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Landslide Archaeology: Past Hazards and Disasters in the Göta River Valley and Beyond

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Review by Christina Rosén

On September 23, 2023, a landslide destroyed part of highway E6 in Stenungsund in western Sweden. Tons and tons of quick clay swept down a slope, damaging nearby buildings and completely covering the road as well as some ancient monuments. This was not the first (nor perhaps the last) time the highway was destroyed in such a way, as the Göta River valley is very prone to landslides. Many such events are known from historical sources, folk memory, and place names. However, landslides have seldom been on the archaeological radar. Until now, that is.

Anton Larsson's doctoral dissertation *Landslide Archaeology: Past Hazards and Disasters in the Göta River Valley and Beyond* is a deep dive into the consequences of landslides for people and their landscapes, as well as for ancient monuments and other traces of human activity in the landscape.

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Larsson covers a multitude of aspects on the topic by making use of several kinds of sources. This is, as we shall see, both a strength and a weakness.

This compilation thesis consists of five papers, all with Larsson as first or sole author.

The Köpingen Landslide, Trollhättan, Sweden: Assessing Minimum Age using Archaeological Evidence for a Scandinavian Late Iron Age Trading Site (Larsson forthcoming a) makes use of radiocarbon dates and artefact typologies to date the Köpingen landslide along the Göta River, atop which a trading site was established by at least the eighth century CE.

Jordfallet at Bohus: Reinterpreting the ^{14}C Dating of a Medieval Landslide Event (Larsson & Dury 2022) revisits the 1958 ^{14}C-dating of the great Jordfallet landslide near Kungälv in western Sweden and confirms the preliminary determination of this event to 1249 CE, previously based on the Icelandic Annals. Over the past century, this event has been discussed by various scholars as well as amateur archaeologists in connection with the establishment of the medieval town of Kungahälla and the Ragnhildsholmen castle. The ^{14}C-dating is an important contribution to these discussions.

Memories of Disaster: Tracing the Material and Immaterial Remains of the 1648 Intagan landslide (Larsson forthcoming b) discusses the deadliest Swedish landslide in the past few centuries, killing well over a hundred people and shifting the borders between Norway and Sweden. The article discusses the problem of connecting archaeological finds to this singular event and shows that almost none of the finds made in the area can be traced to the landslide with any certainty.

The 1703 Skrehall Landslide: A Historical Archaeological Perspective on Disasterscapes (Larsson 2023) is a case study of the 1703 Skrehall landslide at the border between the Swedish parishes of Fors and Rommele. Archaeological fieldwork led to the discovery of surviving remains from a country road recorded in cartographical material before 1703. The study introduces the concept of the 'disasterscape' as a useful terminology in studying small-scale, localised disasters in the past.

Landslides vs Archaeology: Case Studies of Site Loss and Emergency Fieldwork in Västra Götaland County, Sweden (Larsson 2021) explores how landslides have impacted archaeological sites in the landslide-prone region Västra Götaland from the mid-twentieth century onwards, and how archaeologists have had to respond to these disasters. The paper showcases a set of local case studies and argues for a cohesive and systematic approach to the many different impacts of global anthropogenic climate change including landslides.

The summarising body of work (Sw. *kappa*) is divided into 6 chapters. Chapter 1, *Introduction*, presents the research aims, sources, and limita-

tions of the thesis. Among the sources are field surveys and excavations, geological data, cultural heritage databases, newspapers, historical maps, toponymic evidence, church records, court records, and recorded folk memory.

We are given an overview of different types of landslides as well as of the Göta River with its branches and tributaries. The author also states that 'there are no natural disasters' (p. 17), meaning that landslides often have anthropogenic root causes. This is connected to a discussion of risks and vulnerability. Larsson also highlights what in my view is an important topic, namely the rural proletariat – the landless crofters – as a group more exposed to the risks of landslides than the landed peasantry.

Chapter 2, *Landslide Archaeologies*, gives the reader a research history of landslide archaeologies and a methodological overview of how landslides can be dated, which includes geoarchaeological techniques. A discussion of cultural heritage perspectives is presented involving the risk for destruction of ancient monuments, and for interpreting geological formations from landslides as human-made structures.

In chapter 3, *Evolving Perspectives*, Larsson presents some landslide terminology in the Swedish language including the usage of landslide-related toponyms across the Göta River Valley and present-day Western Sweden, from the medieval Norse saga literature to how Early Modern scholars and clergymen described these events and the ways in which they have been reflected in regional folklore.

In chapter 4, *Encountering the Disasterscape*, Larsson examines the disasterscape from several perspectives, from the individual, personal reactions to various societal responses to the disasters and their immediate aftermaths. He points out perspectives that we might never discover using archaeological methodologies alone, particularly when it comes to sensory experiences or societal reactions and responses, touching on the subject of sensory archaeology. This is an interesting, although difficult, subject that could have been more elaborated. To cite Fahlander and Kjellström (2010:5):

> It is difficult enough to interpret similar kinds of information in contemporary society with living informants, and the degree to which it is possible to conduct analyses and access or rescue this type of information from the depths of history may be questioned.

Chapter 5, *Life by the Scarp*, looks at human-landslide interactions and the many ways people have adapted to and tried to mitigate landslides. The re-shaping of landscapes could lead to changes in land ownership and the need for new borders. Some possible positive side effects of landslides are pointed out, such as improved access to minerals, water, plant foraging, hunting and fishing.

In chapter 6, *Landslides in the Anthropocene*, the author states that (p. 162):

> My aim [...] has been to provide a better understanding of how people in the Göta River Valley and the broader region that today forms Western Sweden were impacted by past landslides, and also how the material remains of their communities may be impacted by these landslides in coming years.

So, how did it go?

Landslide Archaeology is certainly an important contribution to Scandinavian archaeology and cultural heritage management, providing insights and information into a subject that is seldom discussed in archaeology. However, some aspects need to be discussed.

One of my main concerns is that this is a book that tries to do many things at the same time. It introduces a new research field within archaeology, it pleads for improved cultural heritage management regarding landslide sites, and it lifts up many voices from the past. It can sometimes feel a bit overwhelming. Many topics are introduced that could have benefitted from a more in-depth discussion, such as sensory archaeology, risks and vulnerability, anthropogenic climate change, and the use of historical archaeological sources and methods.

Larsson situates himself in within the field of historical archaeology (p. 25):

> To my mind, there is no inherent difference between a 20th-century folktale, a 19th-century photograph, an 18th-century map, a 17th-century ledger, a medieval artefact, a prehistoric landscape feature, a radiocarbon analysis result, a stratigraphic record, a macrofossil sample, and so on, that is large enough to justify their exclusion from an interdisciplinary study.

Historical archaeology certainly involves looking at a topic by drawing from several sources, but to my mind, the point of view needs to be the archaeological questions, the material. The concept of *triangulation* is invoked by the author as a way to use a diverse set of materials to draw conclusions that any one type of material would be unable to supply on its own. However, a critical analysis of the sources in relation to the material and the research questions is important, something which is not fully elaborated on here. I would have welcomed a discussion about *why* there is no inherent difference between the different sources used. A map, for example, was created for different reasons than a folktale or an artefact, which surely affects how they can be used and interpreted in archaeological research.

There are some important take-aways from this book, the main one being a raised awareness and much improved knowledge of landslides and their consequences. Larsson also points out how the research material inherently

favours the propertied, monied classes. The subalterns (for example crofters) on the bottom of society are more seldom reflected but at the same time more exposed to damage from landslides. The study of the landless people, the subalterns, is gaining traction within the field of historical archaeology (Hansson et al. 2020), and I am glad to see it included here.

For the cultural heritage sector, including contract/rescue archaeology, Larsson's concept *improbable archaeology* is useful. Landslides can destroy archaeological sites, but they can also generate archaeological data by revealing artefacts, structures or stratigraphies previously hidden below ground, something which is nearly impossible to foresee. He also points out the occasional tendency for archaeologists to confuse geomorphological formations with manmade structures, for example how the structure of debris fields can be mistaken for prehistoric sites.

All in all, this is an interesting and important book, and I am sure it will be much used in cultural heritage work as well as in academic research and teaching.

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