happen through education or performance to all different generations.

6.2 Experiencing commemoration

Commemoration does not only occur through physical objects and memorials. Commemoration can be experienced, perhaps individually or as a shared experience. Public commemoration can occur openly through formal [e.g. Brown 2012] and informal [e.g. Hill 2014] organised events by those with first hand experiences or by those who came after. The following section highlights how remembering and commemorating the Eldfell eruption is experienced by the Eyjafólk and their diaspora.

6.2.1 *Goslokahátíð*

"Goslokahátíð" is an annual festival that commemorates the formal ending of the eruption on the 3rd of July, 1973. The festival is held on Heimaey during the first weekend in July and includes concerts, lectures, organised walks, children's activities, art exhibitions, sporting events, and garden parties with many elements free of charge (Figure 23). The festival culminates in a religious thanksgiving service—attendees congregate

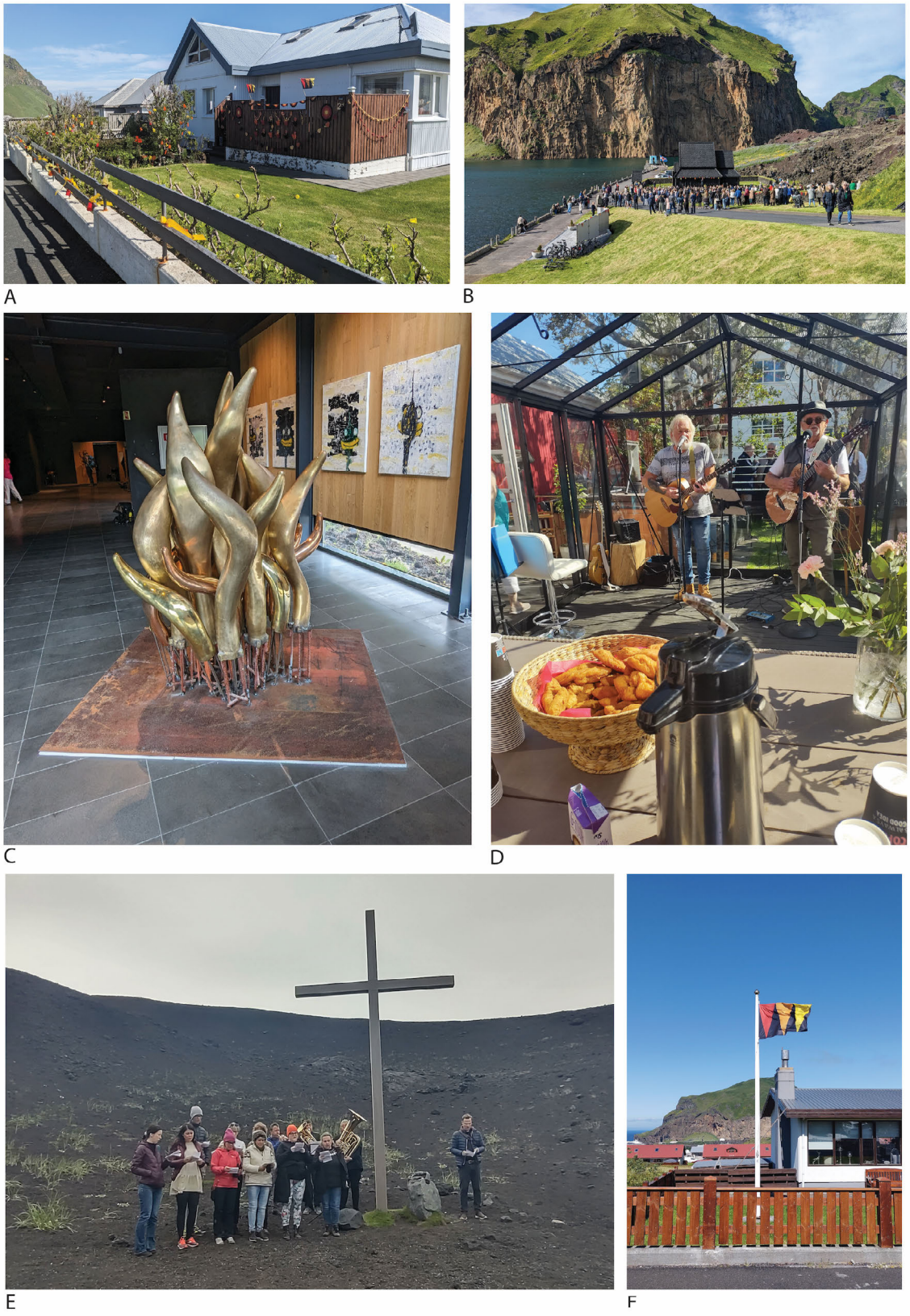
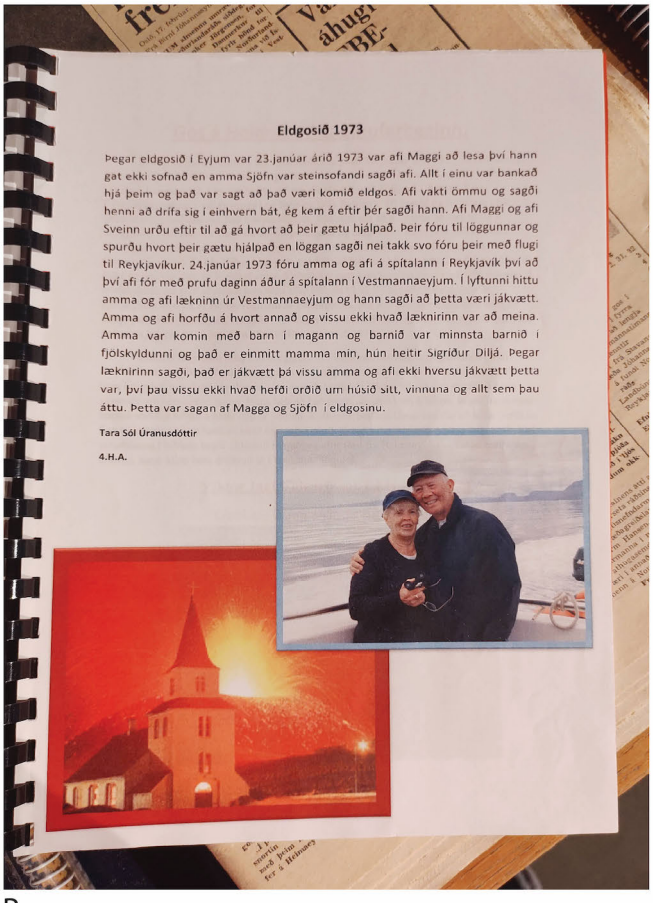


Figure 23: Goslokahátið celebrations during 2022 and 2023. [A] Houses are decorated using orange, yellow, red and black. [B] The opening ceremony in 2023 included a speech from the president of Iceland. [C] Artists showcase their work at the festival, here Hulda Hákon presents their work at the Eldheimar museum. [D] Music at the annual garden party on Vestmannabraut. [E] Mass in the Eldfell crater. [F] The Goslokahátið flag. Photographs: Rh. H. Meara.

A



Eldgosið 1973

Þegar eldgosið í Eyjum var 23.janúar árið 1973 var afi Maggi að lesa því hann gat ekki sofnað en amma Sjöfn var steinsofandi sagði afi. Allt í einu var bankað hjá þeim og það var sagt að það væri komið eldgos. Afi vakti ömmu og sagði henni að drífa sig í einhvern bát, ég kem á eftir þér sagði hann. Afi Maggi og afi Sveinn urðu eftir til að gá hvort að þeir gætu hjálpað. Þeir fóru til löggunnar og spurðu hvort þeir gætu hjálpað en löggan sagði nei takk svo fóru þeir með flugi til Reykjavíkur. 24.janúar 1973 fóru amma og afi á spítalann í Reykjavík því að því afi fór með prufu daginn áður á spítalann í Vestmannaeyjum. Í lyftunni hittu amma og afi lækninn úr Vestmannaeyjum og hann sagði að þetta væri jákvætt. Amma og afi horfðu á hvort annað og vissu ekki hvað læknirinn var að meina. Amma var komin með barn í magann og barnið var minnsta barnið í fjölskyldunni og það er einmitt mamma mín, hún heitir Sigríður Diljá. Þegar læknirinn sagði, það er jákvætt þá vissu amma og afi ekki hversu jákvætt þetta var, því þau vissu ekki hvað hefði orðið um húsið sitt, vinnuna og allt sem þau áttu. Þetta var sagan af Magga og Sjöfn í eldgosinu.

Tara Sól Úranusdóttir

4.H.A.

B

„When the eruption in Eyjar was on January 23, 1973, Grandpa Maggi was reading because he could not fall asleep but Grandma Sjöfn was fast asleep, said Grandpa. Suddenly there was a knock on their door and it was said that there had been an eruption. Grandpa woke Grandma and told her to hurry to some boat, I'll come after you, he said. Maggi's grandfather and Svein's grandfather stayed behind to see if they could help. They went to the police and asked if they could help but the policeman said no thank you so they flew to Reykjavík. January 24, 1973 Grandma and Grandpa went to the hospital in Reykjavík Because That grandfather took a test the day before to the hospital in the Westman Islands. In the elevator, Grandma and Grandpa met the doctor from the Westman Islands and he said that this was positive. Grandma and Grandpa looked at each other and did not know what the doctor meant. Grandma had a baby in her stomach and the baby was the smallest child in the family and that is exactly my mother, her name is Sigríður Diljá. When the doctor said, 'It's positive.' This was the story of Maggi and Sjöfn in the eruption.“

Figure 24: Examples of work undertaken by school pupils in Vestmannaeyjarbær. [A] Artwork of volcanic eruptions created by primary school children. [B] Oral history work collected by pupils in high school collecting stories and memories from family members who experienced the eruption. Examples are from an archived collection of work held at the Sagnheimar Museum to commemorate the 40th anniversary of the eruption in 2013. Photograph: Rh. H. Meara.

Figure 25: Commissioned and donated artworks located across Heimaey that commemorate anniversaries of the eruption. [A] "Tröllkerlingin" created by Ásmund Sveinsson celebrates the 2nd anniversary of the eruption in 1975. [B] "Bjargfugl" created by Ragnhildur Stefánsdóttir and [C] "Fæðing Sálar" created by Einar Jónsson both of which mark the 10th anniversary of the eruption in 1983. [D] The "Friðarstólpinn" pillar was donated by the International Peace Prayer Society to mark the 25th anniversary of the eruption. Photograph: Rh. H. Meara.

A

B

C

Figure 26: Examples from the "Hraun og Menn" art installations marked the 25th anniversary of the eruption in 1998 (Hallbergsdóttir, 2011). Photograph: Rh. H. Meara. [A] Freymóður designed by Páll Guðmundsson. Freymóður was the town sheriff in the Westman Island before the eruption. Located on the corner of Sólhlíð and Fífilgata. [B] Sæti í Hraun Grjótt (the seat in the rock) designed by Olaf Manske. Located on the corner of Strandvegur and Heiðarvegur. [C] Spírall (Spiral) designed by Lone Larsen. Located on the corner of Strandvegur and Garðaveggur.

at Landakirkja church, then walk together through the cemetery and up to the cross in the Eldfell crater where a mass is conducted by the local minister. Following the ceremony, attendees walk together to the Skansinn district to share refreshments and company. The 2023 celebration marked the 50th anniversary of the end of the eruption and the opening ceremony included a speech by the president of Iceland, Guðni Jóhannesson. The American ambassador to Iceland was also present honouring the American support provided during the eruption (i.e. through sharing water pumping equipment and the deployment of US servicemen from the base at Keflavík to help with rescue work).

The town is decorated for Goslokahátíð—homes and businesses are adorned with bunting in shades of red, orange, yellow, and black. School children contribute handmade items to decorate the main streets. Figure 23D shows the Goslokahátíð flag specially designed in 2018 for the 45th anniversary. The new flag design has two meanings. When flown in January to commemorate the beginning of the eruption, the flag should be flown with the red, orange, and yellow triangles at the bottom of the flag. The triangles represent the fire fountains rising into the dark night sky. When flown in July to celebrate the end of the eruption, the flag should be flown with the four black triangles at the bottom, representing the ash-covered hills of Heimaey with a red summer sky backdrop, signifying brighter times ahead (Eyjafréttir 2019, Jan 23; K. Pálsson pers. comm.).

Goslokahátíð is a community event which draws the Vestmannaeyjar diaspora back to the island for several days each year. Many return to reconnect with lost friends and family and to revisit their history. The first Goslokahátíð was held on the 3rd of July, 1974. Workspaces closed for the day and a crowd of over 2000 people gathered at the foot of the lavas at Vestmannabraut. The president of the town council, Sigurgeir Kristjánsson, gave a speech. The festivities also included a parade around the town, a football match, and a thanksgiving mass at Landakirkja [Morgunblaðið 1974, Aug 4]. The larger event that Goslokahátíð is known for today began in 1998 when celebrations for the 25th anniversary were announced (Hallbergsdóttir pers. comm.). Goslokahátíð is now celebrated annually over a three-day weekend, with longer events planned for key anniversaries.

Survey participants were asked about the Goslokahátíð festival—do they attend, if so why, and what sort of emotional response they have to the festival. Most participants responded positively, noting it was an appropriate celebration to mark the end of the eruption. They said that the festival was a joyful occasion which afforded an opportunity to reconnect with islanders who had not returned from the mainland after the eruption ended. Those participants who had stayed on the mainland noted that the festival allowed them to revisit their old lives and what they had lost:

> *"I like meeting good friends I have not met since before the eruption."*

> *"Yes, allows me to remember the missing places of my youth, the house and my stuff that dis-*

Figure 27: [A] The door of the Landakirkja church depicts key moments in the history of Heimaey. [B] The Eldfell eruption of 1973 is commemorated on the second panel down on the right and shows the church with the eruption in the background. [C] The panel is an homage to a photograph taken by Sigurgeir Jónasson during the eruption. Photographs: [A]–[B] Rh. H. Meara, [C] Sigurgeir Jónasson, used with permission.

> *appeared. Family and friends who I lost touch with…"*

> *"Goslokahátíð is a positive thing because people gather to remember something happened, but that went well… It was also the case that the population was divided after the eruption and many of those who did not come back come to visit during goslokahátíð. They come to see with their own eyes old houses and to visit relatives. It's an extended family reunion, and it is fantastic!"* [Høst 2004].

> *"I'm very happy about this Goslokahátíð all about … culture, art… Like here, in the garden, our Goslokahátíð, we don't have any speech about… we have music and kaffi* [coffee] *and kleinur* [cakes] *and artwork. The name of this is Goslokahátíð, it's the theme… Every year, every 3rd of July or around that, should be fun you*

Figure 28: The "Máttur Jarðar" stained glass window created by Leifur Breiðfjörð in 1993 to commemorate the 20th anniversary of the eruption shows the names of streets and buildings lost to the lavas. The window is located in the Vestmannaeyjabær town council building—Ráðhús. Photograph: Rh. H. Meara.

> *know? What we are doing here, like in this garden, we are celebrating that we could come back! And now I have my childhood home! And I'm so happy about that! We have a beautiful house and a beautiful garden, and we live here, we lived happily ever after!"*

The Goslokahátíð celebrations in Heimaey share similarities with other communities impacted by natural disasters. The city of L'Aquila, Italy, for example, commemorate the victims of the 2009 6.3 magnitude earthquake on key anniversaries with a torchlight procession and midnight mass. The church bells are rung 309 times to remember those who died at 3:23 a.m., the time the earthquake hit the region [The Guardian 2019, Apr 7].

Goslokahátið is also reminiscent of the celebrations discussed in Hill [2014]. Hill describes how members of the Montserratian community in Preston, UK, hold monthly events to share history, language, and culture for the Montserratian diaspora who were displaced during eruptions of Soufrière Hills volcano in the 1990s and 2000s.

6.2.2 *Commemoration through the curriculum*

The Eldfell eruption is also remembered through the curriculum at schools in Vestmannaeyjabær [Bryngeirsdóttir pers. comm. 2022; Høst 2004]. Primary school pupils create artwork and learn about natural hazards and the volcanic history of the island. High school pupils engage in oral history projects, collecting stories and memories of the eruption from family members with first-hand experience of the event. Examples of the children's work are on display as part of an exhibition at the Sagnheimar museum on Kirkjuvegur (Figure 24). This aspect of commemoration is incredibly important. Oral history allows those who were present during the eruption to have their stories recorded and remembered. Later generations can use the stories to connect with a defining moment in the history and heritage of the island. The eruption's impact on the island is not just seen in the landscape but also in how

Figure 29: New refuse bins located the town centre of Vestmannaeyjarbær designed to look like the Urðaviti lighthouse. Photograph: F. Valtysson, used with permission.

history is being recorded. Older islanders typically discuss the history of Heimaey as two separate time periods: "*Fyrir Gos*" (before the eruption) and "*Eftir Gos*" (after the eruption; H. Hallbergsdóttir pers. comm.).

When discussing the Eldfell eruption of 1973, most people know the key facts—times, dates, places, outcomes. But very few, outwith the island community itself, know or understand the impact the eruption had. Collecting oral histories provides insight into these impacts and can even support future disaster management planning. The schoolwork comprises stories shared between grandparents and grandchildren, and in some instances contain interesting memories that might not have been shared in more formal environments. One story highlighted the conundrum of how to evacuate pets from the island, in this instance, a green parrot, and was confirmed in a follow up interview with the captain of one of the evacuating boats:

> "*When they got down to the pier, they met Rönku's grandmother and Palla's grandfather. Their parrot was forgotten at home and dad went to get it. I remember how long I thought my dad was there, then he brings a small bag with the parrot in it. They asked why didn't you take the cage? Of course he had to bring the cage because the parrot couldn't sleep without the stick and had to tidy up the cage as soon as we got ashore.*"

6.2.3 *Experiencing the landscape*

Experiencing commemoration in the context of the Eldfell eruption is most keenly felt through the changed landscape of Heimaey. The once open, green, agricultural landscape was destroyed during the eruption. Now there is an expanse of black and brown lavas, and where there was only one mountain there now stand two. The changed landscape made the return to Heimaey difficult, with many feeling unable to return. For some, their experience of the landscape had changed in small but significant ways. For others, their experience was far more drastic. Their homes, possessions, memories, and community had been replaced by a blackened steaming terrain.

Warsini et al. [2014] discuss the impact of "Solastalgia", a type of homesickness experienced by individuals living in drastically changed landscapes with little to no resemblance of their previous forms due to the impact of natural disasters. Solastalgia feels particularly relevant to the residents of Heimaey, as they navigated the decision of whether to return home to the changed island, or to develop new lives on the mainland. For many, it took a long time to feel reconnected with the island and its new landscape.

> "*And we were visiting here. It was back in '83, ten years after the eruption, we were walking from up there and going downtown. And suddenly I stopped. I can remember that feeling. I looked east and I could see Eyjafjallajökull, Bjarnarey, Elliðaey. That was the sight out of the kitchen window. You see, the view I had before 1973 in my parent's home. But today because of the lava wall, you can't see it. Not when we're here* [the library]. *But when we were walking and suddenly it appeared over the lava wall! And it was just the view that I had ten years earlier. And I stopped in my step and I told Guðni, now I'm home. Now I can feel it. I'm home. And I actually felt my roots go down through my body, through my soul and into the ground. You know, it took me ten years to accept the island as it was now… And I can still remember that. That feeling. And then I accepted the island. You know, it was my home. And I found my roots again, instead of just drifting.*"

The islanders' relationship with the transformed landscape was also tested during the 2010 eruption of Eyjafjallajökull, located on the Icelandic mainland. The volcano's proximity to the Westman Islands means that changes in its appearance and behaviour can have strong impacts on the islanders.

> "*Eyjafjallajökull is part of our nature. It's part of our view. It's part of Vestmannaeyjar… I remember very clearly, my husband and I, we went driving one night just as you do sometimes on a clear summer night like this, "dásamlegt veður", wonderful weather. And we were driving out to the eastern part and then suddenly I said* "Wow! The glacier is white again!" *Because it had disappeared in blackness! It took four years before it became white again. And suddenly it was my view again. I hadn't realised, I mean, I'm a grownup woman, I'm elderly, middle aged woman, you know? And I haven't really realised how much I missed it! It was part of my view, my hometown, my environment… It's just part of our view. It had always been there when I looked out the kitchen window… And I hadn't realised how much I missed it. It was just some something black. "Á landi". It was on the mainland, and it didn't concern me. It was just … And then suddenly, when it came back! Wow! It's part of us again.*"

Not all experiences of the landscape are linked to physical objects. Other sensory encounters can also impact an individuals' experience of a changed landscape. For those who had lived in Austurbær, their pre-1973 sensory experiences included seeing the beautiful garden at Bólstaðarhlíð (Figure 8), hearing the children playing at Péturstún park or the swimming pool, eating bread from the bakery, all of which are now gone. One interviewee noted that the eruption had brought an end to cattle farming on the island, and this had impacted her experience of agriculture in the landscape.

> "*Because my* tengdapabbi… *My father-in-law… He loved cows. His best memories since he was a child was of laying next to a cow as a child sleeping west on Westman Islands. In Suðurgarður … And I thought before the eruption, we had cows, but after the eruption they were all killed. So, I was five years old when I first saw a cow!*".

While many residents are now used to the new landscape and accept it as their own, others continue to struggle. Community discussions question whether the lavas should be cleared away, and the lost areas rebuilt [e.g. Eyjafréttir 2022b, May 13]. These discussions highlight generational differences of opinion in whether the lavas should be removed or protected. Those from younger generations, who have known no other landscape, discuss the importance of preserving the ecosystem that has developed within the new lavas. While many from the older generations, who experienced the eruption and its impacts, would prefer to reclaim the land.

Jones [2015] discusses how deep life-long connections can be impacted through change or destruction of a landscape. They highlight how landscape connects to memory, emotion, and a sense of self and personal history. In the context of Heimaey, the changed landscape, loss of homes and personal belongings, Jones's work goes some way towards understanding the impact of the eruption on the Eyjafólk and their connection to the land.

6.3 Commemoration for whom?

Having discussed the importance of locating and experiencing commemoration, this section considers the overall purpose and target audience of commemoration. Significant events or people can be remembered and commemorated for a variety of reasons. Some events are remembered for their horror and atrocity, and communal commemoration is enacted to educate and ensure that similar events are never repeated. Certain events and their memory can be used as propaganda tools to ensure propagation of specific narratives or ideologies [e.g. Xu 2018; Lischer 2019]. Alternatively, commemoration can be used as a tool to unify as narratives are re-written to reflect the experiences of more marginalised communities [e.g. Hatfield 2023].

Understanding the purpose of commemoration is integral to understanding the intended audience. A logical assumption would be that the intended audience are those impacted by or with close connections to the events being commemorated. However, the rise of Geotourism and Dark Tourism / Geoheritage and Dark Heritage [e.g. Ólafsdóttir and Dowling 2014; Scarlett and Riede 2019; Iliev 2021] have created opportunities to capitalise on potentially traumatic events, thus possibly altering the types of memorials presented.

6.3.1 *Memorials for the Eyjafólk*

This section considers the intended audiences of the memorials to the 1973 eruption. One intended audience comprises the residents of Heimaey, including those who lived through the eruption and their descendants, as well as the diaspora who did not return. The following memorials are interpreted with this audience in mind.

Figure 30: Monument to the Reverend Jón Þorsteinsson, a priest at Kirkjubær who was killed by Corsair raiders on July 17th, 1627. The original monument was almost lost to the lavas in 1973 and the current monument stands ~100 m above its original location on top of the lavas. Photograph: Rh. H. Meara.

Across the island, there are several artworks commemorating anniversaries of the eruption. "Tröllkerlingin" (Figure 25A) by Ásmundur Sveinsson located in Stakkagerði celebrates the 2nd anniversary of the eruption in 1975 [Hallbergsdóttir 2011]. "Bjargfugl" (Figure 25B) by Ragnhildur Stefánsdóttir located at Hraunbúðir, and "Fæðing Sálar" (Figure 25C) by Einar Jónsson located at the junction of Vesturvegur and Skólavegur both mark the 10th anniversary of the eruption in 1983 [Hallbergsdóttir 2011]. The "Friðarstólpinn" pillar located in Skansinn was donated to Heimaey by the International Peace Prayer Society to mark the 25th anniversary of the eruption [Figure 25D; Hallbergsdóttir 2011]. The "Hraun og Menn" art installations created from volcanic rocks, predominantly sourced from Heimaey, are located across the island (Figure 26), and were also developed for the 25th anniversary of the eruption in 1998 [Hallbergsdóttir 2011]. Icelandic artist Ólafur Elíasson has been commissioned by the Icelandic parliament and the Vestmannaeyjarbær town council to create a new installation for the 50th anniversary celebrations in 2023 [Eyjafréttir 2022a, Feb 23].

Figure 31: The large cross in the centre of the Eldfell volcanic crater was built in 1993 by Elías Baldvinsson and marks the 20th anniversary of the eruption (Hallbergsdóttir, 2011). The cross plays a part in the annual Goslokahátíð festival. Photograph: Rh. H. Meara.

Several of these key artworks were deliberately not included in the survey, and participants were asked to suggest any key memorials missing from the list. None of these pieces were noted by the participants. In comparison, several responses noted the half-preserved buildings such as the tank at Skansinn and Blátindur, Marinó's ash pillars, and Guðgeir's painting of Urðavegur, both created by local artists with first-hand experience of the eruption. This suggests a potential disconnect with formal commissioned artworks and a stronger connection to artworks showing a clear and understandable connection to the eruption and the devastation caused.

One interviewee was asked about the "Hraun og Menn" (*Lava and Men*) art installation which includes 25 sculptures created from volcanic rock sourced mostly from Heimaey (Figure 26):

> "*And also, because this thinking that we were taking the lava and making some art pieces out of it and put it here and there on the island just so we can accept it and live with it. Perhaps we have not been ready to do that. Yeah. But the people like this* [points to "Tröllkerlingin"—the troll sculpture outside the museum]*, because, you know, she holds the arm towards the eruption and now she is keeping the town safe from lava if it is erupts.*"

The lack of community engagement and connection with these artworks raises some interesting questions about the process of commissioning formal artworks to commemorate the eruption of 1973. Who is the intended audience of these artworks? Are the artworks wanted by the local community? Who is commissioning commemoration and why? Is commemoration via art, or specifically in this instance, sculpture, a political act? The apparent disconnect between the local community and these artworks should be considered before commissioning new pieces. Perhaps future anniversaries could be commemorated in ways that align more closely with the interests of the islanders, for example by supporting local artists with connections to the island and its landscape.

On a stroll through Vestmannaeyjarbær it is possible to see subtle memorials to the events of 1973 that might go unnoticed by non-locals.

The Landakirkja church, located on the corner of Skólavegur and Kirkjuvegur, has a wooden door with carved panels depicting key moments from the history of Heimaey (Figure 27A). The panel depicting the 1973 eruption, shows the church with Eldfell erupting in the background (Figure 27B). This image is also an homage to a photograph taken by local photographer Sigurgeir Jónasson during the eruption (Figure 27C). The panels were carved by Sigurður Sigurðsson and Erlendur Magnússon and were presented by the Women's Society of Landakirkja in 2000 [Hallbergsdóttir 2011].

The Vestmannaeyjabær town council building, Ráðhús, on Kirkjuvegur comprises a prominent stained-glass window called "Máttur Jarðar" or "Earth's Power". The window was created by Leifur Breiðfjörð in 1993 to commemorate the 20th anniversary of the eruption [Eyjafréttir 1993, July 08]. The stained glass comprises the names of the streets and buildings that were lost to the lavas during the eruption, however the full impact of the window is only visible from inside the building (Figure 28).

In July 2023, a collection of new refuse bins was installed across the town centre (Figure 29). The bins were designed and created by Friðbjörn Valtýsson, Jói Listo and Frosti Gíslason. The bins are designed to look like the Urðaviti lighthouse (Figure 8C), which was the first structure destroyed by the lavas [Alþýðublaðið 1973, Jan 24].

Figure 30 shows the monument to the Reverend Jón Þorsteinsson, a priest at Kirkjubær who was killed by Corsair raiders on July 17th, 1627 [Helgason 1997; Hallbergsdóttir 2011; Helgason 2018]. The monument itself pre-dates the eruption but was almost lost to the lavas in 1973 but a local man, Árni Johnsen, managed to rescue it before it was lost. While the original monument has now been moved to a museum on the mainland, a replica is located in the exact same spot, 100 m above the original location, on the flanks of Eldfell volcano. The monument has become something of a tribute to the strength and resilience of the community and the island for overcoming the trials of the eruption [Hallbergsdóttir 2011].

Figure 32: A selection of books written by residents of Heimaey about their experiences with the eruption in 1973. Some books are factual, while others are autobiographical, or novels inspired by the real life events.

There is a large wooden cross located in the centre of the Eldfell volcanic crater (Figure 31). The cross was built in 1993 by Elías Baldvinsson to mark the 20th anniversary of the eruption. The cross was built to thank the almighty that the eruption in 1973 had not been worse, and also, to remember Jón Trausti Úranusson who died undertaking reclamation work between Eldfell and Helgafell in 1993 [Hallbergsdóttir 2011].

Commemoration also occurs in written formats, and several books have been written and published by residents of the island (Figure 32). Some books are factual and provide details of the eruption and subsequent recovery, while others are autobiographical and tell of individuals' experiences during the evacuation, life on the mainland, and the rescue work back on the island. Books published on the eruption are almost always monolingually Icelandic.

Several elements of remembering and commemoration that take place in the digital sphere. The "Allir í Bátana" website* is an online space to remember the evacuation on the 23rd of January 1973 (I. Óskarsson, pers. comm., 2022). "Allir í Bátana" translates as "All in the Boats". The focus for the website is the evacuation by boat to Þorlákshöfn, including a register of everyone that was evacuated from the island, and on which boat they were transported to the mainland. There are crew details and photographs for each of the boats, and a record of departure times. There are also photographs and video footage of the eruption, archived newspaper articles, and a collection of personal accounts. The Heimaslóð website† is a repository for information about both the human and natural history of Heimaey and the Westman Islands. The website contains a section about the eruption and another one about the areas lost under the lavas. Information is available for each street and building, including photographs and information about the people who lived there.

6.3.2 *Memorials for visitors*

Another target audience for commemorating the eruption are the tourists who visit Heimaey every year. Visitors typically come for a day from the mainland or stop over with one of the large cruise ships that visit the harbour. Most will visit the Eldheimar museum, participate in a tour to see the Eldfell volcano and the islands' puffin colony, and perhaps take a boat ride to see the outer islands of the archipelago.

Every memorial discussed in this paper is either free to access or can be viewed for a fee within the Eldheimar and Sagnheimar museums. While there may be some memorials held in private collections, these are mostly unknown to the authors and are therefore discounted from further discussion. Understanding the target audience of each memorial is both obvious and complex. Fundamentally, each memorial is designed to educate and inspire observers to remember and learn more about the eruption and its impacts. Perhaps the simplest distinction is made by looking at the linguistic accessibility of the memorials. Where interaction with visitors has been considered, information boards and audio guides are available in Icelandic and at least one other language, usually English. These memorials are typically in areas of high tourist footfall and are located near the harbour, where most visitors arrive by boat. Examples include the memorials at Skansinn, the Eldheimar and Sagnheimar museums, and several monuments within the lava fields.

In contrast, some memorials have no supporting information. This may be as the monuments are located away from typically tourist-favoured areas (e.g. the town hall building) and/or there is an assumption that the observer has prior knowledge of the history and geography of the area (e.g. the street signs). Some monuments are monolingually Icelandic (e.g. commissioned artworks and published books). While these are typically aimed at Icelanders, especially those with connections to Heimaey, outsiders or "*útlendingar*" are not deliberately excluded, there is just an assumption that they would not be interested in these aspects of commemoration, hence the lack of translations. Goslokahátíð is monolingually Icelandic, and while most aspects are public and free of charge, they are not advertised to incoming visitors. The event provides an opportunity for islanders to reflect and remember the eruptions' impact on their families, and to celebrate that the town was rebuilt. In comparison, tourists and visitors are strongly encouraged to attend Þjóðhátíð (National Day Celebrations) in early August.

Interviewees and survey participants were asked how they felt Goslokahátíð would be commemorated in the future, after those with first-hand experience of the eruption had passed away. There were discussions that the festival would continue, but perhaps take on a different tone. Some believed the festival would become more of a party rather than a commemorative event, and other felt that the original meaning might be lost with time.

> "*Future generations will strive to keep the memory of the eruption alive and make money from it while they have the opportunity. The sorrow, the loss, the shock and the anguish will disappear into oblivion with us who experienced, endured and suffered.*"

Survey participants were also asked who they felt the memorials were aimed at. The majority responded that their purpose was to preserve the memory of the events in 1973 and that while they could be used and enjoyed by both locals and their descendants, as well as visitors to the island, some would be more meaningful to those who had experienced the eruption.

> "*Mostly for tourists and descendants but for example, the names of the streets that went under the lava are more for Eyjafolk.*"

The "Allir í Bátana" and Heimaslóð websites reflect more modern means of commemoration through digital spheres. Similar aspects of communal digital commemoration are highlighted through McGlashan [2021] who discusses online COVID-19

*http://1973-alliribatana.com/
†https://heimaslod.is/

memorials and Merrill et al. [2020] who investigate the use of digital media in commemorating the 2017 Manchester Arena bombing in the UK. The digital commemoration of Eldfell 1973 is relatively formal, both websites are hosted by the local municipality. There are regular discussions on the Heimaklettur Facebook page where informal commemoration occurs, particularly around the anniversary on January 23rd and during Goslokahátið in early July each year. However, there are no formalised regularly used hashtags or other means of unifying digital commemoration of the event [e.g. Lieberman 2021]. This is likely a reflection of the demographic of those Eyjafólk with firsthand experience of the eruption, who are aged 51 and above.

The development of Heimaey and Eldfell as Geotourism destinations could have negatively impacted the Eyjafólk, whose experiences in 1973 and thereafter are complicated. Capitalising on the eruption, its impacts, and the traumatic experiences of those involved could have led to a contested landscape, pitting visitors and locals as competing parties. However, the tourism industry on the island is very local-centric. The Eldheimar and Sagnheimar museums are owned by the Vestmannaeyjarbær municipality, and profits feed directly back into the local economy. Tourist activities linked to the eruption include bus and boat ride tours, organised by local businesses rather than national corporations or large private investors. The Eyjafólk retain control of their history and provide their own narrative on the events on 1973. While tourism activities contribute to the island's economy, the fishing industry continues to dominate, with many islanders employed in the industry.

6.4 The un-commemorated

Fifty different physical, digital, and event-based memorials to the Eldfell eruption have been introduced in the previous three sections. Here, we investigate which aspects of the eruption, and its impacts are not publicly commemorated. We use the term "un-commemorated" to draw attention to the deliberateness of the act of not commemorating in these instances. The topics presented under this theme include the anniversary of the eruption itself, original monuments lost to the urban development of Heimaey over time, and the emotional and psychological impacts of the eruption. The term "collective forgetting" [e.g. Stone and Hirst 2014] is also a useful term for this section, and is used when discussing the emotional and psychological impacts of the eruption.

6.4.1 *The anniversary of the eruption*

Goslokahátið celebrates the end of the eruption on July 3rd and the subsequent return of the islanders back to Heimaey. Anniversaries of the beginning of the eruption, on the 23rd of January, however, are not typically celebrated. The date is remembered and commemorated, but interviewees were very clear that this day is not celebrated. Many choose to fly the Goslokahátið flag in January, with the red, yellow, and orange triangles at the bottom, and the town council suggests that residents leave their Christmas lights up until the 23rd in honour of the evacuation that took place on that day [Eyjafréttir 2008, July 1; 2021, July 1]. There are gatherings, a mass at the church and sometimes concerts [Eyjafréttir 2023a, Jan 24], but typically the mood is reflective and sombre, giving thanks that all the residents were evacuated on that first night with no injuries or deaths.

> *"There are some things, but that's a bit, we keep it low in a way, because we are not celebrating the eruption. They will only want to celebrate the end of the eruption… And but of course, we need to keep the memory alive. But not celebrating it."*

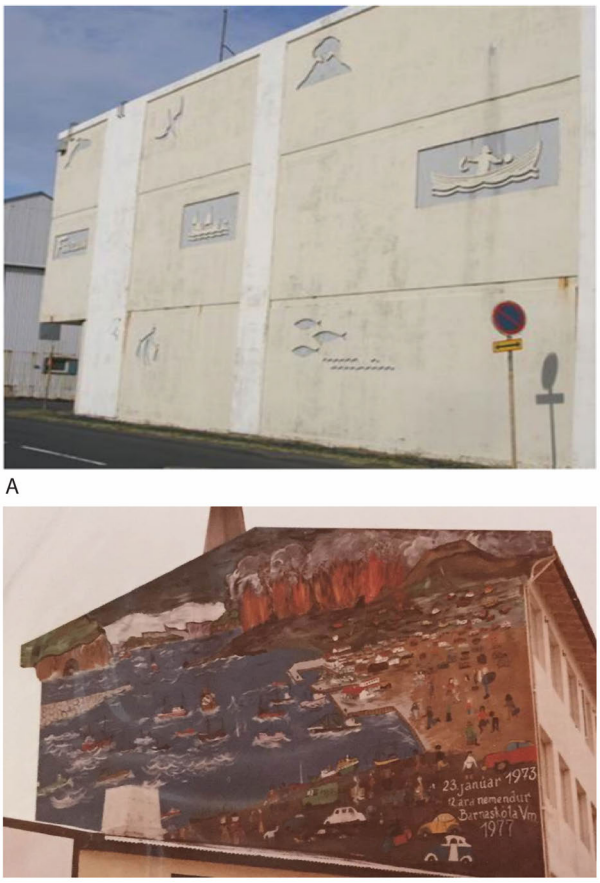
While there are few formal gatherings and activities, individuals commemorate the date in more private settings. Many survey responses noted that they spent time with their families and descendants sharing stories of their experiences while others lit candles. These sentiments were mirrored in the in-person interviews:

> *"But I think I always talk to my mother about it on that days, both 23rd of January and this weekend* [Goslokahátið]. *Because when you get older and older, you want to have more and more answers… 23rd of January I will long speak to my mother who remembers everything… but she told me so many deeper things about feelings… How difficult it was to stay in a fugitive camp for months and in a small house, you know, waiting for you don't know what is next or were you're going home, when it will stay there for half year more, or what should you do. So I learnt one, one word which is a very beautiful word, in 1973 I learnt a beautiful word "*bjartsýni*" – optimism."*

> *"Tell the children and grandchildren stories from the eruption, how the voyage was* [6 hours,] *show them books."*

> *"On the 23rd of January, I might light a candle, and definitely think about this night as I imagine it to have been. I also sometimes talk to my grandfather and dig out his interesting tales of working on one of the evacuating boats, both running the engine of the boat and helping seasick families whilst worrying about how his own family were doing."*

"Un-commemorated" perhaps does not reflect correctly the events held on the 23rd of January. The intention here is to highlight the separation between these events and the celebratory nature of Goslokahátið. Sanders et al. [2015] highlight how different commemorative events held after natural disasters can support the collective recovery of rural populations. They



A

B

Figure 33: Memorials to the Eldfell eruption of 1973 which have been lost to re-development in Vestmannaeyjarbær. [A] Volcanic imagery designed by Guðjón Ólafsson on the Ísfélagsins and Fiskiðjunnar building that was located at the east end of Strandvegur. [B] Mural to the eruption drawn by students from the Barnaskóla Children's School of Vestmannaeyjarbær in 1977 and was located on the corner of Strandvegur and Heiðarvegur. Photographs: [A] H. Hallbergsdóttir, [B] H. Sigurðardóttir, used with permission.

note that events such as the 23rd of January, provide cathartic opportunities for those involved to process their loss and suffering. While events such as Goslokahátíð, allow opportunities to give thanks to those involved with the rescue and recovery process, such events often include cultural, sporting, or religious activities.

6.4.2 *Lost memorials*

Some formal memorials have been lost over time through re-development in Vestmannaeyjabær. The Ísfélags and Fiskiðjan building which stood on Strandvegur had volcanic iconography designed by Guðjón Ólafsson added into the walls during post-eruption refurbishment (Figure 33A). However, the building has since been demolished. A large mural once adorned the wall of a building on the corner of Strandvegur and Heiðarvegur (Figure 33B). The mural showed the town during the first night of the eruption with the fishing boats leaving the harbour. The mural was painted by children from Barnaskóli Vestmannaeyja in 1977. The mural was one of six made by the students but was lost when the building was demolished [Hallbergsdóttir 2011]. The children who painted the mural would now be in their mid- to late-50s. Its loss is important as it reflects an absence of commemoration to the lived experiences and stories of those who were children during the eruption.

With over 50 recorded memorials on the island, to concentrate on the loss of two seems unwarranted. However, the purpose of memorials is to preserve and share historical information with future generations and visitors, allowing them to empathise with those community experiences [e.g. Gurler and Ozer 2013]. This is particularly relevant to the loss of the school children's painting (Figure 33B). Of all the memorials on Heimaey, this was the only one with explicit links to the children and their experiences of the eruption, and one of only a few artworks created by locals as opposed to non-islander artists. Its loss represents more than just a demolished building, it represents the loss of a generation's collective memory and experience. Gurler and Ozer [2013] also note that creating "memory spaces," as opposed to individual monuments, connects memories to their lived environments creating a stronger sense of social memory and community identity. The demolition of the building represents the loss of a focal point for community memory and identity and the impact of this loss is made greater as fewer of those with firsthand experience of the eruption remain on the island.

6.4.3 *The positive community narrative*

Perhaps most important, when discussing the uncommemorated, is the emotional and mental impact of the eruption. There is a powerful positive community narrative associated with the events of 1973. The narrative focusses on the strength and resilience of the islanders, their heroic fight against the volcano to save their town, and their ability to bounce back and reclaim the island. This positivity can be seen when individuals share stories about their time during the eruption, many of which have humorous or heroic aspects (Figure 34).

> *"We owned a cat. The cat was… he was not castrated so he was partying outside! We could not find him that night!"*

> *"He was used as a, like Noah's ark! And the funny thing is, Marinó, he is sometimes called Nói, like Noah! And one of his first projects was to gather the animals that people had left, hamsters and birds and cats and dogs. And he had this car full of animals! It looked like Noah's ark!"*

Figure 34: Men from the island swimming in the harbour with the advancing lava flows in the background. The lavas heated the cold seawaters. Photograph: B. Steingrímsson, used with permission.

> "*When the lava was flowing over, these houses went all under… The lava went about here. When it was going into the sea, it heated up the sea, and we were swimming! Yeah! Yeah! And it was very, not so hot, but ok. But the different between the heat from the lava and the sea, was like this…* [makes small pinching gesture]. *So, you're swimming maybe here and it's like in a swimming pool, it was so hot. But when you went about this further along… ice cold!*"

The reality of the events in 1973 is quite different to the accepted positive narrative. Several thousand people lived as refugees on the mainland, scattered from their support networks, and struggling with a loss of identity and possessions [Helgadóttir 2011]. Others spent months on the island in constant battles to save homes and businesses from the lavas, often in life-threatening situations. There was little to no crisis counselling or mental health support available during this time and so the islanders developed their own ways of coping:

> "*You simply didn't talk about any feelings. That wasn't up for discussions. Life was just about going on and you had to be tough, with yourself in particular, and there was no use in crying or complaining. You just had to survive.*" [Jónsdóttir and Jónsson 2014].

One interviewee noted that the island community had already experienced trauma from a long history of loss associated with the fishing industry, and that the impacts of the eruption were dealt with in a similar way:

> "*We were brought up losing a lot of fishermen. We lost every year, a lot of fishermen. We have our mothers and grandmothers and everything like that had learnt that life has to go on. You cannot think about the past. It's too much. You have to do it in the future. Not now. So, we were … what was in the past. So, we just carry on.*"

The positive narrative is not untrue: there were positive outcomes associated with the eruption. The emergency evacuation on the 23rd of January was successful—there were no deaths and few injuries. People were welcomed and provided for on the mainland, and many islanders were able to return home after the eruption. The positive narrative was a tool used, perhaps subconsciously, by the community to keep going during the eruption. The rescue workers on the island needed the narrative to show that their hard work and suffering was worth the fight. Those on the mainland needed the narrative to know that they would return home. The community needed the narrative to know that they could reclaim Heimaey and that they would thrive there again.

However, despite the truth infused into the narrative, it does not reflect the day-to-day reality of this time. Those who worked on the island during the eruption were facing life threatening dangers daily, from the lavas, the volcanic bombs and blocks, and deadly gases that filled buildings and the lower parts of the town. Similar to soldiers returning from war, many of these men have not spoken much about their experiences until relatively recently.

> "*I asked him, did you experience this during the eruption? You've never told me this? We've been together for 41 years, married for 40 years and he has never told me about this experience which was of course very dramatic and could*

> *have ended really badly. And he replied: There were so many things we experienced during that time which we never talked about. Like seeing the sadness in the eyes of those men who watched their homes burn, or their livelihood or their business. And he said it was like being in a war, it was like a war zone. You became detached from what was happening. We just toughed up and didn't talk about it although this or that was difficult.*" [Jónsdóttir and Jónsson 2014].

> "*Ten years ago. At the 40th anniversary. There were these two people who made a film… Útlendingur Heima... And then people starting opening up. You had never "áfallahjálp"… Counselling... We didn't have that at that time. Iceland didn't have that. We never knew about it. But it's 40 years after, ten years ago, people started opening up, especially the men. They have never talked about what really happened here. About the near-death experience that they had when the when the lava started, you, you know, the the, flying on their helmets. If they didn't have the helmets, a lot of people would have died. Men, about the gas. They went down to the cellars, and they had gas masks when they remember etc., etc. But 40 years later, and I remember a good friend of mine, one year younger than me, she was she was 18 at the time. And her fiancé at that time, was working here and he had a near-death experience more than once. And he had never, ever told her. I mean, they had five children and they had been living together for 30 years, 40 years, and he had never talked about it. But after that film came out and we had a, you know, celebration, Goslok. Back in in 2013. People started opening up then. Then, then, and only then were ready.*"

> "*I mean, if I was here working side by side with some of my friends like my father did, he was not gonna sit down for a coffee and talk to his buddies, hey, remember when we went down the cellar and the gas came? What did you feel? … They might make a joke about it. Black humour you know. I was really surprised. I've known my father for almost 70 years, all through the eruption. And just this year, I saw an interview with him and in some other newspaper, and he said, no, when my house went, that was that. You know, he had just had to accept it. But he stood and watched as the electricity factory burned down. And he said then the thought came, what will happen with us? Where will we live? Me and my family? Where will I get work? What will happen? No electricity. Everything is going, and he said, there I stood with the tears running down my cheeks. And you have never thought about anything. They just moved on. He was working 20 hours a day, you know, and had never had time. But then all the working men on Vestmannaeyjar, or most of them at least, were just standing there helpless. They couldn't fight nature, you know? But he says in this interview, I was just watching it and the tears streaming down my, my cheeks, I couldn't help it. It was just you can imagine a balloon like this, all the air is let out.*"

The same is true for others who lived on the mainland. Their experiences were perhaps not as obviously traumatic as those fighting the lava flows, however life was not easy. Many were left alone in new places with several children to care for, away from their familial support networks. Those who were married to sailors and fishermen were perhaps more used to the lifestyle, but for others this period was incredibly isolating and lonely.

> "*I think it had just been buried deep, deep down. And the women who were staying in one room, even in a collective house with one, you know, kitchen and one bathroom for nine, nine families, they didn't talk about it. It was, it was their life… And I think, that experience, they just buried it… Yeah, I think people didn't know they had to talk about it or could talk about it.*"

The impacts of the eruption were also felt by the children of Heimaey. Many lost their worldly possessions—favourite dolls, cuddly toys, or model planes. While these may be considered trivial trinkets by adults, their value to children—safety, comfort, and security—is immeasurable, and their loss adding to an already overwhelming situation. Children were often separated from their friends, classmates, and extended family. Many had fathers, uncles, and grandfathers who were working on the island for weeks at a time in dangerous conditions. Many children were bullied while on the mainland. A post in the Heimaklettur Facebook page in January 2023 sparked a long discussion about the experience of living as child evacuees on the mainland in 1973. Many noted that they were teased, and goaded about losing their homes and toys, while others were physically bullied. Children were often called names and made to feel unwelcome. These insults reflected more widely the beliefs held by many on the mainland about the support and finances being given to the islanders.

> "*Well, my sister had to go to school, of course, and she got bullied. Because the children, of course, take away what they hear at the lunch table. And she was called a parasite. All Vestmannaeyinga were parasites living off the Icelanders, taking money from the Icelanders, getting everything for free from the Icelanders. And she was really she had a really tough time and I remember very clearly, she was coming one day from school and it's a steep street and she was running down the streets, away from the guys, from the boys that were bullying her. I mean, she was seven and a half and that was what she got.*"

This more realistic narrative has only really been openly discussed since the 40th anniversary of the eruption. The documentary "Útlendingur Heima" created by Jóhanna Ýr Jónsdóttir was released in 2013 [Jónsdóttir and Jónsson 2014] and was one of the first to openly discuss the more negative aspects of the eruption. It caused quite a stir in the community and since then more open dialogue has been happening amongst residents.

> "*When the 40-year anniversary of the beginning of the eruption was held, we would visit friends for chat and coffee. We suddenly began hearing new stories of what people went through. People I had known for years and years and they had never told me certain things they had experienced.*" [Jónsdóttir and Jónsson 2014].

One such example is the art exhibition held by Aldís Gló Gunnarsdóttir during the 2023 Goslokahátið. The exhibition was titled "Það sem dvelur í þögninni" or "*What dwells in silence*" and was a reflection on the emotional impact of the eruption. Figure 35 presents four of the paintings included in the exhibition. "Tvær grímur" or "*Two masks*" (Figure 35A), represents parents and their role in keeping up appearances, making sure that the children were not negatively impacted or traumatised by the eruption, while also struggling with their own emotions. "Sjómaðurinn" or "*The Sailor*" (Figure 35B) represents the sailors and rescue workers who stayed behind on the island. The sailor is looking towards the lavas with the harbour at his back and is worrying about what will happen if the lava blocks the harbour. "Óður til Móður" or "*Ode to Mother*" (Figure 35C) reflects the experience of mothers during the eruption, many of whom were left isolated caring for large families alone. The wallpaper in the background is a homage to the cemetery gate on Heimaey. "AKP" (Figure 35D) stands for "Aðkomupakk". The word does not translate easily into English but was used to suggest that the evacuees were unwanted, useless outsiders (H. Hallbergsdóttir, pers. comm., 2023). This painting represents the experience of the children who were bullied at their new schools on the mainland. The child on the left is being assaulted by the child on the right, and the wall behind is covered with graffiti insults. Evacuees from the Icelandic town of Grindavík, displaced during the most recent rifting episode on the Reykjanes Peninsula have experienced similar attitudes [Fréttir 2023, Nov 16].

The discussion of the eruption's negative impacts and the community's unprocessed emotions was intensified by the development of the Eldheimar museum. The plan for Eldheimar had been to unearth a whole street from the ashes and to create a mini-Pompeii of the North open-air exhibit [Helgason and Jóhannsdóttir 2018]. However, initial investigations showed that many of the houses were damaged beyond repair after being buried for 40 years. The excavation process had unexpected impacts on the islanders, particularly older people who had experienced the eruption first-hand. The excavation work involved removal of grass and vegetation from the area, revealing fresh black tephra. During strong winds, the tephra was blown across the island, causing extensive damage to windows and cars. Many islanders found this triggering, causing them to relive their experiences of the eruption and its aftermath [Hafsteinsson and Árnason 2020]. When the museum finally opened in 2014, with Gerðisbraut 10 at its core, many locals were curious to visit and see how the eruption was remembered. While many had nothing but positive comments, several people were taken aback by the interactive nature of the display, including a recording of eruption sounds from 1973 that plays loud rumbling noises which echo throughout the museum. Several people were so overcome that they had to leave, some were brought to tears reliving the memories, and others had panic attacks. One person explained that they struggled on their first visit to the museum, that they had been very shaken by the eruption sounds. They had however been able to visit the museum at a later date, this time prepared for the interactive nature of the displays.

> "*It is mainly the eruption sound inside Eldheimar. I get an eerie feeling when I hear it.*"

> "*I cried when I visited the Eldheimar museum. Some kind of grief came over me.*"

> "*When I went to Eldheimar for the first time, tears starting rolling down my face, I found the memories difficult to look at the photos and listen to the noise (drunur) from the eruption and it reminded me of when we left the harbour in the boat and rocks were being thrown over the boat and I experienced the same feeling again* [when going to Eldheimar the first time] *I don't want to hear this, I just want to disappear.*"

The responses align with findings of Hafsteinsson and Árnason [2020], who investigated the impact of the Eldheimar museum on the older generations of Heimaey. They noted that

Figure 35: Paintings from the “Það sem dvelur í þögninni” art exhibition held during the 2023 Goslokahátið by the artist Aldís Gló Gunnarsdóttir. The title translates as “What dwells in silence” and was an exploration into the emotional impacts of the eruption which were not discussed publicly for several decades. [A] “Tvær grímur” (Two masks). [B] “Sjómaðurinn” (The Sailor). [C] “Óður til Móður” (Ode to Mother). [D] “AKP” stands for “Aðkomupakk” is an Icelandic expression that cannot be directly translated but was used to mean unwanted, useless outsiders (H. Hallbergsdóttir, pers. com, 2023).

the museum was triggering emotions similar to delayed post-traumatic stress in older members of the community who visited, and that the eruption sounds were triggering flashbacks and strong emotional responses. Two interviewees also noted that the excavation and building work for Eldheimar released a strong sulphur smell as the tephra were disrupted. The smell was strongly linked with memories of the eruption for many in the community:

> "*I think also the first years of Eldheimar, I guess the smell was stronger because they just picked up the House. So there is still the smell.*"

> "*Agree* [about the noise]. *And I remember it took many years to get the smell. It was brennisteinslykt* [smell of sulphur] … *Já. The smell when it was a rainy weather, and it's a rainy weather and not strong wind. Maybe it's an eastern wind and raining. The smell was over all. And I did not like that and so it was a bit like a gas.… That was years. Many years. I think almost ten years. But of course, not so dangerous. But it was not good.*"

There was no formal trauma care in Iceland during the early 1970s. A small trauma centre was established in Reykjavík following the eruption, but its existence was not widely communicated and so it closed shortly after due to poor uptake. There was no support for the rescue workers who worked on the island during the eruption. The lack of support, and the need to persevere, to reclaim the island, meant that most people did not process their emotions, instead adopting the positive community narrative discussed above.

Several interviewees discussed an apparent internalised perception of who is "allowed" to be impacted or traumatised by the eruption. The experiences and impacts naturally vary from person to person, and there are no pre-requisites for traumatic responses to the situation. However, some islanders, particularly those from Western Heimaey, who did not lose their homes, have felt that they were not "allowed" to be traumatised. They still had their homes and their possessions; they had not lost everything. If anyone was going to be traumatised, it was not fair that it be them. Some held back from discussing their trauma for fear of seeming insensitive to those who had lost everything.

> "*Well, for many years, I've had that I could not talk about any loss in my life because of the eruption, because we didn't lose our house. So I felt, I never felt my story was very important because I always said that really did not happen anything with me. Because I felt how much loss it was for the people on the East Coast.*"

> "*And then the fact that their apartment was this high up it and it both became a station for some of the people who are …* [working on the eruption] … *because it was probably the safest because it was so high and good for signal and stuff. So people like camp there … But then they had sort of started to get accommodated in Reykjavík, and so they wanted to buy the house they were given, and they couldn't because their apartment* [in Heimaey] *wasn't bad enough. And that was an interesting one, because of course that was nice, but it was still really damaged… And I think that bothered him a lot, that he didn't have enough damage. Like they picked up his stuff and there was a painting that got punctured and, you know, they didn't take care of it… So, he didn't get any compensation for things... That left a bit of like, at older age when he started talking about it, it became more sort of hurtful and they used his car and ruined it and sort of things like that. That sort of stuck with bitterness.*"

Participants discussed their present-day responses to recent hazard events. Interviewees and survey participants commented that they cannot watch hazards on television, such as the news, as they feel too emotionally involved. One mentioned that they reacted badly to a large storm that hit the island in 2003. Another noted that they had visceral reactions to the earthquake on the 17th June 2000. One interviewee explained that the Eyjafjallajökull eruption in 2010 deposited ash across the island, and she found herself cleaning non-stop, insistent that the ash fall wouldn't be allowed to settle and damage her property and belongings. The present activity in the Reykjanes peninsula, and associated evacuation of Grindavík town has stirred up memories and emotions for many islanders.

> "*Pictures and places and, for example, news of natural disasters and people fleeing evoke memories. And I am always afraid of earthquakes.*"

> "*I was in the Valley (Herjólfsdalur) when the earthquake happened in the year 2000 wasn't it … I was stood beneath Blátindur (mountain) and everything started shaking, the earth moved and then these feelings rose and I thought Blátindur was going to collapse on top of us and I just ran down the valley and just wanted to go home and thought "I'm never coming back to this island", because I was afraid … I was just thinking about myself, ran out of the valley and these feelings arose "It is about to erupt, where is the eruption, where should I go.*"

> "*You talk about fear if something happens. For example, there was a strong storm and thunderstorm here a few weeks ago. It lasted a whole week, but there was one night in particular incredible thunderstorm. It boomed really loud and there was a huge echo because of the mountains. It was the middle of the night, and people were very scared. Judging by the sound, it could be the same would have been a new eruption!*" [Høst 2004].

> "*I experienced* [the fear] *very strong, I was an adult, 37 years old at the time, and had three children. I experienced intense fear, I smelled the volcanic eruption and I thought it was a volcanic eruption again. The only thing I thought was to find my husband and children and go down to the harbour and take next boat to the mainland.*" [Erlingsdóttir 2015].

Many on the island have struggled to feel completely safe in the years since returning home. Although most do not generally fear another eruption within their lifetimes, several people noted that for years after the eruption, they would keep valuables near the front door of their homes in case they needed to evacuate again at short notice.

> "*When we got home, it was a bit strange how scared you constantly were. It was always the first thing I did in the morning to pull the drapes and look at Eldfell to check if everything was calm and this was the last thing I did before I went to bed at night for many weeks, many months after we got back home.*" [Sagnheimar Archive Footage 2000].

> "*I almost never think that I live on an active volcanic island, which could erupt again at any time. Still, my kitty's travel cage was always ready by the front door in case that happened and would of course have been the only thing I would have taken with me.*"

One interviewee told a story about her mother's experiences after the Surtsey eruption in 1963 and her engagement with one of Iceland's eminent volcanologists at the time, Sigurður Þórarinsson.

> "*My mother always said, she was, like I said, 37 at that time. She had experienced Surtsey ten years earlier. And one of the foremost scientists in Iceland, Sigurður Þórarinsson, he came quite often to our home because my father was a photographer, and he was going with the scientists out to research it. So, and he told my mother, she asked him, will there be another eruption here on Heimaey? No! This has been dormant for 5000 years! It will not erupt for another 5000 years! And he had, he was famous for, he had a red woollen hat, and he was famous for it here in Iceland. And he told my mother, I'll eat my hat if it erupts again! It was in '63 with Surtsey! Then ten years later, and my mother was furious to him, you know why? He had lost his bloody hat, so she couldn't go to him and tell him to eat his hat!*"

A cornerstone of the positive narrative was the statement that nobody died during the eruption. This fact is key, as it shows that despite everything—the loss, the fear, the pain—it could have been worse. Two survey respondents even noted:

> "*I think it's worth remembering that no one died in these disasters.*"

> "*Yes, allows me to remember the missing places of youth, the house and my stuff that disappeared. Family and friends who lost touch with and to give thanks that no one died.*"

However, one person did die, a young man named Sigurgeir Örn Sigurgeirsson, known as Össi, who was a Heimaey-based sailor supporting the recovery effort on the island during the eruption. Össi disappeared on the 30th of March 1973 and was later found dead in the pharmacy on Vestmannabraut. Össi had become dependent on pain medication following an accident at sea and had gone to the prohibited zone of town looking for medication at the abandoned pharmacy. While there he was overcome by volcanic gases that had accumulated within the building. Össi's death has often been overlooked or explained away. Some note that his death was not a direct result of the eruption, that he was not technically an islander, or that his behaviour absolves any responsibility for his death. The documentary "*Útlendingur Heima*" [Jónsdóttir and Jónsson 2014] discusses Össi's fate, sharing interviews with his family members and with one of the men who rescued his body who noted:

> *"No one wants to talk about the other thing. One man has died, but it seems to always be pushed aside. He wasn't from the island or something like that. You get the feeling people don't want to talk about it. Like it never happened."* [Jónsdóttir and Jónsson 2014].

The lack of open discussion and emotional support during this time explains the need for a unified positive narrative. Focussing on the positive and looking to the future provided the strength needed to overcome the events of 1973 and to rebuild the community. Discussions, or lack thereof, of Össi and his death are casualties of self-preservation, of a community fighting not to lose themselves as well as their homes. Accepting his death means accepting other darker aspects of the eruption and changes the foundations of the narrative which has persisted for 50 years. These darker aspects of the eruption are slowly being discussed more widely. School pupils learning about the eruption now also learn of the realities for those involved, as well as Össi's story. As we pass the 50th anniversary of the eruption, the community is continuing to accept and share their honest experiences. With even more time, perhaps we will see not only memorials to homes and buildings, but to Össi as well.

Icelanders have regularly experienced natural hazards including eruptions, earthquakes, and jökulhlaup floods since settlement in 876 AD [e.g. Thordarson and Larsen 2007; Russell et al. 2010; Jónasson et al. 2021]. Despite this experience, the mental and emotional impact of such events was not considered during the 1970s when the Eldfell eruption occurred. Widespread awareness and application of modern-day trauma care was not implemented until the mid-1990s after a series of avalanches in the Westfjords, north Iceland, killed 14 people, including several children [Finnsdottir and Elklit 2002; Árnason and Hafsteinsson 2021].

The Eyjafólk suffered a great trauma during the eruption, losing homes, possessions, and community. Many islanders also lived in high stress, high danger environments for weeks and months at a time as they fought against the volcano. Their reaction, to focus solely on the overall positive outcome of the eruption is natural and provided the islanders with the strength and courage to return home and reestablish their town. The deliberate collective "forgetting" of Össi and his fate supported that narrative. Cox and Perry [2011] discuss how post-disaster recovery typically focusses onto political, economic, and infrastructure recovery, often sidelining the importance of social capital and social resilience. They note that this form of recovery: "*individualizes and privatizes the psychological and emotional distress associated with disasters, contributing to a social denial of the depth and duration of survivors' distress and at times isolating those whose recovery trajectory was slower.*" Research into more recent events and their associated recoveries have paid particular attention to long term health and psychological impacts on local communities [e.g. Bödvarsdóttir and Elklit 2004; Bird and Gisladottir 2014; Hlodversdottir et al. 2018; Thordardottir et al. 2019].

7 Conclusions and perspectives

This paper has presented over 50 physical memorials, in-person events, and digital commemorations on the island of Heimaey connected with the 1973 Eldfell eruption. Reasons for commemoration have been outlined, with reference to developing community identity and shared memories, and for maintaining connections with the diaspora who did not return after the eruption. Also captured are aspects of the eruption and its impacts that have not been publicly commemorated, including the positive narrative needed to reclaim Heimaey and to re-establish the community, the death of Sigurgeir Örn "Össi" Sigurgeirsson, and the ongoing emotional impact of the eruption fifty years on.

Understanding the long-term impacts of the eruption is important. Locally, this understanding provides opportunities for Eyjafólk who experienced the eruption first-hand to share their experiences and in doing so prepare the next generation(s) of islanders for the possibility of future eruptions. The Vestmannaeyjar Volcanic System remains active, and is now closely monitored by Veðurstofa, the Icelandic Meteorological Office, therefore unexpected eruptions such as in 1973 are unlikely. However, future eruptions are likely as the Eastern Volcanic Zone continues to propagate towards the south. There are official evacuation plans in place that consider different eruption scenarios and their impact on the island and its population [Pfeffer et al. 2020]. Strong community understanding and preparation for further eruptions will build resilience and ensure that residents are prepared and able to recover from future eruptions.

The lessons learnt from the 1973 eruption are also relevant at a national scale in Iceland. A major rifting episode has begun on the Reykjanes Peninsula in western Iceland. To date, the Fagradallsfjall volcanic system has had three relatively short effusive eruptions in the Gelidingadalur area of the peninsula (Fagradalsfjall 2021, Meradalir 2022, Litli Hrútur, 2023). November 2023 saw a large injection of magma directly beneath Grindavík town and the Svartsengi Geothermal Power Station triggering the evacuation of the residents of Grindavík [Heimildin 2023b, Nov 10]. Sundhnúksgígar fissure has thus far erupted four times—December 2023 [RÚV 2023, Dec 18], January [RÚV 2024, Jan 14], February [Morgunblaðið 2024b, Feb 8], and March 2024 [Morgunblaðið 2024a, Mar 16].

Until now, Eldfell 1973 had been the only historic Icelandic eruption to have occurred in a populated area. As events unfold in Grindavík there are obvious parallels with the eruption in Heimaey—sudden evacuation, attempts to return and collect personal belongings [Vísir 2023a, Nov 14] and pets [Morgunblaðið 2023, Nov 18], plans to protect key infrastructure [Vísir 2023b, Nov 14], the establishment of a centralised help centre [Heimildin 2023a, Nov 18] and even discussions of spraying the lavas with cold sea water [The Guardian 2023, Nov 22]. Understanding the short- and long-term impacts of the Eldfell eruption on the community of Heimaey, the resilience and community cohesion required to recover and rebuild, can contribute to supporting people in similar situations elsewhere, both in Iceland and further afield.

Author Contributions

Rhian Meara undertook the fieldwork, collected the survey and interview data and wrote the manuscript. Arnar Árnason was involved with project development, data interpretation, data translation and manuscript drafting. Osian Elias participated in initial fieldwork, survey development and manuscript drafting. Helga Hallbergsdóttir was involved with fieldwork planning, project development, and on-site networking and interviewing. Sigurjón Hafsteinsson contributed to fieldwork planning and data translation. All co-authors contributed to draft review and editing.

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Data Availability

Data has been collected for this research through interviews and surveys. Participants have signed consent forms agreeing that their data can be shared as part of an anonymised publication but have not consented to the wider sharing of their recordings. This is in keeping with Swansea University's GDPR regulations.

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