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Pipes tell Basel's Urban History. Archaeology and the Expansion of the District's Heating Network

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Summary

Canton Basel-Stadt has a rich prehistoric and historic heritage. The former episcopal town is exceptionally well preserved, and is the largest historical city centre in Switzerland. The canton's Climate Protection Strategy includes a reduction in emissions by expanding the use of solar energy and a district-wide heating network. Over the next 10 years, the district's heating system will be expanded to form a network of 60 km, with a budget of 460 million Swiss francs. The new heating network and the upgrading of old pipes will provide the Archaeology Service with many opportunities to gain a deeper understanding of Basel's past. Against this background, we have carried out three simultaneous rescue excavations in the historical city centre during the last two years. As part of the Office of Culture, one of the high priority tasks for the Archaeology Service is to present the results of the excavations and research projects to the public. In order to make the public aware of the need for archaeological excavation, the Service puts a lot of energy into public relations work, using posters, press briefings, exhibitions and social media posts. Thanks to public participation, it has been possible to build a positive environment for our work.

1. Introduction

Basel has a rich cultural heritage. It is the third-largest city in Switzerland, with a population of some 176,000 inhabitants, and is characterised by a vibrant economy and cultural diversity. Various global enterprises have their headquarters in Basel, and the city is home to an extraordinarily vast range of internationally renowned works of art and architecture within a relatively small area. Investment in construction has doubled in recent years, which has resulted in numerous highly publicised archaeological excavations taking place. In order for the Archaeology Service to act as a partner with urban developers, a reliable planning process is of crucial importance, and raising public awareness of Basel's archaeological heritage by education and outreach work is one of our top priorities.

2. Urban development: an overview

The Archaeology Service has overseen the maintenance of the archaeological heritage of Canton Basel-Stadt since 1962. Basel's well-preserved historical centre, the largest in Switzerland by surface area, extends on both sides of the River Rhine, and it can look back on over 2000 years of uninterrupted settlement activity (Figure 1). Münsterhügel forms the city's nucleus, and is a reference point for late Celtic, Roman and medieval research. In the



late La Tène period, around 80 BC, an oppidum with an imposing ditch and bank system was established on the hill, replacing the Celtic settlement known as 'Basel-Gasfabrik', an unfortified central place with two cemeteries. After the Gallic Wars, the oppidum was stripped back to become a Roman vicus. In the late 3rd century, Münsterhügel was fortified. In AD 374, Emperor Valentinian I came to 'Basilia' to oversee fortification of the border. Following the withdrawal of the Roman army, the Romanised population retained both Late Antique traditions and the Christian faith, despite their close proximity to Germanic groups (Lassau and Schwarz [2024](#), 12, 275–277).



Figure 1: In 2022, the remains of a row of houses, which had fallen victim to a devastating fire in the 14th century, came to light on Marktplatz, Basel, Switzerland.

Romanic and Frankish influence paved the way for the development that ultimately resulted in Basel becoming an episcopal town. After the year 800, Charlemagne ordered the construction of the first Basel cathedral, the successor buildings of which characterise the cityscape today. A bishop's precinct evolved on Münsterhügel, and was surrounded by numerous church parishes. In the 9th/10th centuries, settlement activities commenced at the foot of the hill. Up to around 1100, development was not particularly dense, and the town still had many agricultural areas (Sieber and Schwarz [2024](#), 20–23). Stone buildings began to be constructed from the 12th century onwards, orientated towards the streets and banks of the rivers Birsig and Rhine. Over the course of the Middle Ages, Basel had three different fortification systems. By the 15th century, it had grown to c. 130 hectares (320 acres), with a population of just over 10,000 (Bernasconi *et al.* [2023](#), 122–31).

As a consequence of industrialisation, entire residential streets in the historic centre were demolished around 1900. In the period between 1800 and 1850, the population had doubled to 30,000 inhabitants, and new residential quarters and industrial precincts were systematically constructed in the surrounding countryside.

3. The climate goal as a challenge for archaeologists

The cantonal government of Basel-Stadt treats climate protection as a priority. In 2022 the population voted in favour of achieving net-zero by 2037, with one of the measures being the



expansion of the district's heating network. Building the necessary infrastructure, comprising a network measuring over 60km in length, will result in c. 45 extra construction projects each year. The sustainable treatment of the original archaeological features is challenging, as laying the heating pipes largely involves disturbing intact layers. At the same time the resulting extensive archaeological insights provide us with a unique opportunity to reconstruct the city's past on a grand scale. Because of the accelerated expansion of the district's heating system, three teams of archaeologists were required to carry out excavations throughout the city in 2022. The rescue excavations were planned well in advance and in close cooperation with the developers. This was possible thanks to an extensive database of some 3650 known sites. The excavations that are currently ongoing in Kleinbasel on the right bank of the River Rhine have uncovered 17 early medieval burials. Some of the deceased were interred with precious grave goods, for instance one girl had a belt buckle with gold inlay and jewellery consisting of 380 beads. The highlight, however, was the discovery of a gold disc brooch in a woman's richly furnished 7th-century grave (Graber *et al.* [2023](#), 102–11). Rescue excavations on the Marktplatz in the centre of the city, and on Freie Strasse, have led to many new insights into the history of the medieval city centre (Figure 2).



Figure 2: An aquamanile in the shape of a lion and pottery, found in Marktplatz in 2022, on display in an exhibition that opened to the public in 2024.

4. Raising awareness through public relations work

It is a basic remit of the Archaeology Service to raise public awareness of the links between their place of residence and its archaeological heritage. Besides public relations work and a social media presence, this includes numerous other activities such as poster exhibitions. The most exciting finds from the early medieval burials excavated during the expansion of the district's heating network in 2021/2022 were presented to the public for the first time at a Night of Museums in January 2023, as part of a pop-up exhibition entitled 'Discovered in Kleinbasel' (Figure 3). Because of the importance of the recent finds from Marktplatz and Freie Strasse, a special exhibition entitled 'Recovered from below ground. Archaeological finds from the centre of Basel' opened at the Museum Kleines Klingental in 2024 (Bernasconi *et al.* [2024](#), 6–19).



Figure 3: Media conference with Beat Jans, then President of the Government of the Canton of Basel-Stadt and now Federal Councillor of Switzerland, at a pop-up exhibition during a Night of Museums in 2023, displaying early medieval finds from graves excavated during the expansion of the district heating network in 2021/2022.

One of the pillars of our public relations work is a network of 25 archaeological information points located at original findspots (Figures 4 and 5). One of the information points, presenting medieval finds and architectural remains uncovered in 2019, can be found in a new building that houses the Department of the Environment and Energy, a beacon of sustainable development. The important phases in Basel's history can also be explored on a circuit of Münsterhügel. From May to October 2023, a total of 59,226 people visited the information point 'Basel, AD 820–1500 The crypt beneath the cathedral crossing', which presents the architectural remains of Basel Cathedral dating from the period of Charlemagne to the Reformation.

[ONLINE ONLY] Figure 4 (video): Media presentation on the history of Basel in the late Roman period. <https://www.youtube.com/watch?v=bsiC1c2Jg1Y> *This video contains audio*

Effective public relations work, archaeological lobbying at the planning stage for construction projects based on reliable archaeological data, and close coordination during the construction phase, have resulted in a situation where the Archaeology Service is now viewed as a partner and asset when it comes to the realisation of public works projects.



Figure 5 (online version): Archaeological information point at the Department of the Environment and Energy (*Amt für Umwelt und Energie*), with a media presentation <https://www.archaeologie-aue.ch/> on the history of settlement near the mouth of the River Birsig, an original wall from the 12th century, and a showcase of finds.



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