



# A wealth of mines works and channels

Trail guide between  
the province of Belluno  
Maniago and the Tyrol



**Interreg**  
**Italia-Österreich**  
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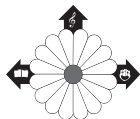
The channel of Ignan-Salzan by the tollhouse of  
Salzan in Piazza Montegrappa, Santa Giustina (BL)  
(photo Ivan Minella)



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## PROVINCE OF BELLUNO

### North

|                                                 |      |    |
|-------------------------------------------------|------|----|
| Monte Pore                                      | page | 12 |
| The mines at Fursil                             | page | 14 |
| Strada de la Vena (Road of the Ore Mines)       | page | 16 |
| Andraz Castle                                   | page | 20 |
| Casa Chizzali – Bonfadini (Cesa de Jan)         | page | 22 |
| Casa Piazza                                     | page | 24 |
| Iron furnaces around Belluno                    | page | 28 |
| Mines and smelting furnaces in and around Zoldo | page | 30 |
| Museum of Iron and Nails                        | page | 34 |
| The Sword of Santo Stefano di Cadore            | page | 36 |

### Municipality of Belluno

|                                                                 |      |    |
|-----------------------------------------------------------------|------|----|
| Ardo Valley                                                     | page | 42 |
| Buse mole                                                       | page | 44 |
| Fisterre                                                        | page | 48 |
| From San Francesco to Fol                                       | page | 50 |
| Borgo Pra: sawmills, forges, mills, tanneries and fulling mills | page | 54 |
| From Borgo Pra to Borgo Piave                                   | page | 56 |
| The vanished church of St. Lucan                                | page | 58 |
| Belluno State Archive                                           | page | 60 |
| Palazzo Barcelloni                                              | page | 64 |
| Civic Museum in Palazzo Fulcis – Hall of Weapons                | page | 66 |

### Municipality of Santa Giustina

|                                 |      |    |
|---------------------------------|------|----|
| The Channel of Formegan         | page | 72 |
| Mill and Forge of Sartena Bassa | page | 76 |
| Locality "Alle mole"            | page | 78 |
| House Of Smiths                 | page | 79 |
| Forge Mezzacasa                 | page | 80 |
| Forge Dalla Mora                | page | 82 |
| Forge Delle Volpere             | page | 84 |
| The Channel of Ignan-Salzan     | page | 86 |
| Bugana Sawmill "Al Maglio"      | page | 90 |
| Santa Libera Mill               | page | 92 |
| Bibliography                    | page | 94 |

## **MUNICIPALITY OF MANIAGO**

|                                            |          |
|--------------------------------------------|----------|
| Museum of Blacksmithing and Blade-Making   | page 98  |
| Ascent to Maniago Castle                   | page 102 |
| Old Stables of Palazzo d'Attimis - Maniago | page 106 |
| Loggia of the Fallen                       | page 108 |
| Trail along Channel of Colvera Stream      | page 110 |
| Cathedral of Saint Maurus Martyr           | page 114 |
| Palazzo d'Attimis – Maniago                | page 116 |
| Trail of the Blacksmith's Art              | page 120 |
| Bibliography                               | page 122 |

## **TYROL**

|                                                                            |          |
|----------------------------------------------------------------------------|----------|
| The hamlet of Gruben and the Frosnitz Valley                               | page 126 |
| The mining area in the Frosnitz Valley                                     | page 130 |
| The smelting furnaces on the Klauskofel                                    | page 134 |
| Mining at St. Jakob in Deferegggen                                         | page 136 |
| Hammer mill at Kleinboden                                                  | page 138 |
| Ambras Castle                                                              | page 140 |
| Tratzberg Castle                                                           | page 142 |
| Mining in the Stubai Valley                                                | page 146 |
| Fügen mining district, Öxeltal show mine,<br>Fügen museum of local history | page 150 |
| The Hofburg (Bishops' Palace) in Brixen/Bressanone                         | page 156 |
| Bibliography                                                               | page 161 |



## **A wealth of mines, works and channels**

*Trail guide between the province of Belluno, Maniago and the Tyrol*

Between the 14th and 17th centuries the region covered by today's province of Belluno, the area around Maniago and the territory of Tyrol enjoyed a period of major economic growth thanks to the availability of large quantities of primary resources – mines, watercourses, timber – and the presence of skilled craftsmen and workers.

The province of Belluno owed its fame to master swordsmiths who were capable of forging swords of the highest quality, which were then sold throughout Europe and coveted by sovereigns and nobles. Fundamental to this were the mines of Fursil in the upper Agordino area, once part of the County of Tyrol, whose ore was particularly rich in manganese and produced steel that possessed excellent mechanical properties.

Maniago and its surroundings were at the same time home to the production of blades, still manufactured here in both artisanal and industrial form, while Tyrol provided valuable labour in the mines, becoming in the process a leading area for trade.

Each territory involved in the project has specific characteristics that merge into the others, thanks to a common history that saw the area governed both by the Republic of Venice, represented by the Lion of St. Mark, and the Habsburg Empire with its double-headed eagle.

This interdisciplinary publication aims to shed more light on this tangible and intangible heritage by creating a tourist itinerary that runs through all three areas, analysing the individual and specific nature of each.



**Province  
of Belluno**  
*North*



# Monte Pore

*Geological and natural history site*

**Municipality:** Colle Santa Lucia

**Coordinates:** 46.487222, 12.022778  
(summit of Monte Pore)

**Contacts:** +39 347 6189044 - (Colle Santa Lucia tourist office)  
[info@collesantalucia.eu](mailto:info@collesantalucia.eu) - [www.agordinodolomiti.it](http://www.agordinodolomiti.it)

## Accessibility

*There is straightforward access along the military road. The summit is easily reached from the Passo Giau road (SP 638) starting from the Fedare hut (2,000 metres a.s.l.) and following path no. 463. The mining area is also easily reached from the centre of Colle Santa Lucia.*

Monte Pore (Puòre in Ladin dialect, 2,405 metres a.s.l.) is a peak in the Ampezzano Dolomites, a southern offshoot of the Averau-Nuvolau group. Geographically it is located in the Agordo area, between the Valle di Fodom and the upper Val Fiorentina: it marks the border between the municipalities of Colle Santa Lucia and Liviallongo del Col di Lana. It is an isolated and inconspicuous mountain, modest in height compared to the more majestic Dolomite peaks of the region; unlike these, it does not possess steep rock walls, but rather grassy or gravelly slopes that run down to the valley floor. Its summit however offers an observation point of enormous value: the exceptional views range from the Dolomites around Agordo to the Ampezzano Dolomites, encompassing the Civetta, Marmolada, Croda da Lago, La-stoi di Formin, Cerneria and Settsass, to name just a few of the most famous peaks. The ascent of Monte Pore is highly interesting from various aspects: there are the remains of Italian positions from the First World War, the area is rich in Alpine flora and populated by colonies of marmots, and there are old barns, evidence of the mountain farming activities of the past. But the mountain's fame derives above all from the role it played in the economic history of the Dolomites: on its slopes, near Colle Santa Lucia, were located the mines of Fursil whose iron was in great demand, especially for the production of weapons on account of its steel-like properties (elasticity, resistance and low propensity to rust). The origin of the main mineral – manganese-bearing siderite – and its properties can be found in the geological formations of the region; in particular, it is the result of the reaction between the calcareous-chalky rocks (Bellerophon formation), which are present in the basal part of the mountain, and very hot hydrothermal fluids. Siderite was formed by the interaction of the iron- and manganese-rich solution with the carbonate component of the rock.

## Remarks

The strategic role of Monte Pore appears to have been documented since ancient times. In 1886 a small brownish-grey sandstone obelisk, dating back to the 5th–1st century BC and measuring 37.5 x 12 x 11.2 cm, was found by chance just a few hundred metres from the summit (then in Austrian territory). It bears inscriptions on two sides in a paleo-Venetic alphabet that, while still undergoing study, testifies to the advance of the ancient Veneti tribe northwards to the borders of the territories dominated by the Rhaetians. Given its unique place of discovery and the fragmentation of the written text, its function is not clear: it is perhaps a funerary stele or a boundary stone, probably brought from a nearby area and reused to mark the boundaries of the pastures. The “Vittorino Cazzetta” museum in Selva di Cadore displays a replica of the obelisk, while the original is kept in Bolzano’s civic museum.

## Bibliography

*Pallabazzer, Chizzali 1994; Baldin 1997; Frangipani 2004; Giordano 2009.*

*(Manolo Piat)*



*Monte Pore from Monte Avena (photo G. Alberti)*



*Monte Pore, Melet  
(photo G. Alberti)*



# The mines at Fursil

## Mines

**Municipality:** Colle Santa Lucia

**Coordinates:** 46.456250, 12.026722  
(start of path from Posalz)

**Contacts:** +39 347 6189044 - [info@collesantalucia.eu](mailto:info@collesantalucia.eu) - [www.collesantalucia.eu](http://www.collesantalucia.eu)

### Accessibility

*The restoration project envisages a small train that will take visitors into the heart of the mountain; at present visits are only possible (on reservation) to the Vauz mine, which is however not accessible to those with disabilities. From Colle Santa Lucia or Selva di Cadore you can reach the hamlet of Posalz by car; the first gallery of the Fursil mines is located nearby. Continuing through the villages of Costauta and Ru other mine entrances can be seen. A minibus service from the village square of Colle Santa Lucia is available for participants in guided tours of the Vauz mine.*

The mines at Fursil (from the old "Wersil") were for centuries a vital economic resource for the areas around Agordo and Belluno, and the object of disputes between empires. Their importance is demonstrated by the Imperial decree of 5 September 1177, whereby Frederick I Barbarossa assigned them to the monastery of Neustift (Novacella), generating tensions within the Empire and with its neighbour, the Serenissima – the Republic of Venice. The reason lies in the properties of the extracted mineral: manganese-rich iron carbonate (manganese-bearing siderite) was mined on the slopes of Monte Pore, in the municipality of Colle Santa Lucia, producing iron that was much appreciated for its exceptional strength and very low oxidisability, comparable even to modern steel. The unique characteristics of this metal, which was called "Ferro dell'Agnello" (lamb iron) after the emblem of the Bishopric of Brixen/Bressanone with which it was marked, meant that it was mainly used in the production of the highly valuable Belluno swords. In 1316 the mines were acquired by the Avoscan family of Agordo, who were driven out in 1350. There were repeated conflicts over the exploitation of the surrounding ore deposits and forests until 1508 when, following the war between the Empire and Venice, they were finally handed over to Brixen. Productivity peaked in the 1600s: the "Strada de la Vena [Road of the Ore Mines]" was built to transport siderite to the smelting furnaces in and around Agordo, Zoldo, Cadore and Tyrol: it still connects the mines with Andraz Castle (that once had its own furnace) and then to the Val Badia. Mining began to lose its profitability in the 18th century and the Fursil mines were gradually abandoned; their closure in 1753 also meant the end of the iron furnace at Belluno. After two centuries, the Breda company of Milan in 1938 showed renewed interest in the site, but mining definitively ceased in 1945. Since 2010 the municipality of Colle Santa Lucia has started a major restoration project in order to encourage tourism.

## Remarks

In addition to the historical documentation, the importance of the Fursil mines is also evidenced by the oral tradition that developed around them, in particular the legend of the Delibana.

According to this tale, once the mineral began to run out, the most beautiful and noble girl in all the land was taken to the mine and imprisoned there for seven years. At the end of this time she was freed and, miraculously, abundant ore veins were once more discovered. This cruel custom lasted for many generations, until the daughter of the mine owner, concerned for the fate of the girls, decided to take on the role of the sacrificial maiden, the "Delibana", and never saw the light of day again. The mine's productiveness also ended and it was therefore abandoned. According to the historian Giuliano Palmieri, this ancient legend may have formed the core of a much more widely known fairy tale, that of Snow White and the Seven Dwarfs.

## Bibliography

Cuccagna 1961; Chizzali, Loss, Pallabazzer 1986; Baldin 1997; Giordano 2009.

*(Manolo Piat, Giulia Tasser)*



*The Vauz mine (photo G. Tasser)*



*Entrance to the Vauz mine (photo G. Tasser)*

# Strada de la Vena (Road of the Ore Mines)

*Historic route*

**Municipality:** Colle Santa Lucia – Livinallongo del Col di Lana

**Coordinates:** 46.504597, 11.988984

(Castello di Andraz)

**Contacts:** +39 347 6189044 - +39 334 3346680 - [info@collesantalucia.eu](mailto:info@collesantalucia.eu)  
[www.collesantalucia.eu](http://www.collesantalucia.eu) - [info@castellodiandraz.it](mailto:info@castellodiandraz.it) - [www.castellodiandraz.it](http://www.castellodiandraz.it)

## Accessibility

*An itinerary suitable for all on a path and mule track, mostly flat with some steeper sections. The route can begin from the town hall of Villagrande di Colle Santa Lucia, which can in turn be reached from Belluno via the SR 204 and then the SR 203 "Agordina" roads. It is also possible to start from Andraz Castle in the municipality of Livinallongo, which can be reached by continuing towards the Falzarego Pass (SR 48 "Dolomiti").*

The "Strada de la Vena" connected the old iron mines of Fursil (Colle Santa Lucia) to the smelting furnaces of Andraz Castle and the Valparola Pass, then continued into the Val Badia and from there to the markets of Brunico/Bruneck and Brixen/Bressanone.

The road, part of the larger "Via del Ferro [Road of Iron]" route, along which the raw mineral was taken for processing (to Tyrol, the Agordo area and the Val di Zoldo), was built by the Prince-Bishop Cristoforo Madruzzo around 1558, when the smelting furnaces, initially located at the castle, were moved first to Valparola, then to Piccolino. The aim was to make transporting the raw material to the furnaces safer, more efficient and less costly, thus giving a considerable boost to production; an easy-to-travel road was therefore required that could take heavy loads, but would also be fast and safe.

The road was built from the mining area to Andraz Castle on an almost entirely new course that followed the old path connecting the farmsteads between Canazei, Colcuc and Col di Larzonei; the stretch from the castle to Valparola-Piccolino, i.e. the normal route connecting to Brixen/Bressanone, was probably only upgraded and reinforced so as to allow the safe carriage of heavy loads of ore.

In short, the road became the favoured trade route between Tyrol and the Republic of Venice and as such remained in use for almost two centuries.

Later, especially after the end of mining activities in 1753, the solid paved road was slowly abandoned and fell into disrepair.

In the absence of written documentation, the original route was rebuilt at the end of the 1990s mainly on the basis of oral testimonies and local finds of numerous fragments of siderite, providing unequivocal proof that the mineral had travelled this way.

## Remarks

The links between the mines and the ironworking sites were important not only in economic terms, but also politically. Although the *Strada de la Vena* became a popular route between Tyrol and Venice, the old trails also served as a possible "escape route" for the Bishops of Brixen, who held sway over the region. While holding this office, the famous humanist Nicholas Cusanus (Kues, 1401 – Todi, 1464) almost certainly made use of the *Via del Ferro* to seek refuge at Andraz Castle, where he stayed several times between 1454 and 1460 following disputes with Duke Sigismund of Austria and the Abbess of Castel Badia, Verena von Stuben. Within the castle walls, Cusanus devoted himself to study and writing, in particular *De beryllo* (1458), in which the philosopher cites the suitability of the mineral beryl for use in making lenses as a metaphor for his theory of the "coincidence of opposites".

## Bibliography

Chizzali, Loss, Pallabazzer 1986; Richebuono 1992; Bal-din 1997; Piaia 2007.

(Manolo Piat, Giulia Tasser)



The "Strada de la Vena"



The "Strada de la Vena"

# Andraz Castle

*Historic building/archaeological site*

**Municipality:** *Livinallongo del Col di Lana (Via Castello)*

**Coordinates:** *46.504597,11.988984*

**Contacts:** *+39 334 3346680 - [info@castellodiandraz.it](mailto:info@castellodiandraz.it) - [www.castellodiandraz.it](http://www.castellodiandraz.it)*

*Open: 10.00-12.30 / 14.30-18.00 (in summer)*

## Accessibility

*Andraz Castle is located on the S.R. 48 road. If coming from the south, continue from the Cerdadoi junction towards Cortina d'Ampezzo for the Falzarego Pass and, after a few sharp bends, the ruins of the ancient castle can be seen. It can be reached along a short stretch of road that turns left off the main road (follow signs for Castello). If coming from the north, follow signs for the Passo Falzarego towards Caprile.*

The first traces of a fortification built on the great mass of dolomite rock date back to shortly after the year 1000 AD: the castle was from its beginnings probably the place from which the captains of the Prince-Bishops of Brixen/Bressanone administered and controlled the area of Livinallongo and Colle Santa Lucia. Over the centuries the structure was enlarged and reworked several times; a famous fire in 1484 largely destroyed the almost entirely wooden-built castle. Following this event a structure was built, very similar to the current one, entirely of masonry; wood was only used for internal panelling and joinery works. A clear division was created between the cellar area (ground floor and first floor) and the residential quarters (the respective floors for the captains and servants), with a large attic area above. Other improvements were made in the 18th century by Captain Mairhofer although, upon the secularisation of the Bishopric of Brixen in 1803, the castle was abandoned. Purchased by a farmer from Livinallongo, it was progressively stripped of its interior cladding and furnishings. Lack of care and weather damage, as well as bombardment during the First World War, caused the structure to crumble and resulted in permanent damage, only in part restored since 1988 through the intervention of the Superintendent of Works. The castle is currently an archaeological site of considerable value, hosting temporary exhibitions as well as musical and cultural events.

## Remarks

The castle stands on an erratic boulder that fell from Mount Settsass during the last glaciation and has always represented the southern outpost of the territory held by the Bishopric of Brixen. The statute of the *Bacchetta di Livinallongo* dates back to 1541: the document regulates the reciprocal rights and duties of the inhabitants of Colle and Livinallongo and the captain of Andraz Castle regarding farming, animal

breeding, hunting, fishing, festivals and sovereign rights. A small room in the castle features a hole that, according to recent studies conducted by Prof. Giuseppe De Donà, may have been made by Nicholas Cusanus, philosopher and Prince-Bishop of Brixen, during his stay at the castle in 1457, as a gnomonic aperture to determine the exact date of the winter solstice.

### **Bibliography**

Baldin 1997.

*(Giulia Tasser)*



*Interior view of Andraz Castle (photo M. Azzalini)*



*Exterior view of Andraz Castle (photo G. Tasser)*

## Casa Chizzali – Bonfadini (Cesa de Jan)

*Historic building*

**Municipality:** Colle Santa Lucia (Via Villagrande 46)

**Coordinates:** 46.44695, 12.01455

**Contacts:** 0437 720609 - [info@istitutoladino.org](mailto:info@istitutoladino.org) - [www.istitutoladino.org](http://www.istitutoladino.org)

**Opening times:** Mon-Fri 09.00-12.00 / 15.00-17.00

### Accessibility

*The building is located on the left-hand side of the street leading to the parish church.*

The building, originally a quadrangular structure that served as the residence of the Chizzali family, was over the centuries significantly extended to the west. Given its impressive size, with tapering corners to consolidate the structure, it is not difficult to imagine that from the very outset the building was one of the palaces to which the people of Colle would turn for administrative matters.

The entrance is located on the south side and is flanked and surmounted by 17th-century frescoes, together with the initials of the four brothers who built it and the date of building's construction (1612).

Once inside you can see the subdivision of the interior spaces, regularly repeated on each floor: a stone-paved corridor with cross-vaulting onto which doors open that lead to the kitchens and "stue", rooms entirely panelled with pine wood. All of the windows are protected by solid grilles and, on the first floor, is the "Erker", a covered protruding balcony typical of Tyrol.

Following restoration works in the 1990s, the roof was once more entirely covered in larch shingles; the ridge beam runs parallel to the village's main street on an east-west axis.

The building is at present partly in private hands and houses the administrative offices, library and exhibition spaces of the Ladin Cultural Institute Cesa de Jan, a body that covers the three Ladin communities of Colle Santa Lucia, Livinallongo del Col di Lana and Cortina d'Ampezzo.

### Remarks

Built in 1612 by the four brothers Giovanni, Luca, Domenico and Giacomo Chizzali, the Cesa de Jan (House of Giovanni) was built with the riches accumulated from the iron ore extracted from the mines at Fursil. The family had in fact recently married into the noble Bonfadini dynasty of Venice and, in 1631, Giovanni obtained a noble title from the Prince-Bishop of Brixen/Bressanone. In 1648 certain members of the family were admitted in perpetuity to the title of Venetian patricians and became part of the Grand Council of Venice. Even after the end of the mining era, the Chizzali family con-

tinued to hold high positions, adding prestige to the life of the community, symbolised by the coat of arms that once featured on the east wall, subsequently removed by persons unknown.

## Bibliography

Baldin 1997.

*(Giulia Tasser)*



*The Tyrolean Erker on the first floor (photo G. Tasser)*



*The Cesa de Jan seen from the east (photo G. Tasser)*



*Construction date of the building with initials of the four Chizzali brothers (photo G. Tasser)*

**Municipality:** Colle Santa Lucia (Via Villagrande)

**Coordinates:** 46.446768, 12.015235

**Contacts:** [info@collesantalucia.eu](mailto:info@collesantalucia.eu) - [www.collesantalucia.eu](http://www.collesantalucia.eu)

## Accessibility

*The palace is privately owned: the exterior is visible from the road.*

The Casa Piazza is located in the old town of Colle Santa Lucia, to the right of the street that leads to the parish church.

The original part of the structure, which also features the family coat of arms, goes back to the second half of the 1500s; the new wing, built to the west, is of 17th-century origin. The north side of the structure, facing the road that runs towards the church, has over the centuries undoubtedly been subjected to the most frequent reworkings. Almost all of the windows on the façade were once fitted with iron grilles, subsequently removed.

The original entrance, located on the north side of the 16th-century part, has been replaced by a terrace. The internal corridors have cross vaults and there are several *stube*-type rooms with original wooden panelling.

The best-preserved façade is to the south, where can be seen a sundial made between the 16th and 17th centuries as well as the division between the sixteenth and seventeenth-century parts.

The newer part of the building has a characteristic passageway to connect the inhabited area with the fields and meadows below. Iron doors are set in the sides of the vaulted passageway to access the cellars.

At each corner of the house are the characteristic corner ashlars, alternately square and rectangular in shape, with black fresco lines. Some of the building's details (opening grilles, window shape) are similar to the nearby house of Chizzali-Bonfadini, better known as the Cesa de Jan.

## Remarks

The privately-owned building has a very interesting history, not only because architecturally it shows changes from different eras, but also because it was inhabited by one of the oldest and most prominent families in the area. From the 17th century on the noble Piazza family served as factors for the mines at Fursil on behalf of the Prince-Bishop of Brixen/Bressanone and later also acted as captains of the court district of Livinallongo.

Around 1650 the house was used to store the iron ore from Fursil and at the same

time the family was also assigned the Piccolino estate in the Val Badia where, a few years later, a major furnace would be built for the working of iron from Fursil.

## **Bibliography**

Baldin 1997.

*(Giulia Tasser)*



*The coat of arms of the Piazza family  
(photo G. Tasser)*



*Casa Piazza - north side: on the left is the 16th-century part,  
on the right is that dating from the 17th century  
(photo G. Tasser)*



# Iron furnaces around Belluno

*Smelting furnaces*

**Municipality:** *Val di Zoldo, Unione Montana Agordina, Cadore*

**Coordinates:** *46.451369, 12.034554*  
(Selva di Cadore)

**Contacts:** *+ 39 437 62105 (Agordo tourist office)*  
*ufficioturistico@agordo.net - www.agordo.net*

## Accessibility

*The sites of the old furnaces, of which no trace remains, are easily reached by car or after a short walk. The main locations are along the SR 203 Agordina road (Valle del T. Cordevole) and the SP 251 Val di Zoldo e della Val Cellina (Valle del T. Maè) road, or nearby. From the Pian di Vedoia exit off the A27 it is possible to make a circular tour: either clockwise (towards Belluno then towards Agordo) or counter-clockwise (towards Cortina, then towards the Val di Zoldo).*

The territory of today's province of Belluno has since the 13th century been characterised by important mining and metalworking activities linked to iron, which (with the exception of the Fursil mines) mainly exploited small concentrations of ore.

The raw material was converted into metal in various smelting furnaces located less in the vicinity of the mines than along the main routes serving the sites for secondary processing, where timber and water were readily available.

Local placenames also testify to this activity: for example, Forno [furnace] di Zoldo or Forno [furnace] di Canale (renamed Canale d'Agordo in 1964).

The oldest known furnace, dating from 1244, was located in Selva di Cadore, but it was above all the 14th century that saw the progressive multiplication of iron smelters in the valleys of Agordo, Zoldo and Cadore; these included a furnace owned by the bishopric at Andraz Castle, subsequently relocated owing to a shortage of wood to Valparola, then to Piccolino in the Val Badia.

The main furnaces around Agordo were located at Alleghe, Avoscan, Forno di Canale, Cencenighe, Listolade, Val di S. Lucano and Missiaga; those in the Val di Zoldo were located at Pecol, Mareson, Fusine, Dont, Forno di Zoldo, S. Maria, Fagaredo and Crusulo (Grisol); while in the Val di Cadore furnaces were to be found at Caprile (today a part of Alleghe), Selva, Borca and Sappada.

The number of furnaces remained stable during the 15th century, then declined over the next 100 years.

The causes, which led to their definitive closure in the mid-1700s, were economic (exhaustion of mines), technological (introduction of more productive "wind furnaces") and political: the Republic of Venice was increasingly focused on the copper

mine of Val Imperina, in Agordo, whose production was of strategic importance for the Venetian economy

### Remarks

The production of iron from unprocessed ore and its subsequent transformation into finished objects, including swords, required large amounts of charcoal, first for the furnaces then for the forges: to make one kilogram of iron in fact required some 3 kg of charcoal (just for the furnace) that, in turn, was obtained from 15-20 kg of wood, mainly beech.

The overexploitation of forests, combined with internal conflicts within the community, prompted the intervention of Venice which, concerned by the depletion of wood, a vital resource for its fleet (masts for ships, oars and pitch) – repeatedly prohibited its use for other purposes. One example was the Cansiglio forest, located in Alpego in the province of Belluno: the Doge, Francesco Donato, decreed on 28 July 1548 that it would come under the direct control of Venice “...as we need good quality oars for our Arsenal”.

### Bibliography

Cuccagna 1961; Caniato, Dal Borgo 1988; Da Col 2003; Della Giacoma, Fiocco 2007.

*(Manolo Piat)*



*The Cansiglio forest (photo M. Azzalini)*

# Mines and smelting furnaces in and around Zoldo

*Mines/smelting furnaces*

**Municipality:** *Val di Zoldo*

**Coordinates:** *46.375422, 12.126457*  
(*Val di Zoldo, municipal office in Fusine*)

**Contacts:** *0437 787349 - [turismo@valdizoldo.net](mailto:turismo@valdizoldo.net) - [www.valdizoldo.net](http://www.valdizoldo.net)*

## **Accessibility**

*The entrances to the mines are impenetrable and often difficult to locate, but the area as a whole features routes of differing degrees of difficulty, often with minimal ascents and descents.*

*The main road to the Val di Zoldo is the SP 251 (from the Val di Zoldo and Val Cellina); take the Pian di Vedoia exit from the A27 motorway, continue towards Cortina as far as Longarone, then turn left and follow the provincial road. The Val di Zoldo can also be reached via the Cibiana Pass (from Cadore), the Duran Pass (from Agordo) or the Staulanza Pass (in the north of the province of Belluno).*

The Zoldo Valley contains numerous villages located between 825 and 1210 metres above sea level and was once home to ironworking activities (as well as lead and sometimes silver ore), with smelting and processing playing an important role in the local economy between the 13th and 17th centuries.

Certain placenames testify to this activity, e.g. Forno [furnace] di Zoldo, Fusine [smelter], Fornesighe [iron smelter] or Col del Fèr [iron hill]. While the dating of the structures for turning ore into metal is well documented, this is less certain regarding mining, which was practised at numerous small sites. The main ore deposits were at Goima, Canazzè, Pecol and Medoli; tradition has it that there was a major deposit near Palafavera, in Col del Fèr, which was lost under the Monte Pelmo landslide of 1589. Other theories instead claim that this location was actually where material was deposited from the Fursil mines (Colle Santa Lucia). During the 14th century there were seven or eight iron furnaces in the area of Zoldo, at Pecol, Mareson, Fusine, Dont, Forno di Zoldo, S. Maria, Fagaredo and Crusulo (Grisol); while this number remained stable during the 15th century, it had fallen to three by 1548. The numerous smelters near the furnaces produced agricultural and household utensils, nails and artefacts for the Venice Arsenal.

The metalworkers of Zoldo were rightly famed, helped by their technique of pre-producing cast iron in small furnaces, subsequently refined into soft iron in "low temperature" furnaces (indirect method). The last forges remained in operation until the middle of the 20th century. Parts of a forge, tools (hammers, anvils, tongs, moulds) and many typical products, especially nails of various shapes, can be seen at the Museum of Iron and Nails, housed in the former Palazzo del Capitano in Forno di Zoldo.

## Remarks

According to tradition, a castle was built by Ezzelino III da Romano on the Col da Roman near Astragàl when he ruled over Zoldo. No trace remains, as it was demolished by the inhabitants of the valley upon the death of the tyrant in 1259. The people of Zoldo hated Ezzelino's cruel intendant, who governed the valley on his behalf, and who was nicknamed "Comparetol", as he might appear (in Italian *comparire*) anywhere, dressed in red like a devil. One day a load of weapons from the local forges, intended for Ezzelino's army, overturned while being transported and fell into a stream. Interpreting this as a sign of revolt, the intendant in revenge kidnapped a girl and galloped off to the castle. When the villagers blocked his way, his horse took fright and dragged the girl behind it, killing her and unleashing their wrath. To this day the soul of the Comparetol, in a red robe and with a cowbell around his neck, is reputed to roam the valley at night looking to kidnap children.

## Bibliography

Omenetto 1967; Cason Angeli-ni 1988; Vergani 1990; Monego 1999.

(Manolo Piat)



Mine, Val di Zoldo (photo M. Conedera)



Museum of Iron and Nails (photo P. Lazzarin)

# Museum of Iron and Nails

Museum

**Municipality:** *Val di Zoldo (Via San Francesco 15, Forno di Zoldo)*

**Coordinates:** *46.34641, 12.17751*

**Contacts:** *0437 78144 - Open in summer*  
*museodelchiodo@clz.bl.it - [www.comune.valdizoldo.bl.it](http://www.comune.valdizoldo.bl.it)*

The rhythmic, incessant noise of the power-driven and hand-held hammers used by nail-makers and the smell of charcoal hung for a long time over the Val di Zoldo. Written sources from the 14th century document the presence of Brescia-style furnaces for processing iron ore, ironworks for the production of steel and soft iron, as well as some ten small forges. The production of iron and steel in the valley changed over the centuries; it lasted however until the middle of the 20th century, when the last nail-making workshop (the Fusinela dei Pascai) closed. In the 19th and 20th centuries the forges of Zoldo specialised in the making of nails for carpenters and shoemakers, with the name of Zoldo thus a byword for the production of nails.

The Museum, housed in the ancient Palazzo del Capitaniato, covers two floors. On the ground floor are a number of images and objects, with short texts that describe the resources of the local area: the water, an energy source for workshops but also a destructive force owing to the periodic violent flooding; the land, which was never able to guarantee the survival of the local population; the forest, which provided timber, firewood and charcoal; and emigration, mainly to other European countries where many of those leaving Zoldo found success as ice-cream makers. Linking the two floors is a panel showing the most significant dates in the history of the valley, beginning in 1356, when the presence of smelting furnaces was first attested, through to 1966, when the great flood of November washed away the last traces of the forges and caused serious damage.

The first floor consists of a single large space with large-format photographs, maps, archival documents and an exhibition of work tools and artefacts to illustrate the story of the old mines, the smelting furnaces and the power hammers as well as the more recent activity in the 19th and 20th centuries.

There is a reconstruction of a stone forge, a bench with hammers, tongs and wire rods, and a singular nail anvil that together show how the nail-maker (*ciodaròt*) would work inside a forge. A series of photos describes the stages in making a cleat, or shoe nail, while an exhibition of nails of different shapes and sizes and commonly used tools demonstrates the many aspects of the work of the artisans of Zoldo. The exhibition ends with a photograph of the Strada del Canal and a display of a two-wheeled handcart, both symbolising the mobility and commercial resourcefulness that distinguished the inhabitants of the Val di Zoldo.

## Remarks

In the village of Pralongo, a few kilometres from the Museum, there is a restored *fusinela* (small forge) located on the Malisia stream. Inside the building can be seen the brick forges and wood blocks that constituted the workplace of the individual nail-makers. A water-powered trompe (air compressor) has also been rebuilt outside. The forge can be visited on request

*Text taken from I. Da Deppo (ed.), Musei e collezioni della provincia di Belluno. Un patrimonio da scoprire, Tipografia Piave, Belluno 2019, pp. 70-71.*



*Museum entrance (photo S. Miscellaneo)*





i magli

Interior of the museum (photo S. Miscellaneo)

# The Sword of Santo Stefano di Cadore

## Collection

**Municipality:** *Santo Stefano di Cadore (BL – IT)*

**Coordinates:** *46.557750, 12.549639*

**Contact:** *0435 62305 - [segr.santostefano@cmcs.it](mailto:segr.santostefano@cmcs.it) - [www.santostefanodicadore.info](http://www.santostefanodicadore.info)*  
*Opening times: Mon-Fri 10.00-12.00 noon. The sword is not exhibited in the municipality's official area and can only be visited on request.*

### Accessibility

Please ask the municipality before visiting. The sword is not exhibited in the municipality's official area and can only be visited on request.

The municipality of Santo Stefano di Cadore is located some 50 km northeast of Belluno, in the Comelico Valley in the Upper Cadore, close to the Austrian border. The Comelico Valley has permitted transit from south to north into the Puster Valley since Neolithic times. In the 1st century AD the Romans constructed a branch off the Via Claudia Augusta (the so-called VCA Altainate): the importance of this road can be seen from the archaeological evidence of the camp of a Roman legion on the Kreuzberg Pass. The decline of the Roman Empire did not in any way reduce the importance of this connection and trade flourished even in the Dark Ages. Settlements multiplied along the road and noble dynasties emerged in the locality who took control of the traffic routes. Virtually nothing is known about these local aristocratic lines from the Early and High Middle Ages (6th-13th century), especially if they did not leave such buildings as castles. A special object, now kept in the town hall of Santo Stefano di Cadore, gives us however a deeper insight into this era. In 1992 two mushroom collectors were searching in an area between Danta and Santo Stefano. While searching they discovered a strange mushroom-shaped object stuck in the ground and, when they pulled on it, a complete sword appeared. This sword (of the Oakeshott type XI) is very well-preserved and dates back to the 11th century, making it almost 1,000 years old. It has a mushroom-shaped pommel and is characterised by its long and narrow blade, perfect for stabbing: the classic weapon for a knight when fighting on horseback. The sword of Santo Stefano is not only excellently preserved, but also one of the few to have survived from this time. It is therefore a unique cultural monument and, along with the picturesque village of Santo Stefano, is well worth a visit.

### Remarks

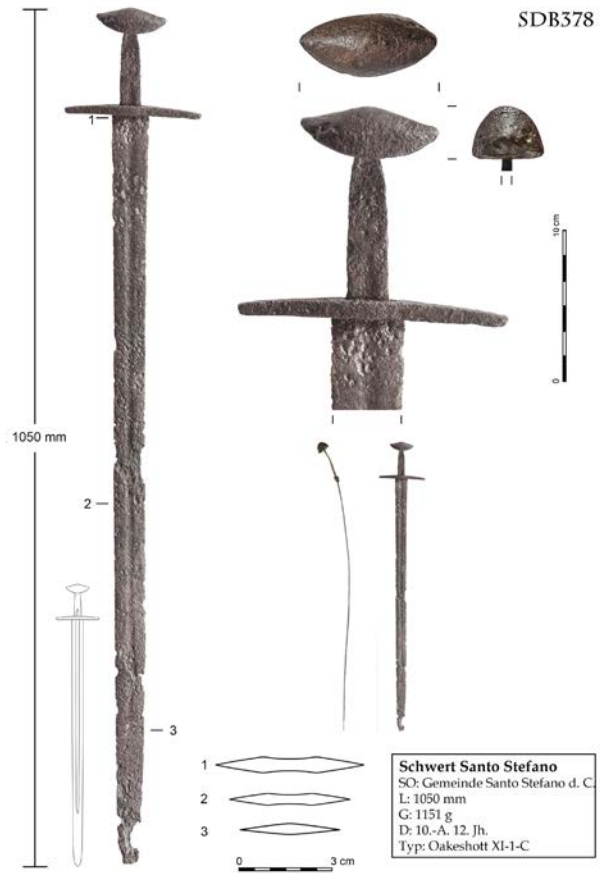
As the sword has no swordsmith's mark, its origins cannot be 100% determined, but it may well have been made locally. It bears clear similarities to swords from north of the Alps, but also to weapons made to the south. If it were indeed locally produced,

it would not only be a testament to the eventful history of the Comelico Valley, but also a clear indication of the true age of blade-making in Belluno

### Bibliography

Zandonella Callegher 1991;  
Mazza 2004; Fornari 2011.

(Florian Messner)



*The sword of Santo Stefano di Cadore (photo and graphics F. Messner)*



*The village square with the church of Santo Stefano  
(photo F. Oliveri ©FROL)*





**Province  
of Belluno**  
*Municipality of  
Belluno*



## Ardo Valley

*Industrial archaeology, hydraulic plants, site of natural interest*

**Municipality:** Belluno

**Coordinates:** 46.172713, 12.190416

*(Piazzale Toni Hiebeler)*

**Contacts:** 0439 3328 - (Parco Nazionale Dolomiti Bellunesi)

*info@dolomitipark.it - www.dolomitipark.it*

### Accessibility

*There are numerous ways to visit the area (both as regards type and difficulty), ranging from urban routes (also suitable for people with motor or visual disabilities) to mountaineering tours.*

*It is possible to approach the main places of interest by car via several main roads from Belluno, following signs to Bolzano-Case Bortot (left-hand side of the valley) or to Cavarzano-Col di Roanza (right-hand side); there are signposted parking areas. Continue on foot along forest trails and tracks. It is also possible to reach the Ardo Valley directly from the centre of Belluno up an easy, well-marked path.*

The Ardo is a mountain stream that rises at the foot of Monte Schiara (the highest peak of the Belluno Dolomites, 2,565 m above sea level), in the heart of the Dolomiti Bellunesi National Park, joining the River Piave near the city of Belluno. Its course is some 12 km long, all within the municipality of Belluno, through a beautiful landscape of high historical and anthropological value.

The axis of the valley, onto which a lattice of side valleys converges, often appears as a gorge, with a narrow valley floor running between high, sometimes overhanging walls that form impressive and complex environments, interesting in geological, geomorphological and plant life terms.

From north to south, the most important gorges include the "Bus del Buson", a fossil gorge that is no longer a watercourse; the "Pont de la Mortis", crossed by the bridge of the same name offering views from above; and the Corontola gorge, located downstream from the village of Bolzano Bellunese.

Water has eroded the entire succession of strata that ranges from the Main Dolomite, the oldest formation in the area, to the more recent rocks of the Flysch and Molassa deposits in the lower reaches of the valley.

There are also numerous glacial deposits, in which seismic phenomena are a frequent occurrence, left by a side branch of the Piave glacier during the last Ice Age.

Intensely impacted by human activity, the valley has an interesting rural settlement system, notwithstanding the obvious rural depopulation, with widespread signs of traditional activities such as terraces, field systems and farm buildings, all connected by a

dense network of paths. There are also numerous relics of former activities – crafts and industries – that exploited waterpower for their needs: mills, sawmills, works, forges, a hydropower plant that operated at the beginning of the 20th century and a trout farm.

### Remarks

The evocatively titled “Mortis” gorge near Viàl owes its name to its narrow, dark form that has undoubtedly fed the human imagination. According to legend, the dark cavern excavated by the Ardo in the typically reddish rocks was where devils would welcome the souls of the damned, waiting to lead them down to the underworld. The heat given off by the demons themselves would also cause the water of the stream to evaporate, producing the mist that can often be seen at the opening of the gorge. Following a chance discovery in 1998 of bronze objects on the “Col del Bus” hill above the “Bus del Buson” gorge, several excavations have revealed such finds as 20,000 flint tools, 300 arrowheads, two copper axes and a spindle, as well as objects made of obsidian and rock crystal. The site is one of the most important Bronze Age finds in the Belluno area and clearly shows the importance of the Ardo Valley in past millennia.

### Bibliography

Fenti 1992; Cassol, Facchin 1993; Soppelsa 2000; Various 2001; Giordano, Toffolet 2002.

*(Manolo Piat)*



*The Ardo Valley in Viàl (photo M. Piat)*

# Buse mole

## Quarries

**Municipality:** Sedico

**Coordinates:** 46.149436, 12.164514  
(locality I Conch, Libàno)

### Accessibility

*Access to the quarry area is in poor condition and may therefore be difficult.*

*The location can be reached from Belluno, first via the hamlet of Tisoi, then following Via San Simon up to the church of the same name, in front of which there is a private unsurfaced road that leads to the main quarries of Tisoi and Libàno; the old service road that ran down from the village of Libàno fell into disrepair after the cessation of quarrying activities and is currently impassable. Other quarries are located close to the nearby hamlet of Corlonch.*

Between Libàno di Sedico, Tisoi and Bolzano Bellunese (the latter two both in the municipality of Belluno), a centuries-old sandstone extraction industry flourished until 1963. This stone was used in the production of grinding wheels for sharpening bladed weapons, agricultural implements and cutting tools. The exploitation of these quarries (*buse*, in local dialect) appears to have begun in Roman times, first in the open, then in galleries.

The properties of the material (fine-grained, homogeneous, very compact quartz sandstones) guaranteed excellent quality for the finished product: so much so that the grindstones, of various sizes according to use, were not only used throughout Italy (for example, for knives in Maniago), but were also exported throughout the Mediterranean basin, to the Black Sea and to Germany, Bosnia, Albania and the Anglo-Saxon countries. The quarries in the territory of Libàno, located in I Conch along the Gresàl stream, produced sandstone that was particularly suitable for making large-diameter grindstones for use in the manufacture of swords. It can therefore reasonably be assumed that the water stones seen in many iconographic representations came from the Belluno quarries.

Those involved in the extraction and processing of sandstone were known as *molàs*, whose great technical skills, passed down from generation to generation, were refined over the centuries (excavation was in fact by hand until 1942-43).

Among these were the *cavadori*, whose job was to extract the raw material from the tunnels in slabs or blocks of the desired thickness, while others outside would finish the grinding wheels, reducing them to the required size and giving them their typical round shape. Depending on the intended use, their diameter might vary between twenty centimetres and two metres, with a thickness of between six centimetres and half a metre.

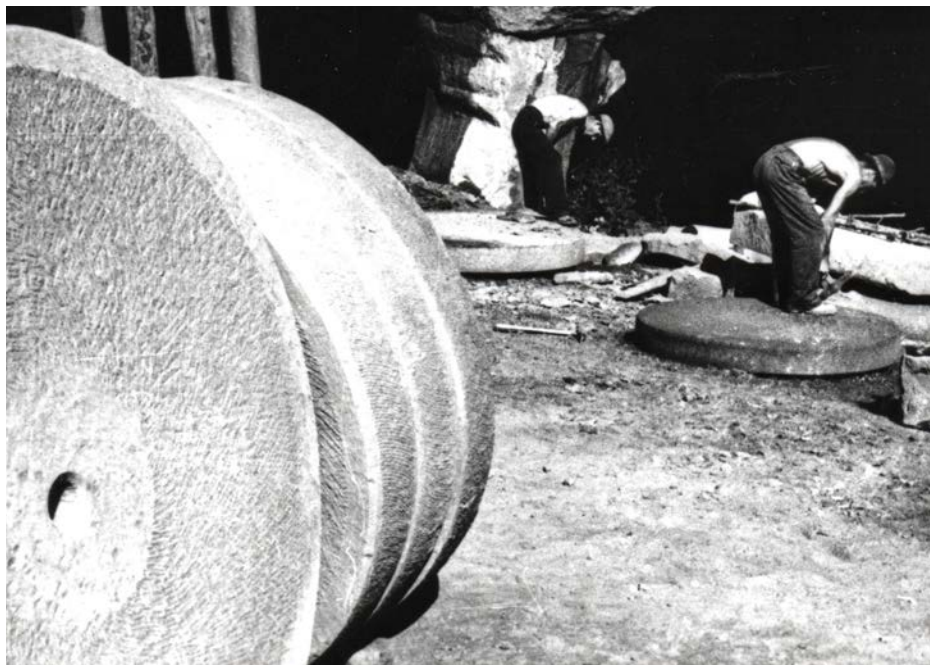
## Remarks

In geological terms the extracted stone belongs to the Libano Sandstone formation, which dates back to the Miocene (about 20 million years ago): it is known to palaeontologists for the numerous fossils of marine mammals, ancestors of the dolphins. It is possible that the discovery of these skeletons during mining activity, especially in ancient times, stimulated the imagination of the molàs such that they believed that they were the remains of such mythological creatures as dragons. It is perhaps no coincidence, therefore, that the little church located on the hills overlooking the area was dedicated to St. George. Another religious reference links this site to sword production; uniquely in Belluno, the former parish church above the village of Bolago di Sedico, first mentioned in 1346, was dedicated to the Saints Faustino and Giovita. The fact that the two young martyrs, who lived in the second century AD, were from the city and diocese of Brescia – a historic production centre of bladed weapons – suggests a commercial relationship involving the grindstones.

## Bibliography

De Vecchi 1986; De Vecchi, Canzan 2000; Perco 2002; Conte, Vizzutti 2014; Filippin 2015.

*(Manolo Piat)*



*The quarries in the territory of Libano (photo coll. Canzan-Candeago, 1940)*



*The church of Saints Faustino and Giovita  
(photo M. Piat)*



# Fisterre

*Industrial archaeology, water-powered plants*

**Municipality:** Belluno

**Coordinates:** 46.14896, 12.20744

*(Via Michele Cappellari, locality Fisterre)*

## Accessibility

*From the old town of Belluno, follow signs to Agordo and take the Via Col di Lana. After 500 metres take the road downhill on the right that shortly afterwards reaches Fisterre. The route continues on a dirt track along the Ardo stream.*

At the gates of the city of Belluno, in Fisterre (the name derives from the Latin “finis terrae”, i.e. the end of the urban area and the boundary with the territory of Oltrardo) the Municipality of Belluno, together with the mountain community, created an interesting path in the 1990s that is still in use today, winding along the left bank of the Ardo stream following part of the route of the historic irrigation channel.

The area of Fisterre was an important production site with several water-powered plants, including two wheat and barley mills and a large sawmill, still clearly visible, that dominates the meadow running down towards the stream where the path is located. This area was the first to feature a blacksmith's forge, where the Barcelloni family possessed a major works for the production of blades, which were marked with the family's heraldic beast – a scorpion – that can also be seen on the balcony of the palace of the noble Belluno family, located at the entrance to Via Carrera. This dynasty, whose name (as Francesco Pellegrini points out) is probably linked to the work of the “barzelòn” or stud maker, is mentioned numerous times in notarial deeds in which certain members of the family are designated as *Magistri* (masters of a trade) and *Fabri* (smiths). Sources mentioned by Mario Dal Mas give 1425 as the earliest possible date for the existence of at least two forges in Fisterre cited in notarial acts drawn up on the occasion of the sale of a forge to two blacksmiths.

These deeds also list the tools present in the workshop at the time of the transfer of ownership: a number of grindstones, a large hammer and bellows. From 1566 on Fisterre was the workplace of the two famous master swordsmiths, Andrea and Zandonà Ferrara, while Pietro da Formegan later worked here in the early 17th century.

## Remarks

The *roja* or channel once continued beyond the present-day bridge over the Ardo, providing water to the large royal trout-breeding centre at Fisterre, built in the early 20th century.

As can be seen from the Napoleonic cadastral maps of 1816, prior to the fish farm the area was home to two water-powered facilities, a grinding mill and a fulling mill

where woollen cloth was produced. The right bank of the stream is dominated by the so-called *"Ponte delle fontane"* (bridge of fountains), a single-arch structure that crosses the valley of the Rio Bastian. It is in fact an aqueduct, the only one supplying water to the city of Belluno until the early 20th century. A memorial stone in the wall at the entrance to the adjacent Mussoi Park is dated 1750, the year in which the people of Belluno, under the direction of the prefect Maffeo Badoer, rebuilt the bridge further downstream from the previous structure

## Bibliography

Dal Mas 1980; Cassol, Facchin 1993; Vello, Tonin 2018.

(Marta Azzalini)



*The sawmill (photo M. Zucco)*

# From San Francesco to Fol

*Industrial archaeology, water-powered works, historic buildings*

**Municipality:** Belluno

**Coordinates:** 46.146859, 12.214497 - 46.14469, 12.21862

(Via San Francesco - Via al Fol)

## Accessibility

*To reach the starting point take the Via San Francesco, not far from the historic centre of Belluno, and continue north towards the town of San Francesco; then, heading south, you come to Via al Fol. The route follows paved roads.*

Via San Francesco leads to the town of the same name: here stands a church dedicated to Saint Francis of Paola, a saint originating from Calabria (Paola is a town in the province of Cosenza).

The founder of the Order of Minims, he lived as a hermit in a cave by the sea and, according to legend, calmed a storm over the Strait of Messina by spreading his cloak on the water. He was also called to the bedside of Louis XI of France by the Pope to save the King.

Francis of Paola is the patron saint of sailors and those who work closely with water, which is why Vendrando Egredis, canon of the cathedral (whose coat of arms can be seen on the lintel of the entry door), chose him as the patron saint for this place and ordered the construction of the votive chapel in 1606.

Next to the church stands the "Officine Orzes", the last preserved works in Belluno.

The building originally housed a carpentry shop, then became a fulling mill and from 1919 it was a mechanical workshop, run until 1983 by the Orzes brothers. The recently restored structure is the only surviving example of the numerous water-powered works on the left bank of the Ardo, driven by the water in the channel, still partially visible at the point where the waterwheel was rebuilt.

Heading south along the left bank of the Ardo, not far from Borgo Pra, you reach the locality of Fol along the side of the Ponte Nuovo: the village name comes from the locally practised activity of "fulling" wool, i.e. beating it so as to produce felt. Crossing the bridge towards Baldenich, on the right can be seen a yellow building that was once a fulling mill and later became the Ferigo timber mill: it is today a private home.

## Remarks

There are interesting lunettes decorating the sides of the church's central nave, produced by different painters during the 17th century and depicting miraculous scenes from the life of St. Francis of Paola.

On the altar, in the centre of the altar screen, is a statue of the Calabrian saint dressed in a brown habit with a hood, the traditional garb of the Minims: he holds a stick and

at his sides are St. Romualdo and St. Anthony of Padua.

The antependium, an 18th-century work by the Belluno painter Antonio Gabrieli, shows Francis accompanied by Hope (with the anchor) and Faith (with the eucharist)

## Bibliography

Cassol, Facchin 1993; Vizzutti 2011; Various 2015.

*(Marta Azzalini)*



*The church of St. Francis of Paola (photo M. Zucco)*

*The "Officine Orzes"*  
(photo M. Zucco)





## Borgo Pra: sawmills, forges, mills, tanneries and fulling mills

Industrial archaeology, water-powered works

**Municipality:** Belluno

**Coordinates:** 46.142759, 12.221107  
(Piazza San Lucano)

### Accessibility

*The village is just a few minutes on foot from the centre of Belluno, down the stairs located next to the Church of Santo Stefano.*

While the nearby Borgo Piave was the port of Belluno where rafts would land, Borgo Pra was instead a true proto-industrial village, located on the left bank of the Ardo stream.

It was the site of numerous activities that used hydropower to drive its many waterwheels for wheat and barley mills, tanneries, fulling mills (where wool was beaten and worked), sawmills and forges, which also produced the famous Belluno swords. A deed dating from 1574, written for the Doge by the *podestà* (civic leader) Marco Antonio Miari, mentions 28 works: 11 mills, 6 hammer mills, 6 forges, 2 sawmills and 3 fulling mills.

The heart of Pra is still the Piazza San Lucano, dedicated to the saint also known as the "Apostle of the Dolomites", one of the town's patron saints, along with St. Joatà and the more famous St. Martin.

St. Lucan is linked to the history of sword-making here: the local church, now no longer in existence, was dedicated to him and once housed the brotherhood of blacksmiths and millers (see information board).

In his 17th century *Historia della città di Belluno*, Giorgio Piloni cites 1378 as the year in which the periodically recurring fair was moved from the town centre to the other side of the Ardo, to the *prato di San Lucano* [St. Lucan's meadow], both for reasons of public safety and because it was located along the road that led from Belluno towards the Strada di Alemagna.

The square has lost its original closed, oval shape, but still retains its charm as a "carpenters' quarter" (*Borgo dei Marangoni*).

To reach the square, cross the bridge over the Ardo, known as the "bridge of straw" because, it is said, it was once covered by a thatched roof under which a toll had to be paid.

By leaning from the parapet of the bridge, an iron and concrete structure can be seen along which an artificial channel ran until the 1970s. This was the *roja*, a conduit that, after supplying the numerous water-powered works of Fisterre to the north, crossed the Ardo here and continued on its way to the slopes of the hill upon which Belluno stands, before finally emptying into the River Piave.

## Remarks

The only remaining trace of the many works of Borgo Pra is the Sala De Luca. This building stands on the left of the narrow road that leads to Piazza San Lucano. It was first a tannery, then a furniture works: since 1968 it has been a cultural centre. The structure retains its original charm thanks to the presence of the *piòl*, a wooden terrace typical of the rural residences of Belluno that was at one time used for drying legumes and maize. In the courtyard is also a large stone tank in which skins were immersed before tanning. Next to the building's retaining wall, towards the stream, can be seen a remnant of the channel where once a waterwheel turned, connecting slightly further downstream to the suspended conduit.

## Bibliography

De Bortoli, Moro, Vizzutti 1984; Cassol, Facchin 1993.

*(Marta Azzalini)*



*The fountain in Piazza San Lucano (photo M. Zucco)*

# From Borgo Pra to Borgo Piave

*Industrial archaeology, water-powered works*

**Municipality:** Belluno

**Coordinates:** 46.142957, 12.219861 - 46.136062, 12.221762 - 46.137566, 12.222334  
(Via Lungardo - Via dei Fabbri - Via della Roggia)

## Accessibility

*Start from the bridge of Borgo Pra, then continue along Via Lungardo until you come to the entrance of the tunnel that leads to the Via dei Fabbri behind the supermarket. The Via della Roggia, which leads to Borgo Piave, begins at the next bridge over the Ardo stream..*

Taking today's Via Lungardo from the bridge at Borgo Pra reveals a landscape that has been completely altered over just a few decades: where once the irrigation channel flowed there now stand buildings of various sizes. Only the large meadow located before the next bridge over the Ardo gives an idea of the former appearance of the area along the channel just outside Belluno. This vast space still belongs to the former Convent of St. Peter of the Franciscan order of Friars Minor (currently a Gregorian seminary) and comprised a section of the city walls running down the slope through hanging gardens.

This was where the artificial canal flowed: its traces are scarcely visible as a result of the silting up that has occurred since the 1960s. Two stone buildings occupy the large space: the smaller one, used first as a forge and then as a mill for grinding cereals, has a circular window that provides light from above. This design was typical of water-powered works, with natural light used to illuminate the interior spaces.

Continuing along the route of the channel (now underground), you cross the road that leads to the tunnel, then go up a narrow unsurfaced road. Via dei Fabbri is located a few metres below the Porta Rugo, the city's southern gate, and leads to a historic blacksmith's workshop, the "Busighel".

At the forge – now a ruin of which only a part remains of the perimeter walls – can still be seen a trace of the channel, as well as the remains of a shaft that drove one of the two waterwheels to operate the hammers and a grindstone. According to tradition, the Busighel was the workshop of the famous master swordsmiths Andrea and Zandonà Ferrara, who originally came from Fonzaso (now in the province of Belluno): recent archival research documents the presence of a forge here since at least the end of the 1500s, with the locality significantly named "zo alle fucine" ("down by the forges").

The route continues along Via della Roggia to where the two waterways (Ardo and Piave) meet, at Borgo Piave, the former port of Belluno, where rafts with goods from the Cadore area would land. This is the last stretch of the course of the channel that,

between the 16th and 17th centuries, powered a fulling mill, two grain mills, a forge and finally the large complex of the Colle tanneries that worked until 1957.

### Remarks

On the little square of Borgo Piave stands the building that housed the “Botegòn”, a former tavern and meeting place for the raftsmen who would land here and for the many travellers arriving at the port of Belluno. Originating in the 1400s, the structure was modified over the following centuries: the main floor features numerous frescoes that probably date from the 16th century.

The nearby Church of St. Nicholas, patron saint of the “zatèr”, or raftsmen, was originally built in 1361 and later enlarged around the middle of the 16th century

### Bibliography

Fontana, Vizzutti 1980; Cassol, Facchin 1993; Bartolini 2008.

*(Marta Azzalini)*



*Borgo Piave (photo M. Zucco)*

# The vanished church of St. Lucan

*Historic building*

**Municipality:** Belluno

**Coordinates:** 46.136926, 12.218262

*(Via San Lucano, 7)*

## Accessibility

*Keeping the bell tower of Belluno cathedral on your right, continue along the road until, after a few metres, on the left you come to a little square with a small parking area overlooked on its left by the structure of the former church.*

*The building can only be seen from the outside..*

The former Church of Saint Lucan, now completely altered, is located in Via San Lucano. A painting by Domenico Falce (in Belluno civic museum) dating from 1690 shows the small chapel closing the courtyard of the Palazzo Piloni to the south: now the seat of the provincial administration, it was adjacent to the Scola, home of the brotherhood of blacksmiths and millers.

The church, dedicated to Saint Lucan, the "Apostle of the Dolomites" and one of the city's patron saints, was consecrated on 7 December 1396.

On the high altar was a canvas from the mid-16th century by Paris Bordon depicting the Madonna and Child enthroned, St. Lucan, the Magdalene and the Saints Catherine and Eligius. Plundered by Napoleon's troops, all furnishings belonging to the church and the brotherhood were made state property, including the above-mentioned painting, today preserved in Warsaw.

St. Eligius, the patron saint of goldsmiths and blacksmiths, shown on his knees in working clothes while presenting the tools of the trade – hammer and tongs – might indicate that the clients for the painting were among the many ironworkers who practised their craft not far away in the numerous water-powered works along the banks of the Ardo.

As further confirmation of the clientele, the work also depicts St. Catherine of Alexandria, the young girl dressed in purple who, laying her left hand on the toothed wheel, the instrument of her martyrdom, confirms her patronage of the artisans who used wheels in their work on the roads or waterways.

## Remarks

The church also contained two side altars, one dedicated to St. Jerome and the other to St. Philip Neri.

The latter altar was created after 1676 together with a particularly realistic statue of the saint, showing his chest with the relic of a fragment of his heart and the reliquary, sculpted by Andrea Brustolon, depicting the saint on his knees. Both works are now

preserved in the small museum of the Church of Loreto in the historic centre of Bel-luno together with a large wooden monstrance, also by Brustolon, commissioned by the brothers of the Oratory of San Lucano for exhibiting the Blessed Sacrament.

## **Bibliography**

Dal Mas, Giacobbi 1984.

*(Marta Azzalini)*



*The painting of Paris Bordon today at the National Museum in Warsaw*

# Belluno State Archive

Historic building

**Municipality:** Belluno

**Coordinates:** 46.136928, 12.220262  
(Via S. Maria dei Battuti, 3)

**Contacts:** 0437 940061 - [as-bl@beniculturali.it](mailto:as-bl@beniculturali.it) - [www.archiviodistatobelluno.beniculturali.it](http://www.archiviodistatobelluno.beniculturali.it)  
Opening times: Monday, Tuesday and Friday 09.00-13.00 / Thursday 14.00-17.30

The State Archive of Belluno is located in the heart of the city, in the palace that was for centuries home to the Brotherhood of Santa Maria dei Battuti, next to the church of the same name. The original structure dates from the 14th century: despite its numerous reworkings, the building retains many fresco decorations from the 15th century, as well as a series of painted wooden panels from the same era that adorn the ancient ceiling beams, a rare testimony to the persistence of the Gothic influence in the city. Following the Napoleonic policy of secularisation, the building became state property, and from 1806 to 1971 housed the district notarial archive: in 1973 it became the seat of the state archive, which required substantial conversion and restoration. Various false ceilings, shelves and partition walls were removed, revealing hitherto-unknown painted frescoes and panels. The adjacent church of Santa Maria dei Battuti was built around 1330; it contained altars and paintings of great artistic value that, following the secularisation of 1806, were lost or moved elsewhere. The Gothic portal of the main façade was removed in 1892 and incorporated into the city church of Santo Stefano, where it remains to this day, while the 15th-century wooden door is kept in the local civic museum. A few years after the Napoleonic expropriations, the church was sold off to private individuals: in 1984 it was acquired by the Ministry for Cultural Heritage and Activities and allocated to the Archive. After lengthy conversion and restoration works, it was opened to the public in 2009. In addition to the Institute's in-house library, it hosts meetings, conferences, congresses and exhibitions. Other covered areas, such as the cloister, were destroyed over the centuries, leaving only old iconographic testimonies and archaeological finds in the garden, which is enclosed by a long stretch of the ancient city walls overlooking the Ardo stream.

## Remarks

The Institute's *Archivio notarile* [Notarial Archive] (1392-1906) contains many documents relating to the activity of the master swordsmiths of Belluno, including the most famous example, first mentioned in December 1979 by Ferruccio Vendramini in the "Dolomiti" review, and subsequently more closely analysed by Donatella Bartolini in her contribution of 2008. This is a deed drawn up by the notary Nicodemo Delaito of Belluno, an agreement signed with two London merchants for the supply of a large

number of swords by the master swordsmiths Andrea and Zandonà Ferrara. In the contract, dated 5 December 1578 (ASBL, Notarile, prot. 2683, 1576-80, f. 233v-235r), "the English gentleman Giovanni Brun of London, and Mr Lanciloto Rolansone of London, resident in Venice" commission the Ferrara brothers to supply 72,000 swords over the course of ten years, with monthly production set at 300 weapons at a cost of 37 soldi each. The swords were to be delivered to Belluno, Ponte nelle Alpi or Primolano at no charge to the Ferrara brothers, who had however to guarantee the two merchants that they would produce exclusively for England.

## Bibliography

Vendramini 1979; Dal Mas 1980; Bartolini 2008; Vello, Tonin 2018.

*(Marta Azzalini, Silvia Miscellaneo)*



*The hall*





*Belluno city walls*

# Palazzo Barcelloni

*Historic building*

**Municipality:** Belluno

**Coordinates:** 46.14012, 12.21664

(Via Carrera, 40)

## Accessibility

*From the Piazza Vittorio Emanuele in the centre of Belluno, take the narrow Via Sebastiano Ricci: after a few metres you reach the entrance to the building, today home to a bank.*

The palace of the Barcelloni family was built during the 16th century in what was then the first northern expansion of the city of Belluno, outside the original limit of the medieval city walls. The entrance portal still bears the family coat of arms, a black scorpion on a silver field, which was at that time the trademark stamped on the swords that were produced in the forges of the Barcelloni, located on the channel that ran parallel to the Ardo stream below the city. The coat of arms, still clearly visible on the palace's stone portal, is linked to the origins of the dynasty, the largest producer of swords in the proto-industrial district of Belluno at the beginning of the 16th century. The stylised scorpion was in fact the mark stamped on the finest blades that came from the family's forges, capable – like the scorpion – of striking a fatal blow at anyone who dared challenge them.

With the riches accumulated from the manufacture of swords and a shrewd marriage policy, the Barcelloni family managed in 1642 to gain admission to the Council of Nobles of the city of Belluno.

The façade features an elegant triple-mullioned window, to the left of which is a Baroque frame formed of the heads of lions and dolphins, surmounted by the coat of arms of the noble Venetian house of Marcello. The frame contains an epigraph, dated 1689, dedicated to Federico Marcello, procurator of San Marco and protector of Giovanni Battista Barcelloni Corte.

A distinguishing feature is the wrought iron balustrade of the loggia on the first floor, with the large quartered coat of arms of the family.

## Remarks

The Barcelloni family appears from the 14th century on in documents relating to Belluno, where they are described as ironworkers with a forge on the banks of the Ardo. In the early 16th century it was the technical and entrepreneurial skills of Antonio Barcelloni, who died in 1558, that consolidated the standing of the dynasty: his two sons Domenico and Giovanni Battista abandoned the laborious work of making swords to instead become notaries, with the family's possessions now including not only lands

and houses throughout the regions of Val Belluna, Treviso and Friuli, but also rich investments in Venice. It was Giovanni Battista Barcelloni who set the young Andrea Ferrara to work in his forges: the latter would subsequently become one of the greatest swordsmiths in European history.

## Bibliography

Curti, Vignaga 2015.

*(Marco Perale)*



Palazzo Barcelloni (photo M. Zucco)

# Civic Museum in Palazzo Fulcis - Hall of Weapons

## Museum

**Municipality:** Belluno

**Coordinates:** 46.140020, 12.217624 (Via Roma, 28)

**Contacts:** 0437 956305 - [museo@comune.belluno.it](mailto:museo@comune.belluno.it) - [mubel.comune.belluno.it](http://mubel.comune.belluno.it)  
Belluno Civic Museum - Palazzo Fulcis - Via Roma, 28 - 32100 Belluno

### Accessibility

*The museum is inclusive and accessible to people with motor disabilities. The building has fully accessible bathrooms and is barrier-free (there is a lift to all floors of the building).*

Opened for the first time in 1876 in the former *Palazzo dei Giuristi* (Palace of Lawyers), the civic museum preserves the legacy of Belluno's history and art with exhibits of Renaissance paintings, sculptures, bronzes and medals, 18th-century porcelain, folk jewellery, woodcuts and an important collection of drawings, as well as numerous archaeological finds dating from prehistory through to medieval times. In 2017 the museum was moved to the Palazzo Fulcis, which had been renovated to accommodate the new historical and artistic collections, while the new arrangements for the archaeological collections are still undergoing design. The hall of weapons, on the first floor of the Palazzo Fulcis, tells the story of the production of high-quality blades between the 15th and 17th centuries in Belluno and in the area between Feltre and Serravalle, which for a long time supplied the armies of the Republic of Venice and of several other European states, and brought extraordinary fame to some of the most skilled master swordsmiths of Belluno, such as Pietro da Formicano and the brothers Andrea and Zandonà Ferrara. The main nucleus of the exhibition is a group of close-quarter weapons on loan from the armoury of the Correr Museum in Venice that shows the different types of blades forged in Belluno: longswords, poignards, daggers, two-handed broadswords, falchions, estocs and backwords. Each weapon has its own history that opens a window onto the military history of Venice and Europe as a whole in the modern age. There are also two recent acquisitions: a fragment of a sword found at the site of a former forge in Formegan (Santa Giustina Bellunese) and a sword recovered from a shipwreck off the coast of Apulia, marked "Formicano" – an unmistakable sign of its origin in the Belluno area.

### Remarks

The palace now housing the museum has, since the 16th century, been owned by the Fulcis family (raised to the city's nobility in 1512): it has undergone several renovations and redecorations that still characterise it today, with most important occurring during the 18th century. At the beginning of the 1700s, following his appointment as a Knight

of Malta in 1702, Pietro Fulcis furnished the Chamber of Hercules, a sumptuous Baroque room for which Sebastiano Ricci painted some extraordinary canvases of mythological subjects, now on display in the museum. Later, the marriage between Guglielmo Fulcis and Countess Francesca Migazzi de Vaal of Trentino in 1776 provided grounds for the conversion of the palace to the design of the architect Valentino Alpago Novello, which gave it its elegant façade on the Via Roma and the double-height hall on the main floor, with frescos by Costantino Cedini of the Tiepolo school.

## Bibliography

Ton 2017.

*(Carlo Cavalli)*

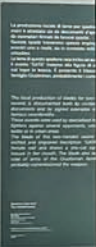


Palazzo Fulcis (photo M. Zucco)

The secret of the azulejo

The secret of the azulejo is a story of a man who lived in the 16th century and who was a great master of the art of painting on tiles. He was called Francisco de Holanda and he was a Portuguese nobleman and a humanist. He was a great friend of the king and he was a great admirer of the Italian Renaissance. He was a great master of the art of painting on tiles and he was a great friend of the king. He was a great admirer of the Italian Renaissance and he was a great master of the art of painting on tiles.

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veneto.  
Quest'arma, con  
il pommel a testa di  
bestia (cavallo) e con  
il riccio in oro, è  
risalente al XVI-XVII  
secolo.

The Schiavona  
came to the Ser-  
enissima in the  
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Hall of Weapons in Palazzo Fulcis (photo M. Zucco)



**Province  
of Belluno**  
*Municipality of  
Santa Giustina*



*Texts taken and reworked from  
the book by Donatella Bartolini  
Waterwheels along the Veses  
History and technology  
Municipality of Santa Giustina  
DBS, Seren del Grappa 2005*

# The Channel of Formegan

Waterway infrastructure

**Municipality:** Santa Giustina

**Coordinates:** da 46.091909, 12.026439 fino a 46.073412, 12.018873  
(from the hamlet of Velòs to the locality of Volpere)

## Accessibility

*The route along the channel follows paved and unpaved roads that are easily negotiated.*

The Veses stream runs from the Alpine foothills, past the village of Velòs and down to the River Piave: on the slope were constructed three examples of a *roggia* or artificial channel, dug in varying widths and in parts bordered by drystone walls. The three channels have been documented with certainty since the beginning of the 16th century, but it is likely that they date from earlier times.

On the right of the Veses, just below Velòs, was the start of the 4.5-km long Formegan channel, which ran through the hamlets of Sartena, Santa Margherita, Formegàn and Volpère until it entered the Ruinés stream, with a fall of some 70 metres between the entry and exit points. Only a few traces remain of the Formegàn channel. It was decommissioned in 1986, when Antonio De Bortoli's sawmill ceased to operate, and is now largely dry. The few stretches where it is active are located between Santa Margherita and Formegàn, where the overflow of the Col Cumano aqueduct enters.

Over the years the channel had a greater concentration and variety of works than all others in the area, with forges, mills, sawmills and fulling mills. It was until a few decades ago possible to see the water supply system for the Formegàn channel below Velòs, a stone and concrete barrier that diverted water to the right. The channel continues its course towards Sartena: at the intersection of the provincial road from Cesiomaggiore it runs underground, resurfacing on the other side of the road just before Sartena. Following its course, more or less by a shed on the left, you cross the old local road that leads to the bed of the Vesés stream and runs along it for a while. The road then curves to the right and climbs towards the first houses of Sartena until it meets the provincial road at the small church of San Michele Arcangelo. Following it to the junction with the provincial road you come to the road that runs down to Santa Margherita. The channel here supplied water to a washhouse that was in use until 1980. The channel heads towards Via San Gregorio and enters the garden of the former Sartena mill, now Petrelli. It then continues towards Santa Margherita, again crossing the road. The channel now collects the excess water from the aqueduct and at this point begins to head southwest, away from the road, running along the aquifers of Col Cumano to the house of the Ganz family. Further on, there is a small courtyard to the right bordered upstream by a fine house with a column: the former "Dalla Mora" forge. This building is one of the

oldest in the area and still retains its original 16th-century forms. The old road to Sartena Alta starts from here, as does a narrow gravel road, lined with trees, that leads to the Casa dei Faori. The channel runs behind the building until it disappears underground just before a winch-operated sluice gate. Past the house you reach the former “Mezzacasa” forge, which in the 1960s was the last to close in Santa Giustina.

The channel now runs through the fields to Fontana. After a few hundred metres, near a small bridge and a bend, an isolated house appears on the right that stands on a sort of embankment. The Ruinés stream also runs nearby: of interest are the canalisation works on the channel that passes close to the house. The terrain, on several levels, as well as the fork in the channel that appears to produce a secondary channel, suggests that there was once another water-powered structure here. The channel now runs through pipes underground, crosses the road and takes a decisive turn towards Formegàn. It continues, hidden among vegetation, beyond the small bridge then passes under the railway to join the mill at Formegàn.

A little further on can be seen an old washhouse in the square. From here there are no further traces of the channel that, for a stretch, had to skirt the road then go behind the houses. This area was known as “al Follo”, as at the curve there once stood a works for the fulling of materials: it had fallen into ruin by the second half of the 19th century. There were three other works along the channel, including the De Bortoli sawmill, which stands at the end of Via Pescamin.

The channel met the Ruinés stream once more near the current warehouse, but then immediately headed for the Corte mill. Heading along Via Volpère until you meet the Salménega road, the path follows the historic course of the channel that presumably ran along the small wall by the square in front of the bar, then went under the road to resurface in the garden of the houses placed at the junction with the provincial road. The last building that it passed was the “Casa Darù”, once a blacksmith’s workshop and subsequently an electricity substation. Once beyond the garden of the house, the channel ran parallel to the provincial road and, after a few dozen metres, entered the Ruinés stream.



*Former course of the Formegàn channel (photo T. Meneguz)*

## Remarks

In its heyday between the end of the 16th and the 18th centuries, there were 12-13 works located along the channels of Santa Giustina. Their numbers remained steady into the 19th century, when there were six mills, three iron hammers and two fulling mills in operation. During the 20th century the old waterwheels were supplanted by horizontal Francis turbines to generate electricity. The change of use was not accompanied by a change of location: despite their repurposing, the last mills still visible today remain in exactly the same spot as when they were built, centuries ago.

Only the forge owned by the Mamani family was in operation in Formegàn between 1625 and 1717: it probably made mostly tools for farming or building use. There were only two active forges by the following century, the last of which belonged to the Mezzacasa family: it closed in 1960.

*Via degli Spadai*  
(photo T. Meneguz)





# Mill and Forge of Sartena Bassa

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.085492, 12.030510  
(Via Sartena)

## Accessibility

*The building is private property and is visible from the road.*

The building stands on the Formegan channel and was in productive operation until 1958: it is now designated as a former mill. Sources from 1596 and 1625 attest however to the existence of a smithy with two forges.

The current mill wheels have been rebuilt and are turned by a water-pumping system.



*Former mill and forge of Sartena  
(photo T. Meneguz)*



## "Alle Mole"

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.083667, 12.028611  
(Via Santa Margherita, locality Alle Mole)

### Accessibility

*The building is private property and is visible from the road.*

Currently a private house, the building was documented in 1596 as a large house with two waterwheels and later, in 1625, as a fulling mill.

From the 1930s until 1965 it was home to an ice-cream factory run by the Casoni family of Meano.

### Remarks

The places named "alle Molle", "alle mole sotto le fusigne" and "alla Fusigna" marked on the maps of Santa Giustina, Sartena and Santa Margherita were the locations of buildings where swords and iron tools were sharpened.



*Alle Mole, a building that once housed the water-powered works (photo T. Meneguz)*

# House of Smiths

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.082107, 12.026491

*(Via degli Spadai)*

## Accessibility

*The building is private property and is visible from the road.*

This important structure, probably built during the 16th century along the Formegan channel and today a residential building, appears architecturally more like a country house than a city palace. Located in the heart of the *Spade* (Swords) district of Formegan, the building lent prestige and provided accommodation to the blacksmith families working in the area.

In the first half of the 18th century, the house became home to the Mamani family, who lived here until around twenty years ago. Its form recalls a town house of the 16th century, to which were added a number of 18th-century features to make it resemble a stately home. There is a large lawn to the front, bordered by a tree-lined avenue and the Via San Pietro. This is probably the "Brolo" referred to in 16th-century documents that gave its name to the locality. The building's name refers to the work that was done there (*faori* = "smiths").



*Casa dei Faori (photo T. Meneguz)*

# Forge Mezzacasa

Water-powered works

**Municipality:** Santa Giustina

**Coordinates:** 46.081914, 12.026150

**Contacts:** Via degli Spadai

## Accessibility

*The building is private property and is visible from the road.*

The building, known as the Fucina Mezzacasa (forge), with its hammer, water-powered trompe (air compressor), grindstone and drill powered by water from the Formegan channel, ceased operation in 1960. The site was once home to a forge, documented in 1542, with two waterwheels and two grindstones.



Former forge Mezzacasa (photo T. Meneguz)

*Traces of the historic Formegan channel  
(photo T. Meneguz)*



# Forge Dalla Mora

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.082921, 12.027397

*(Via degli Spadai)*

## Accessibility

*The building is private property and is visible from the road.*

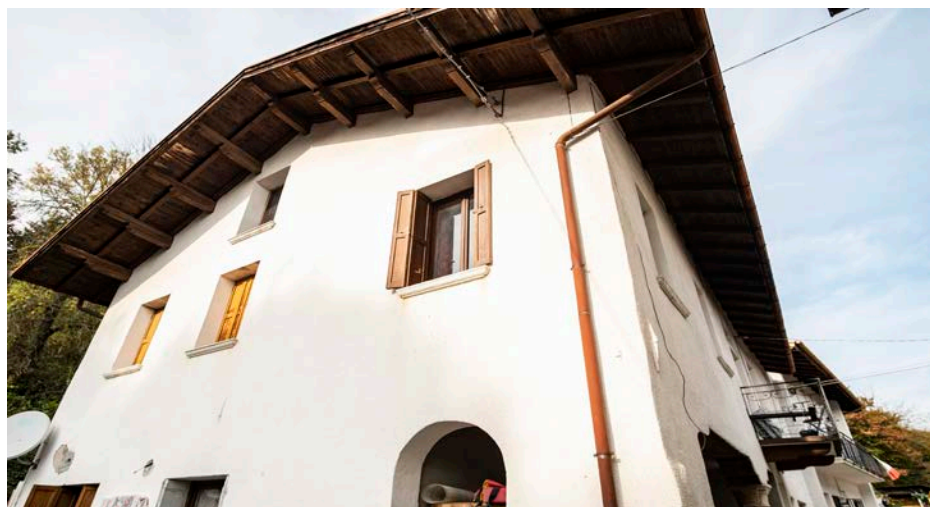
The building, which formerly housed a forge along the Formegan channel, dates back to the early 16th century. In its heyday the works had three waterwheels, two forges and two grindstones (guzare).

Blacksmithing continued here until the end of the 17th century: the family-run works probably continued in operation until the 1920s, when the owner Giacinto Dalla Mora died. Nowadays a private house, its layout and façade both bear witness to its importance as regards manufacturing in the buildings once used by blacksmiths.

## Remarks

The building is one of the oldest in the area and retains its original 16th-century forms with the characteristic columns on the south-east façade.

It was owned by the Mamani family, one of the wealthiest in Santa Giustina, who had interests in ironworking and numerous other enterprises along the Formegan channel.



*Former forge Dalla Mora (photo T. Meneguz)*



*Detail of entrance portico  
(photo T. Meneguz)*

# Forge Delle Volpere

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.074307, 12.021571  
(Via Trevigiana)

## Accessibility

*The building is private property and is visible from the road.*

Now a private home, the building's proximity to and contact with the Formegan channel are clear indications of its previous use. Originally a mill and later a sawmill, the works is described on the oldest maps (dating from 1538) as a smithy with two forges for making swords. At the end of the 16th century it was converted back into a sawmill, but was forced to close at the end of the 18th century.

It is recorded in the 1884 land registry as a house with a blacksmith's workshop.

*Former forge Delle Volpere  
(photo T. Meneguz)*





# The Channel of Ignan-Salzan

Waterway infrastructure

**Municipality:** *Santa Giustina - San Gregorio nelle Alpi*

**Coordinates:** *from 46.089858, 12.030018 to 46.075437, 12.049169*  
*(from the locality of Costa Paluch to Salzan)*

## Accessibility

*The route along the channel follows paved and unpaved roads that are easily negotiated.*

The channel rises on the left of the Vesés stream just above the village of Costa Paluch and runs for 2.5 kilometres, past the hamlets of Casa Bellata, Ignàn and Salzàn, dropping 40 metres, before returning to the Vesés in Salzan.

The water of the stream was diverted through a stone and wood barrier placed obliquely across the water. Only the channel of Ignàn-Salzàn (or "del Molino") is currently used to supply the last remaining works, the Santa Libera mill. The municipality of Santa Giustina has obtained a concession from the civil engineering department to use the water and will now maintain the tapping point and the canal up to Salzan.

The channel ends at the ford of Salzan-Carfai. Hidden among the vegetation is a structure used as a hydroelectric plant from 1942 to 1961.

Going upstream along the channel on Via del Mulino you come to the Santa Libera mill, restored by the municipality in 2004 and now home to a permanent exhibition dedicated to the swords once produced in and around Santa Giustina.

Take the railway underpass: the canal then crosses the road at Piazza Monte Grappa where it once again flows in the open past two washhouses and the former tollhouse of Salzan.

The channel is visible along Via Lodi near the current residential complex known as the "Oasi del Mulino". The area was home to water-powered works that have been documented since at least the 16th century.

From here the channel continues along a long stretch through the centre of Santa Giustina to the Via Pascoli.

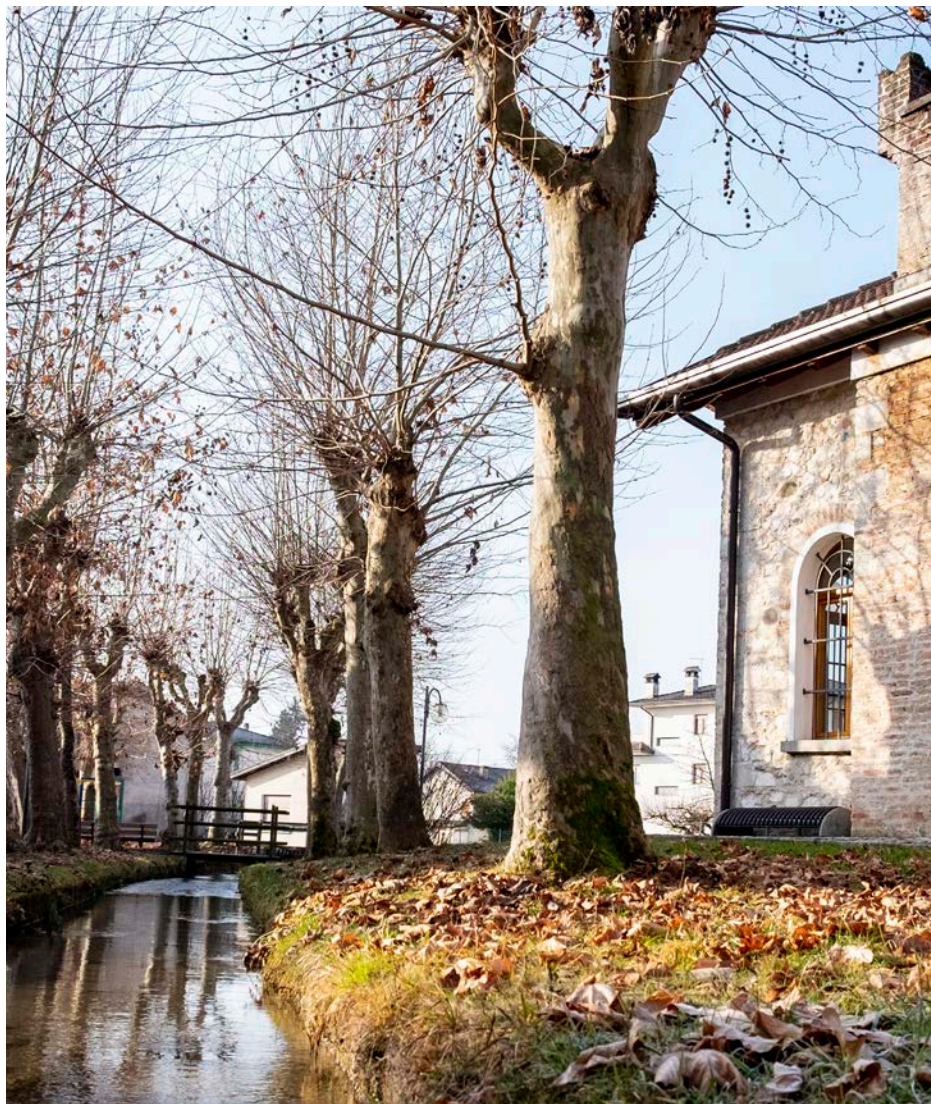
Nearby is an old building that until the 1950s housed a mill: the first mention of a works in this area is from 1529.

Along Via Mas you again meet the channel near a small bridge and a rural house. On the left is a farmyard, closed on one side by the historic Bugana sawmill, which was built in the last century on the site of an earlier building that had served as a forge since 1625.

The channel continues north along the gullies of the Veses stream, ending in Costa Paluch where can be seen the tapping points of the channel, still in excellent condition and fully operational.

## Remarks

On the feast of Corpus Christi in 1540 a brawl occurred "between the cemetery of Santa Giustina and the Veses channel that runs to Campo". One of the witnesses, Bartolomeo Dall'Acqua, had for the occasion set up a knife stall "on the bed of the Veses by the water channel that goes to Campo". It is interesting to note that, on Corpus Christi Day, a fair was held in Santa Giustina with many exhibitors, some of whom sold locally produced blades and knives.



*The former tollhouse of Salzan (photo T. Meneguz)*





*The channel of Ignan-Salzan  
(photo T. Meneguz)*

# Bugana Sawmill

## "Al Maglio"

*Water-powered works*

**Municipality:** Santa Giustina

**Coordinates:** 46.086933, 12.036285  
(Via Mas)

### Accessibility

*The building is private property and is visible from the road.*

The building, located on the Ignan-Salzan channel, was until 1995 a Venetian sawmill, run by the Bugana family since 1912.

It is no longer in use today, but a part of the nearby channel is still clearly visible with its sluice gate for diverting the flow of water from the channel. A water-powered hammer with three waterwheels operated here from 1625 until 1855, the year in which the Buzzati forge finally closed.



*Sluice gate for diverting the flow from the channel near the former Bugana sawmill (photo T. Meneguz)*



*Former Bugana sawmill  
(photo T. Meneguz)*

# Santa Libera Mill

*Water-powered works/museum*

**Municipality:** *Santa Giustina*

**Coordinates:** *46.078489, 12.049645*

*(Via del Molino, 2)*

**Contacts:** *0437 858101 (Municipality of Santa Giustina)*

*cultura.santagiustina@feltrino.bl.it - [www.comune.santagiustina.bl.it](http://www.comune.santagiustina.bl.it)*

The Santa Libera mill is located along the road that leads up from Grigher to Salzan. The building is at the end of a row of houses overlooking a farmyard that opens onto the bend in Via del Molino.

The building has been refurbished as a showcase for former traditional activities that were linked to the area around Santa Giustina and the rich waters of the Veses stream. Located in a typical courtyard, the mill is still fed by part of the stream's waters, which are diverted into the channel that runs through Ignan and Salzan. Two wheels for grinding flour were in operation in 1526 and, over the centuries, there have been several owners, often local or Venetian nobles. Three generations of the Zanandrea family were the last millers to run the establishment, from 1852 until 1980, when the mill finally closed.

The two-storey building is part of an old rural farmstead: on the ground floor are the milling machinery and equipment, with the granary on the upper floor. In 1981, following the death of the last miller, Leandro Zanandrea, who had worked until the age of eighty, the mill was closed.

The municipal administration of Santa Giustina purchased and skilfully renovated the old mill to create a place where yesterday's history can meet today's activities, thus reviving bygone memories and crafts. Reopened in 2004, the mill has regained its waterwheels, grindstones and all the mechanisms required for processing cereals. The priority during refurbishment was to demonstrate the ancient practice of milling and to reveal its secrets, materials and methods.

## Remarks

Over the course of many years of operation the channel has never run dry and, in times of drought, the mill would – thanks to its efficient waterwheels with their drop of 4.29 metres – do the work of other mills that had been left dry.

The Santa Libera mill was the last in operation in the area and, as shown by a 1947 statistic, its daily working capacity was as much as 12 quintals (1 quintal = 100 kg) each of wheat and of maize.

With a history dating back to the 16th century, this building is the oldest of the many works located along the Santa Giustina channel system.



Santa Libera mill  
(photo T. Meneguzzi)

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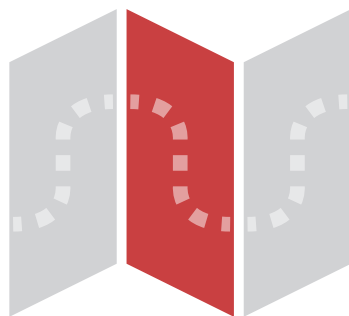
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**Municipality  
of Maniago**



# Museum of Blacksmithing and Blade-Making

Museum

**Municipality:** Maniago

**Coordinates:** 46.170329, 12.711401

(Via Maestri del lavoro, 1)

**Contacts:** Museo dell'Arte Fabbre e delle Coltellerie - IAT office  
(information and tourism) - Via Maestri del Lavoro, 1 - Maniago  
0427 709063 - [museocoltellerie@maniago.it](mailto:museocoltellerie@maniago.it) - [www.museocoltelleriemaniago.it](http://www.museocoltelleriemaniago.it)

## Accessibility

*The Museum is inclusive and accessible to people with motor disabilities. The building has fully accessible bathrooms and is barrier-free (there is a lift to the first floor). The museum itinerary is accessible for people with visual disabilities.*

The idea of founding a museum dedicated to the blacksmithing tradition of Maniago goes back to the early 1980s, when a group of artisans, administrators and citizens began the work of collecting materials with the aim of preserving, acknowledging and recounting the traditions and collective memories of the town, whose name had for centuries been linked with the manufacture of blades.

The Museum of Blacksmithing and Blade-Making was opened in 1998 on the premises of a former spinning mill, a restored example of industrial archaeology that was nevertheless intended as a temporary location. The ideal location was a short walk from the centre, the "factory", a building that since the early 1900s had been home to the first large establishment for the manufacturing of blades: Co.Ri.Ca.Ma. (Coltellerie Riunite di Caslino e Maniago).

The factory, which closed in 1972, was purchased by the municipality and, after careful restoration, officially became the Museum's home on 25 April 2009. It is divided into three permanent exhibition areas. On the ground floor is a wide-ranging historical and technological overview in the sections *Dall'ossidiana all'ossido metallico* (From obsidian to metal oxide) and *La fucina del mago* (The wizard's forge) offer a fascinating journey into the world of blacksmithing, from the beginnings of metalworking to the present day. On the first floor, the section *Dalla funzione alla forma* (From function to form) is dedicated to the production and marketing of knives, scissors and other cutting tools, with new products constantly added as they are created to reflect research and market demand; while the entrance hall illustrates the symbolic power of knives (Il coltello come simbolo). The museum tour concludes with the "Armando Pizzinato" room, which hosts *LAMemoria* (Memory), an exhibition focused on the craftsmanship of Maniago seen through the eyes and memories of those involved, as well as the Centro di Interpretazione del Territorio (local history museum).

## Remarks

The Co.Ri.Ca.Ma company was founded in Maniago in 1907 by the German entrepreneur Albert Marx. Organised into separate departments, with modern machinery and administration offices, the factory introduced a new model for organising work. From the 1920s to the 1970s the “factory” represented not only a “safe” job for many local people, but was also a stimulus for technological innovation and entrepreneurial initiative.

## Bibliography

Altin 2012.

*(Tatiana Zanette)*



*Museum of Blacksmithing and Blade-Making. Forging using a hammer (ground floor) (photo F. Balzan)*



MUSEO dell'Arte Fabbria e Calderie

*Museum of Blacksmithing and Blade-Making  
The entrance with the large blade  
showing the way to the museum  
(photo F. Balzan)*



# Ascent to Maniago Castle

*Urban route (fortifications, historic buildings)*

**Municipality:** *Maniago (Strada Val Piccola)*

**Coordinates:** *46.171389, 12.707222*

*(starting point: entrance to Via Castello)*

**Contacts:** *Museo dell'Arte Fabbre e delle Coltellerie - IAT office*

*(information and tourism) - Via Maestri del Lavoro, 1 - Maniago*

*0427 709063 - museocoltellerie@maniago.it - www.museocoltelleriemaniago.it*

## Accessibility

*Paved, easily walkable urban route; slight slope in some sections making it unsuitable for those with motor disabilities.*

*The entrance to Via Castello, the first part of the route, is located at the northeast corner of Piazza Italia, where Via Roma also begins.*

The route that leads to Maniago Castle is an impressive walk that in a few minutes brings you from the city centre up to the Colle di San Giacomo (Saint James's Hill). Starting from Piazza Italia, you take Via Castello; after a short distance can be seen on the right the 17th century *Casa della contadinanza*, the only example in the city centre of a house with a loggia. It was the seat of the peasant council, an institution set up by the Republic of Venice in order to remove power from the local nobles and hand over control of the collection of taxes to the peasantry. To the right is the Centa dei Conti, a large area surrounded by crenellated walls for the protection of people and animal herds, now partially used for parking. At the end of Via Castello you arrive at a place called the Voltapicàra where, according to popular tradition, condemned criminals had been hanged since the Middle Ages. Nearby is the 18th-century Church of the Most Holy Trinity, belonging to the stately residence of the Counts of Maniago. After passing through a stone arch, turn left and begin the climb up to the Colle di San Giacomo along the Valpiccola road, an easy way surrounded by the wooded foothills. After a short stretch of road you come on the right to the Castle Visitor Centre, built in 2017 on the site where a settlement was first recorded in the Austrian land registry of 1851 as "houses with courtyards and outbuildings". At the first hairpin bend was the porta castri, the main access gate to the outer castle walls (second circle). From this point began the castle village, where the *habitatores* lived in small houses whose foundations are still partially visible. The remains of the outer walls also cover the east side of the second hairpin bend, from where can be enjoyed splendid views of the city. After the last stretch of the climb you reach what remains of the castle and the small Church of St. James, the only fully preserved building in the castle complex. This place of worship, documented as long ago as 1291, was originally located in the

castle's upper courtyard; it was rebuilt outside the inner ring of walls and is today a private chapel containing the graves of certain members of the house of the Lords of Maniago.

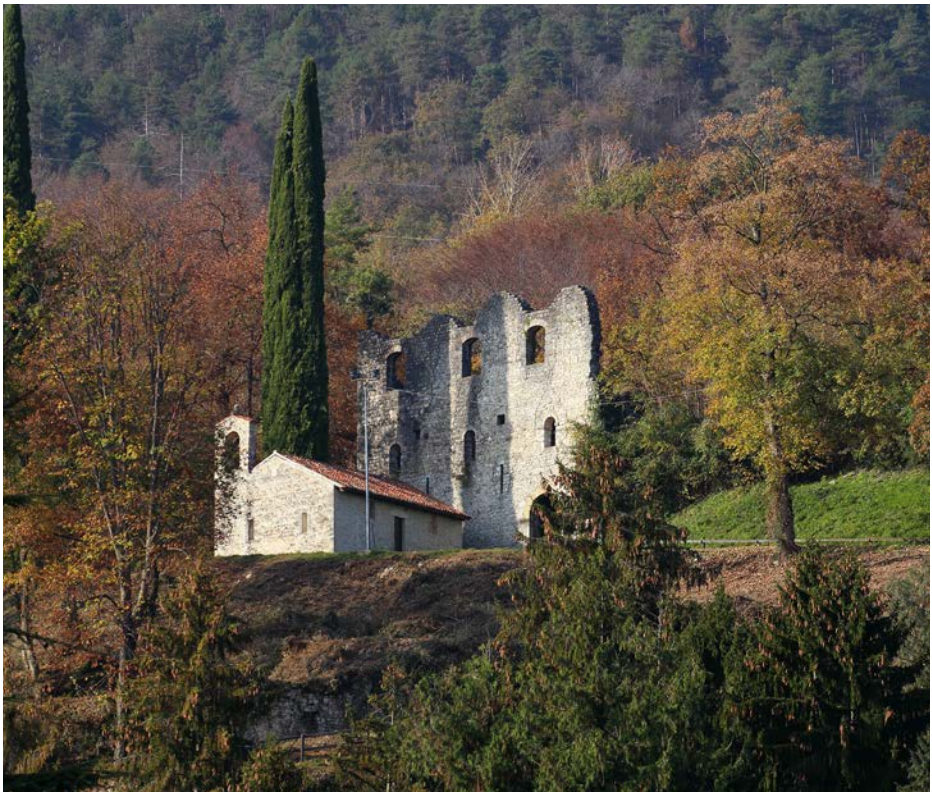
### Remarks

Maniago Castle was probably erected in the second half of the 12th century as a residence for the Patriarch of Aquileia. In its greatest architectural development (14th century) the castle possessed towers and buildings arranged so as to form a closed perimeter (first ring), with the castle village protected by external walls (second ring). The complex was irreparably damaged by a violent earthquake in 1511 and finally abandoned in 1630.

### Bibliography

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*(Tatiana Zanette)*



*The remains of the ancient Maniago Castle and the small Church of St. James (photo F. Balzan)*

*View of the castle from Maniago municipal park  
(photo F. Balzan)*





# Old Stables of Palazzo d'Attimis - Maniago

*Historic building*

**Municipality:** *Maniago*

**Coordinates:** *46.170833, 12.705555*

*(Via Umberto I, 4)*

**Contacts:** *Museo dell'Arte Fabbre e delle Coltellerie - IAT office  
(information and tourism) - Via Maestri del Lavoro, 1 - Maniago  
0427 709063 - museocoltellerie@maniago.it - www.museocoltelleriemaniago.it*

## **Accessibility**

*The Old Stables are accessible to people with motor and visual disabilities. The building is barrier-free (there is a lift to the first floor). The property cannot currently be visited and is only accessible for special events or those taking place during the year.*

The current building of the Old Stables, which until a few years ago housed the civic library, was in the past one of the estate buildings attached to the complex of the Palazzo dei Conti d'Attimis-Maniago and housed a stable, a cattle stall and a barn. The structure was subsequently used for storing farm carts and tools, but infrequent use and poor maintenance caused great damage, due in large part to the weather. The original body, dating back to 1700, underwent a series of modifications and extensions dating back to the first half of the 20th century.

The main façade repeats the three-arch motif that can be seen on other buildings in the town centre.

The property is now home to a number of local associations; it also plays host to temporary exhibitions. Of special interest is the courtyard that opens at the back of the building and provides an impressive area for cultural events.

## **Remarks**

The interior of the building, despite its varied uses, has maintained its original features, for example the stone watering troughs or the wooden colonnade in the hall on the ground floor, where civil weddings are now celebrated.

## **Bibliography**

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*(Serenella Bergamini)*



*Wrought-iron hand-forged rings and hooks used to tether horses, with stone watering trough in the background (photo F. Balzan)*



*Old Stables. Stone watering trough for horses (photo F. Balzan)*



*Old Stables. Renovated building façade of the old stables (photo F. Balzan)*

# Loggia of the Fallen

Historic building

**Municipality:** *Maniago*

**Coordinates:** *46.171389, 12.707500*  
(*Piazza Italia*)

**Contacts:** *Museo dell'Arte Fabbreile e delle Coltellerie - IAT office*  
(*information and tourism*) - *Via Maestri del Lavoro, 1 - Maniago*  
*0427 709063 - museocoltellerie@maniago.it - www.museocoltelleriemaniago.it*

## Accessibility

*Accessible also to those with motor disabilities.*

The Loggia overlooks the large town square: it is a simple building characterised by its three large round stone arches that date back to the 17th century. This vast hall was long reserved for assemblies of the heads of the town's leading families and for the administration of justice: a tablet on an inside wall gives its date of construction as 1661. The Loggia was probably not the first covered "municipal area": another more rudimentary structure appears to have stood not far away in the large square to the front. The building is today a monument to the memory of the fallen of all wars. Worthy of note is the large fresco in the centre of the rear wall, by Osvaldo Gortanutti (1673), which in its themes and colours is closely linked to the Venice of the 1500s. The fresco represents the *Madonna col Bambino in gloria tra Santi* (Madonna and Child in Glory between Saints) and, below, the *Repubblica Veneta* (Republic of Venice) administering justice while seated on the Lion of St. Mark. Note also the weapons held by St. Florian (?) to the right of the Madonna and the Venetian Republic: the artist was likely inspired by the arms produced at the time in the forges of the smiths of Maniago.

## Remarks

On the rear wall of the Loggia, under the fresco by Gortanutti, is a stone memorial to the time of construction. Translated from the Latin, the inscription on the tablet reads: "This edifice was built by the people of Maniago with public money for their own municipal use and for posterity. The men of the municipality therefore laid this tablet in stone as a memorial for the future. 9 December 1661".

## Bibliography

Various. 1981; Various 2014.

(*Tatiana Zanette* )



The interior of the loggia with the tablets in memory of the fallen of all wars; the fresco by Osvaldo Gortanutti the tablet in memory of the construction of the loggia itself (1661); and the old wooden ceiling (photo F. Balzan)

# Trail along Channel of Colvera Stream

*Urban and extra-urban trail/industrial archaeology/water-powered works*

**Municipality:** Maniago

**Coordinates:** 46.170329, 12.711401

*(starting point: Museo dell'Arte Fabbile e delle Coltellerie)*

**Contacts:** Museo dell'Arte Fabbile e delle Coltellerie - IAT office

*(information and tourism) - Via Maestri del Lavoro, 1 - Maniago*

*0427 709063 - museocoltellerie@maniago.it - www.museocoltelleriemaniago.it*

## Accessibility

*Cycleway and pedestrian trail on paved and unpaved roads; in part inaccessible to persons with motor disabilities. The route starts from the Museum of Blacksmithing and Blade-Making (Via Maestri del lavoro, 1) then continues along Via Unità d'Italia and, after passing the hospital, you take the first side road on the left, then immediately turn right into Via dei Fabbri; after a few metres you reach the course of the channel at the old Beltrame hammer mill.*

Excavation work on the old channel of the Colvera stream began in 1453, when Count Nicolò di Maniago obtained permission from the Water Magistrate of Venice to canalise the waters of the stream. The work, prompted by irrigation needs, also helped the development of works along the waterway, thus recovering the investment in making the channel. Its construction therefore permitted the use of hydropower to drive the machinery inside the mills, sawmills and even the first hammer mills. This led to a far-reaching stimulus for the development of blacksmithing. Soon there were numerous hammer mills along the channel, changing the local manufacturing profile. In addition to the main production of agricultural tools, during the 16th century swords and other polearms were made for the troops of the Serenissima, the Venetian Republic. From the 1700s on a number of blacksmiths began to devote themselves to the production of smaller and more complex objects: pocket-knives, scissors and other blades of various types. *The favris da gros* ("crude smiths") who worked in the hammer mills were thus joined by the *favris da fin* ("fine smiths") whose workshops were more of a cottage industry. The channel runs through the town, along the Via dei Fabbri, Via Molini, Via Colvera and Via Battiferri. From there it is possible to continue north, towards Frisanco along the old Val Colvera road: this attractive path is bordered by the stream to the right and high rocky walls to the left, and includes part of the third stage of the Way of Saint Christopher, dedicated to the patron saint of travellers, that winds almost 300 kilometres from Caneva, on the border with the Veneto, up to the Val d'Arzino via the foothills of western Friuli, finally to reach Spilimbergo and, via the Magredi, the city of Pordenone.

## Remarks

Relics of the various activities that, until the 20th century, used the waters of the channel include the washhouse at Via Molini, which was an opportunity for women to engage in social gatherings and, thanks to the roofing, allowed them to wash clothes even in bad weather: there is also the spinning mill at Via Battiferri, which in the first half of the 1900s was an important employer of female labour; on account of its historical value the building has been extensively restored and is now home to the civic library.

## Bibliography

Various 1981; Altin 2012;  
Various 2014.

*(Tatiana Zanette)*



*Waterwheels of the Beltrame hammer mill in Via dei Fabbri  
(photo F. Balzan)*



*Old washhouse in Via Molini, recently restored by the Alpini Group of Maniago (photo F. Balzan)*



*Former spinning mill located at the start of Via Battiferri,  
currently home to Maniago's civic library  
(photo F. Balzan)*



# Cathedral of Saint Maurus Martyr

*Sacred building*

**Municipality:** *Maniago*

**Coordinates:** *46.170131, 12.708382*  
*(Piazza Italia, 24)*

**Contacts:** *0427 71424 - parr.maniago@diocesiconcordiapordenone.it*  
*www.diocesi.concordia-pordenone.it*  
*Parish of San Mauro Martire - Open: 8.30-12.00 / 15.00-18.00*

## **Accessibility**

*There is a dedicated entrance for those with motor disabilities.*

An original sculptural and architectural edifice dating back to 1700, with two portals flanked by obelisks, provides a spectacular entrance to the area in front of Maniago Cathedral. Dedicated to St. Maurus Martyr, Bishop of Poreč, the cathedral is a splendid example of late-Gothic Friulian architecture. The building itself dates back to 1488, but the words IOVI SACRUM (sacred to Jupiter) engraved on the lintel of the portal and certain bas-reliefs on the façade (from the Lombard era, 8th century) suggest a previous place of worship. The harmonious gabled façade is embellished with a central rose window and a pointed-arch portal. The rose window, with its eighteen trilobe arches and radiant sun in the centre, is surrounded by a thick frame whose decoration is repeated in the portal, adorned with a double row of twisted columns that converge upwards, where God the Father Blessing is seated. The interior features a single nave with a simple ceiling of wooden beams and three apse chapels; it testifies to the severe, unadorned spirituality of the Franciscan Gothic building style of Friuli. The four side chapels were added later: these are characterised by the harmony of their forms and the sobriety of the decorations, typical of classic Renaissance tastes. There are numerous items of artistic interest within the cathedral: these include the wooden triptych (late 1400s) by the Udinese painter and miniaturist Giovanni de Cramariis; the large canvases (1701), previously organ doors, by Lucio Candido of Venzone; and the baptismal font (1549) whose copper cover (2012) is the work of Fulvio Del Tin from Maniago. In front of the cathedral is an imposing, square, 36-metre high bell tower, with a robust belfry of natural stone that has mullioned windows with two lights on all four sides and is surmounted by an octagonal lantern. Recent restoration has revealed a blind two-light window that probably dates back to the tower's original construction in 1488.

## **Remarks**

To the right of the main altar, the chapel of Saint John the Baptist contains the most valuable work in the cathedral, the *Ascesa del Redentore fra angeli* (Ascent of the Redeemer

among Angels). It was painted in 1558 in oils on canvas and wood with the Redeemer in His Glory, the Saints John the Evangelist, Joseph, John the Baptist, Peter and James the Apostle by Pomponio Amalteo, who inserted a number of significant elements of Maniago at that time into the background landscape, such as the castle and the cathedral itself. Below is the painting *Tre scene della vita del Battista* (Three scenes from the life of the Baptist) by the same artist.

### Bibliography

Bergamini, Goi 1980; Various 2014; Bergamini 2015.

(Tatiana Zanette)



Baptismal font (1549) sculpted by a stonecutter of the Meduno school. The copper cover (2012) was produced by the master smith Fulvio Del Tin from Maniago (photo F. Balzan)



Spectacular entrance to the area in front of the cathedral with view of façade (photo F. Balzan)

# Palazzo d'Attimis - Maniago - Lion of St. Mark

*Historic building*

**Municipality:** *Maniago*

**Coordinates:** *46.171032, 12.708229*

*(Piazza Italia, 18)*

**Contacts:** *0432 288588 - Cell: 328 6693865 - [visite@consorziocastelli.it](mailto:visite@consorziocastelli.it)*

*[www.consorziocastelli.it](http://www.consorziocastelli.it) - Consortium for the Protection of the Historic Castles of Friuli Venezia Giulia Torre di Porta Aquileia, Piazzetta del Pozzo 21, Udine*

*Opening times: Monday to Friday, 09.00-13.00*

## **Accessibility**

*The palace is privately owned (it is currently a restaurant); it can in general be visited on the occasion of the annual "Castelli aperti" event organised by the Consortium for the Protection of the Historic Castles of Friuli Venezia Giulia.*

Overlooking Piazza Italia, the Palazzo d'Attimis-Maniago has been the residence of the Lords of Maniago since 1630, the year when they permanently moved there, thus abandoning the castle that dominates the town to this day.

The current layout of the complex dates back to the 1700s, when the palace was enlarged and richly decorated on the occasion of the wedding of Count Fabio I of Maniago to the noble Caterina of Spilimbergo. The palace is a large three-bodied building with outbuildings (stables and granaries), the Italian garden (recorded in the Napoleonic land registry) and a large park of seven hectares that extends to the foot of the castle. The oldest part of the façade features a fresco depicting the Lion of St. Mark holding, under his paw, the coat of arms of the House of Maniago; the work is attributed to Pomponio Amalteo who painted it in 1570 by order of the Venetian Republic, adding now almost illegible inscriptions testifying on the one hand to the centuries-old domination of the Lords of Maniago and, on the other, to the family's good relations with the government in Venice. The adjacent building has a beautiful 16th-century loggetta with clear and simple lines. Behind the palace lies an attractive garden with numerous geometrically arranged flowerbeds, which in the 1700s was enclosed with walls adorned with statues; here in 1778 a cedar grove was planted by Francesco Bertoldi, gardener to the Counts of Manin at the villa of Passariano.

## **Remarks**

The initials FMC (Fabio, Maniago, Caterina) on the entrance gate to the palace garden recall the wedding of Count Fabio I of Maniago to Countess Caterina of Spilimbergo. It was on the occasion of this sumptuous marriage in 1739 that work began on the definitive design of this noble residence. The name of the architect is unknown, but

it is likely that Count Fabio, a man of great culture and a diligent family historian, supervised the work himself.

## **Bibliography**

Rosa Fauzza 1986; Various 1997; Various 2014.

*(Tatiana Zanette)*



*Italian garden and remains of castle in background (photo F. Balzan)*





*Fresco by Pomponio Amalteo  
depicting the Lion of Saint Mark  
with sword and shield (1570)  
(photo F. Balzan)*

# Trail of the Blacksmith's Art

*Urban trail*

**Municipality:** *Maniago*

**Coordinates:** *46.170329, 12.711401*

*(starting point: Museo dell'Arte Fabbile e delle Coltellerie)*

**Contacts:** *Museo dell'Arte Fabbile e delle Coltellerie - IAT office*

*(information and tourism) - Via Maestri del Lavoro, 1 - Maniago*

*0427 709063 - museocoltellerie@maniago.it - www.museocoltelleriemaniago.it*

## **Accessibility**

*Paved, easily walkable urban route.*

The first impetus to the blacksmithing tradition of Maniago was given by the channel, constructed in 1453 by Count Nicolò di Maniago, which drove the hammers in the mills. The story continues to this day, with cutlery playing a leading international role in the local production of blades.

A walk through the city reveals dozens of easily recognisable architectural traces of these activities and along the route can be seen machines and tools that show off the techniques and know-how of blade-making.

The route starts outside the Museum where, in the garden, is an old drop hammer (nicknamed *berta*) used for the hot moulding of semi-finished products, as well as the large sculpture *Homofaber* that bears the trademark of the historic Co.Ri.Ca.Ma. company. The sculpture, created by the artist Emanuele Bertossi from a joint initiative by local businesses, represents the traditions and present of a community whose identity is based upon the production of blades. The itinerary follows the Via Unità d'Italia to reach the Luigi Beltrame ironworks in Via dei Fabbri. The works has belonged to the family since the end of the 1800s but has been in operation for much longer, thanks to the channel that still skirts it together with its large waterwheels. Cutting tools were made here for agricultural purposes. There is also an industrial zone in Via dei Fabbri, where a number of Maniago's producers of cutting tools have their headquarters. From here the route ascends Via Molini until you reach the old washhouse. The old channel continues underground to the spinning mill (now home to the civic library), where can be seen the two outlet channels for the waterwheel that provided power to the former works. Following the watercourse you can continue through the Val Colvera towards Frisanco and Poffabro.

## **Remarks**

The industrial zone in the Via dei Fabbri is home to a number of companies producing scissors for professional use; knives for cooks, sportspeople and collectors; tools for

construction, restoration and mosaics, as well as swords and polearms for collectors and the film industry. This is where weapons were produced for such famous films as *Braveheart* and *Robin Hood: Prince of Thieves*.

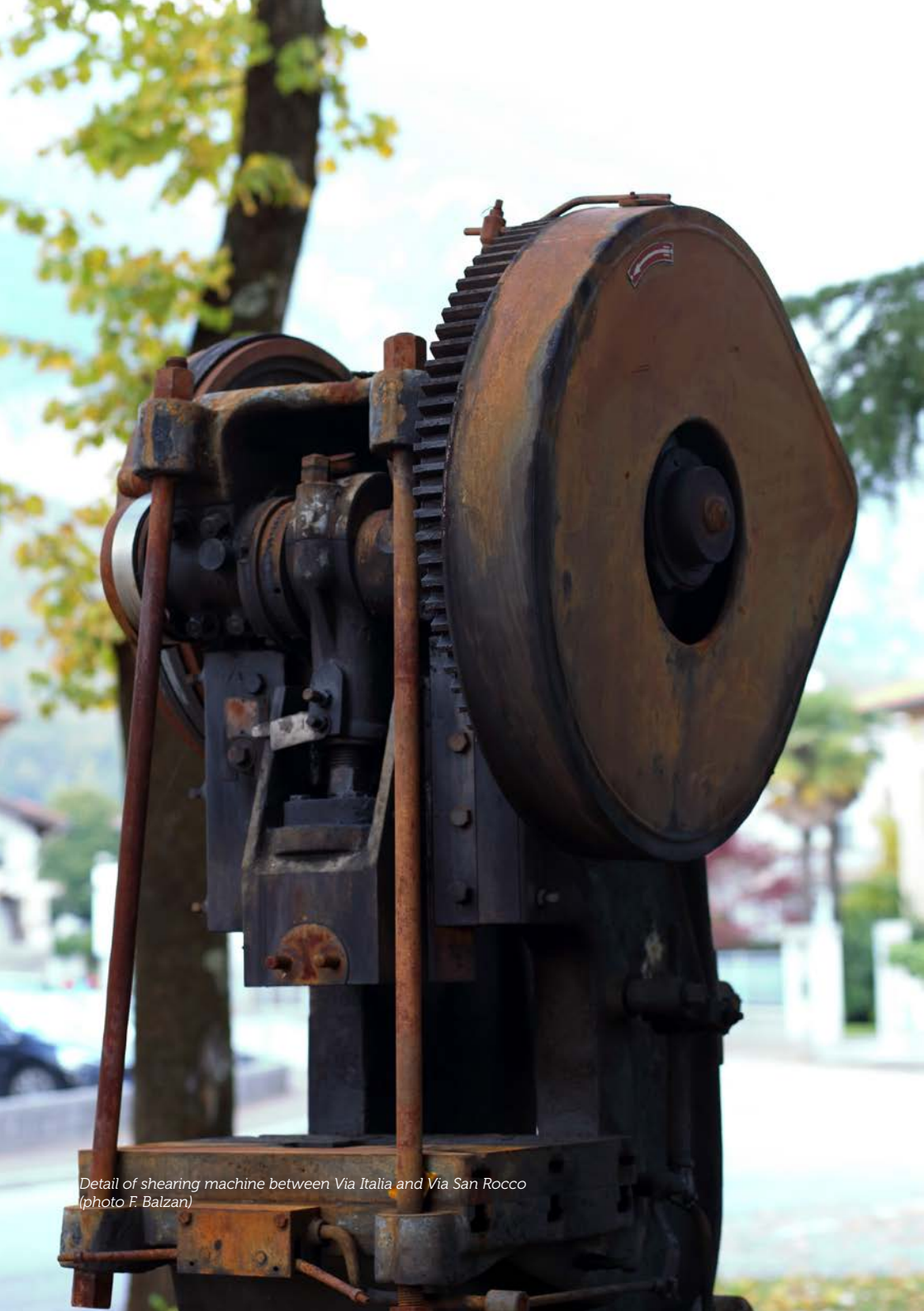
## Bibliography

Altin 2012; Various 2014.

(Serenella Bergamini)



Furnace in Via Molini (photo F. Balzan)



Detail of shearing machine between Via Italia and Via San Rocco  
(photo F. Balzan)

## Bibliography

### **1980**

G. Bergamini, P. Goi, *Il Duomo di Maniago e le chiese minori*, Grafiche Lema, Maniago (PN) 1980

### **1981**

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### **1986**

P. Rosa Fauzza, *Beni ambientali a Maniago. Il recupero di una architettura spontanea*, GEAP s.r.l., Pordenone 1986

### **1997**

Various, *Per verba de presenti. Matrimoni a Maniago nel Settecento*, IPF, Maniago (PN) 1997

### **2008**

A. M. Breccia Cipolat, L. Guaianuzzi, *Il Castello di Maniago. Storia, segreti e avventure*, Grafiche Sedran, San Vito al Tagliamento (PN) 2008

### **2001**

A. Olivetto, *Guida di Maniago. Città delle coltellerie*, Grafiche Tielle, Sequals (PN) 2001

### **2012**

R. Altin, *CORICAMA: specchio della Comunità*, Catalogo MAFC – Museo dell'Arte Fabbri e delle Coltellerie di Maniago, Lito Immagine, Rodeano Alto (UD) 2012

### **2013**

Various, *Guida Maniago Città delle Coltellerie*, Editore Studio Fabbro, Maniago (PN) 2013

### **2014**

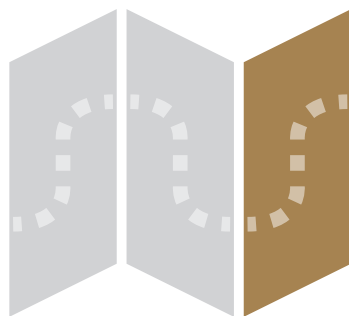
Various, *Guida verde. Per scoprire il territorio maniaghese e vivere un turismo consapevole*, Lito Immagine, Rodeano Alto (UD) 2014

### **2015**

G. Bergamini, *Maniago il Duomo di S. Mauro e la chiesa della Madonna*, Lithostampa, Pasian di Prato (UD) 2015



Tyrol



# The hamlet of Gruben and the Frosnitz Valley

*Historic production centre*

**Municipality:** *Matrei in Osttirol*

**Coordinates:** *47.079039, 12.461883*

*(Gruben, 9971 Matrei in Osttirol)*

**Contact:** *+43(0)4875 5161 10 - Nationalparkhaus Matrei i. O.*

*nationalparkservice.tirol@hohtauern.at - <https://hohtauern.at/>*

## **Accessibility**

*Accessible to all: not particularly suitable for wheelchair users owing to the steep paths and roads. The descent to Gruben is somewhat hidden: from the Felbertauernstrasse turn off about 5 km north of Matrei in Osttirol. There is almost no parking in the village itself, so leave the car in a small car park located immediately after the exit from the Felbertauernstrasse, from where it is about a five-minute walk to the hamlet.*

The hamlet of Gruben is located some 5 km north of Matrei in Osttirol at the entrance to the Frosnitz Valley. The name "Gruben" refers to the nearby iron mines from which high-quality ore was extracted in the past. The hamlet is located directly on the Tauern route and was particularly important for the development of the area. Until around 1800, large parts of East Tyrol were in the possession of the Archdiocese of Salzburg, which could only be reached via the Tauern passes. These passes formed the main northbound route and were ideal for transporting the iron.

From Gruben the Frosnitz Valley extends to the west as far as the peaks of the Venediger Group. At first the valley is very narrow and so steep that the ascent is still difficult even today. After some three to four kilometres, however, it opens up and offers a real treasure trove of unspoilt nature. The few Alpine pastures blend harmoniously into the Hohe Tauern National Park and immensely enliven the general picture.

In the Middle Ages and modern times, Gruben was the starting point for the ascent to the iron fields of the Upper Frosnitz Valley. From here, the miners would ascend in several stages up to the *Knappenhaus* (miners' house) at over 2,500 metres above sea level. In winter the ore was transported via steep paths to Gruben where there was a smelting furnace (most likely a blast furnace) in which the ore was processed into pig iron. According to various records, the remains of this melted mass and large slag heaps could still be seen here until the end of the 19th century. The location of this mass can today no longer be identified with any certainty, but it may well have been located west of the village, on the Frosnitzbach stream: the torrent has probably erased all traces.

The miners also procured food and supplies from Gruben, thus providing local farmers with an extra source of income.

## Remarks

Nowadays nothing remains of Gruben's mining past. Around the village, however, there are numerous large rocks with characteristic overhangs (so-called *abris*), where walkers have been taking a rest since the Stone Age. This is shown by archaeological finds that date back to the Mesolithic.

*(Florian Messner)*



View from the inner Frosnitz Valley to the east (photo F. Messner)



*The hamlet of Gruben, with the Hohe Tauern in the background  
(photo F. Messner)*



# The mining area in the Frosnitz Valley

## Industrial archaeology

**Municipality:** *Matrei in Osttirol*

**Coordinates:** 47.077972, 12.459583  
(Upper Frosnitz Valley, walking trail)

**Contact:** +43(0)4875 5161 10 - Nationalparkhaus Matrei i. O.  
nationalparkservice.tirol@hohetauern.at - <https://hohetauern.at/>

### Accessibility

*Only suitable for fit hikers with mountain experience. The trail leads from Gruben (only limited parking available) for the first three hours via a good forest track, in parts very steep, then another two hours along the old miners' trail to the Knappenhaus (miners' house). Time: ascent 5-6 hours, descent 3.5 hours, total length: 21 km, height gain: 1,300 metres.*

The mining area of the Frosnitz Valley was operated from the 14th century onwards by the Archbishops of Salzburg. Iron ore was extracted via open-cast mining on the south-western slope of the Dabernitzkogel. The magnetite that occurs here is an iron mineral of particularly high quality that was mined at an altitude of between 2,500 and 2,800 metres. The remoteness and lack of profitability led mining operations to cease in 1567. From 1620 to 1650, entrepreneurs from the Deferegggen Valley tried their luck once more, smelting the mined ore on the Katal-Alm and in Gruben. Neither this activity nor that of a further project in the middle of the 19th century met with success, and peace returned to the Frosnitz Valley.

The impressively wide miners' trail, dating from the 17th century, still leads up to the mining area today. The striking ruins of the *Knappenhaus*, located at 2,520 metres above sea level, can be seen from a distance: it measures 10 x 9 metres, contains two small rooms and one larger room, and has an annex on the north side. The smaller rooms were probably used as a kitchen or for storage, while the miners ate and slept in the large room. The window openings on three sides of the building are particularly large (approx. 85-95 cm wide), a clear indication that the structure was only occupied in summer. Such windows would have made heating the building very difficult in winter.

The house was carefully constructed and once featured a wooden roof covering, of which nothing now remains. The age of the building is uncertain: its core possibly dates from the 17th century and it may even have been used during the last phase of mining in the middle of the 19th century. The mining area itself appears as if the miners had just left it. Everywhere can be seen traces of mining activity, while the impressive excavations give a good idea of the hard life of the miners.

## Remarks

The high altitude meant that the miners could only extract ore during the summer months, which was crushed on site and stored in large silos. In winter the miners would climb up again, fill the ore into sacks, put them on sleds and bring them down to the valley.

Given that the road was extremely dangerous in summer, it would have caused the deaths of many miners in winter.

Today the Frosnitz Valley forms part of the Hohe Tauern National Park and is a natural gem of almost unspoilt beauty.

## Bibliography

von Isser 1888; Srbik 1929; Kurzthaler 1976; Exel 1986; Paar 1994; Kurzthaler 1997.

*(Florian Messner)*



*Large rock nodules with a very high magnetite content were mined (photo M.. Hölzl)*



*The ascent via the old miners' trail offers spectacular views of the Hohe Tauern. (photo F. Messner)*



*The Knappenhaus (miners' house) is located at 2,520 m above sea level and is still very well preserved  
(photo F. Messner)*



# The smelting furnaces on the Klauskofel

## Industrial archaeology

**Municipality:** Dobbiaco

**Coordinates:** 46.687861, 12.223083  
(on the road from Toblach to Schluderbach)

**Contact:** Tourist Info Toblach/Dobbiaco - +39 0474 972132 - [info@toblach.info](mailto:info@toblach.info)  
[www.toblach.info](http://www.toblach.info)

### Accessibility

*The building is located on a forest road that is only practicable for wheelchairs in summer. No on-site parking is available: use the parking facilities at Lake Toblach, then take the hiking/cycling trail to reach the smelting furnaces in about half an hour.*

The smelting furnaces on the Klauskofel south of Toblach probably represent two of the best-preserved examples of modern mining archaeology in Tyrol.

They are located about 1.5 km south of Lake Toblach, next to the busy road running to Cortina d'Ampezzo. As the smelting furnaces are located on the other side of a stream in a heavily wooded area, however, they are little known.

Ore from the surrounding mines was smelted in this complex from the 16th to the 18th century. In addition to lead and calamine (zinc spar, used to produce brass) from the nearby Knappenfuss Valley, it is documented that lead was also taken from the mines at Passo Giau and at times processed here in Toblach.

The two smelting furnaces are combined under one roof, but the building is no longer fully preserved.

The complex originally consisted of two shaft furnaces separated by a small intermediate area. Both furnaces are of identical construction, typical of shaft furnaces: a simple structure with a rectangular combustion chamber, lined with clay and fed with ore and charcoal. In order to better permit the toxic fumes to escape, the furnaces were topped by a tall chimney.

During the combustion process the liquid ore would trickle down and gather at the bottom.

At the end of this process the combustion chamber was opened, with the liquid metal collected in melting pots and formed into ingots. Hydropower-driven bellows were used to achieve the required temperatures.

The smelting complex at Klauskofel today has only one chimney, but is otherwise very well preserved as a unique monument to the mining industry of the early modern era.

There can also still be seen the remains of the channel at the side of the ovens that once turned a mill wheel for operating the bellows.

## Remarks

When it was discovered in the early modern era that the smoke from the smelting process contained toxic fumes, these were diverted from settlement areas, which is why the smelting furnaces on the Klauskofel are located at some distance from Toblach and Schludersbach. They were nevertheless easily accessible from the adjacent road. At the beginning of the 1990s the smelting furnaces were restored in exemplary fashion and still offer an impressive sight to this day.

## Bibliography

Mairhofer 1994; Tasser 1994.

*(Florian Messner)*



*The smelting furnaces on the Klauskofel from the front (photo F. Messner)*

# Mining at St. Jakob in Deferegggen

*Mines, historic building, museum*

**Museum:** *"Zeitreise Deferegggen"*

**Municipality:** *St. Jakob in Deferegggen*

**Coordinates:** *46,917406, 12,331647*  
(Unterrotte 3, St. Jakob in Deferegggen 9963)

**Contact:** *+43 50 212600 - defereggental@osttirol.com*  
*<https://www.defereggental.eu/page.cfm?vpath=st-jakob/kultur/talschaftsmuseum-zeitreise-deferegggen> - Opening times: museum open daily from 09.00 to 20.00, guided tours on request.*

## Accessibility

*Please call before visiting: wheelchair access is possible. Parking available in the village.*

Mining played a major role around St. Jakob in Deferegggen as early as Roman times, which saw gold-digging in the area.

In the Middle Ages there was a vigorous mining industry in St. Jakob from the middle of the 15th century: it even had its own ore smelter, a so-called bellows house, a hammer mill, a sawmill, a grain mill, a forge and a charcoal kiln, all serving the mining operations.

A special role was played by the *Glaureter Gewerkschaft*, a trade union that gained great influence in the area. The mining entrepreneurs became rich through their extraction rights around St. Jakob and expanded into other potential mining areas, including Gruben and the Frosnitz Valley, where they probably also assisted in the financing of the *Knappenhaus* (miners' house) on the Dabernitzkogel, which has also been investigated within the framework of the KLANG project.

Some of the sights from the heyday of mining in St. Jakob can still be explored today. In the village centre stands the former headquarters of the mining entrepreneurs, the so-called "Handelhaus", the Unterrain Inn, the Barmerhaus and the Hof Hirbe, all witnesses to the construction activity of the time.

The "Zeitreise Deferegggen" museum recounts the history of the valley, with numerous artefacts that permit a glimpse into the past.

The main focus of the museum is on archaeological finds, ranging from prehistory and the Romans through to medieval mining activities.

There are many particularly interesting finds from the surrounding mines: in addition to tools, these are also relics of clothing such as shoes as well as "luxury" items such as pipes.

Apart from mining, the museum offers other extraordinary highlights, such as the

1000-year-old dugout canoe belonging to one of the Prince-Bishop of Brixen's fishermen, found in the Obersee Lake by Antholz; as well as the oldest known traces of humans in East Tyrol, namely finds from a hunting refuge from the Middle Stone Age.

## Remarks

The mines in the Trojer Almtal and in the so-called Tögischer Bachl (Tögischtal) can be reached via marked hiking trails. In summer there are guided hikes offered by the Defereggental holiday region. Admission to the "Zeitreise Deferegggen" museum is free of charge. The canoe from the Obersee represents the highest discovery of a historic watercraft ever found in Europe and is the only known dugout canoe made of pine wood.

## Bibliography

Reichsritter von Wolfskron 1897; Srbik 1929; Ladstätter 1977; Stemberger, Kröll 1985; Pannert 1993.

*(Michael Hölzl)*



The mining entrepreneurs' house in St. Jakob in Deferegggen is now home to a branch office of the National Park (photo F. Messner)

# Hammer mill at Kleinboden

*Industrial archaeology, historic/contemporary production centres, historic buildings*

**Municipality:** Kleinboden, Fügen im Zillertal

**Coordinates:** 47,3257603, 11,8479983

*(Kleinbodenerstraße 135, 6263 Kleinboden)*

**Contact:** +43 5288 62262 - Fügen tourist office

## Accessibility

*Open-air ruins located on a former industrial site. Parking is possible along the adjacent road.*

From the middle of the 16th century on, Fügen emerged as the main location of iron mining in Tyrol.

In 1557 a so-called "Pläöfen", a blast furnace, was present, as well as a smelter for smelting silver.

By 1596 there was an ironworks on the Finsingbach stream, and two blast furnaces and a hammer mill in operation at Kleinboden.

The hammer mill supplied the *Salzhaus* in Hall with salt pans, the mines in Schwaz with iron tools and, of particular interest, the armoury in Innsbruck.

Harness plates were delivered from Kleinboden to the larger armourers, while cannonballs were also transported to the regional capital from here.

Iron from Fügen was inferior in quality to the preferred iron from Leoben: salt pans and guns made from it would only last half as long as their Leoben counterparts.

But it had one advantage: the savings in high transport costs made it cheaper than iron from Styria.

There were nevertheless major problems caused by overdue payments from the mines in Hall and Schwaz, with in some cases thousands of guilders owed for years to the Zillertal trade union.

Several orders from Schwaz and Hall can be read, answered in writing from the Zillertal side with two simple words: "Pay first!" Great dissatisfaction persisted among the entrepreneurs and miners of the Zillertal Valley, mainly on account of non-payment and inadequate food supplies.

Such disputes ran back and forth and ended in the non-delivery of iron, strikes and finally intervention by the court at Innsbruck.

The Bavarians too sourced iron from Kleinboden and were more highly regarded as business partners, as they were not as slow to pay as the Tyroleans. A standalone settlement gradually formed around the hammer mill and the other mining activities.

The remains of the hammer mill and ironworks dating from that time are still visible in Kleinboden.

The ruins are characterised by their distinctive pointed arched windows and doors.

### Remarks

Old records show that the cannonballs produced in Kleinboden were not only used for defensive purposes.

In 1615 it is mentioned that the government sent a trusted person to the border with Rattenberg to target the apparently widespread trade in cannonballs to Bavaria.

It is not mentioned whether the smuggling was stopped.

The attractive pilgrimage church of St. Pankraz is also located near the hammer mill.

### Bibliography

Reichsritter von Wolfskron 1897; Srbik 1929; H. Wenger, A. Wenger 2004.

*(Michael Hölzl)*



*The hammer mill at Fügen processed local iron ore until the 20th century (photo F. Messner)*

# Ambras Castle

*Fortress, museum and collections*

**Municipality:** *Innsbruck*

**Coordinates:** *47,2565828, 11,4336189*  
*(Schlossstraße 20, 6020 Innsbruck)*

**Contact:** *+43 1 525 24 - 4802 - [info@schlossambras-innsbruck.at](mailto:info@schlossambras-innsbruck.at)*  
*<https://www.schlossambras-innsbruck.at/> - Opening times: daily from 10.00 to 17.00*  
*(closed in November) - Special opening times: The Habsburg portrait gallery is open*  
*from 1 April to 31 October. The collection of Gothic sculptures is open from 1 April to*  
*31 October and is also freely accessible without a museum ticket.*

## Accessibility

*Certain areas are not wheelchair accessible.*

*The castle has its own car park: it can be reached from Innsbruck via bus services 4134 and TS as well as by tram 3.*

Ambras Castle is located in the Tyrolean capital of Innsbruck and was mentioned as early as the 10th century.

It owes its present appearance above all to Archduke Ferdinand II, who had the castle altered according to his own tastes and expanded into a splendid residence.

As a great patron of various arts, Ferdinand also used Ambras Castle as a museum for various valuable objects and curiosities from all over the world.

His renowned collection of weapons and armour found a home at Ambras and a part can be admired there today.

It is the largest armoury in North Tyrol and one of the most important in Europe, although part of the collection is now housed in Vienna's Kunsthistorisches Museum. A cabinet of wonders is dedicated to some of the unusual and rare artefacts that came into Ferdinand's possession. Along the 43-metre long walls of the Spanish Room, built as a prestigious hall for the Archduke, there are 27 portraits of the sovereign princes of Tyrol, from Count Albrecht I and Margarethe Maultasch through to the Habsburgs and Ferdinand himself.

The Archduke's large portrait collection, later enlarged, provides insights into famous personalities over a period of 400 years: there are over 200 works by the great masters displayed on three floors.

One of the world's greatest glass collections of items from the Renaissance and Baroque eras is located in the Strasser glass collection held in the Upper Castle.

Another rarity to be found at Ambras Castle is the bath of Philippine Welser, Ferdinand's wife.

It features a sweat and relaxation room and a 1.6-metre deep bathtub, sunk into the

floor and lined with tinned copper sheet. It is the sole remaining bathing chamber from the 16th century.

On the ground floor of the keep is a collection of Gothic sculptures from the time of Emperor Maximilian I.

### Remarks

A variety of weapons from the Belluno area graced the collection of Ferdinand II. Most of the showpieces can today be found in Vienna, but a masterpiece by Andrea Ferrara can be found in the cabinet of wonders.

The castle nevertheless contains some 100 items, all in excellent condition, that have a connection to Belluno.

The large park around the castle, accessible to visitors, is home to the so-called Bacchus Grotto where drinking rituals and receptions for princely guests were held. The cups used are still in the possession of the Ambras Castle museum.

### Bibliography

Zimmermann 1893; Scheicher 1981; Braun 1995.

*(Michael Hölzl)*



*The Renaissance Ambras Castle near Innsbruck probably contains the largest collection of arms and armour in Tyrol (photo Open Source via Pixabay, Pixabay Licence)*

# Tratzberg Castle

Fortress, museum and collections

**Municipality:** Jenbach

**Coordinates:** 47,3850406, 11,7430756  
(Tratzberg 1, 6200 Jenbach)

**Contact:** +43 5242 63566 - [info@schloss-tratzberg.at](mailto:info@schloss-tratzberg.at) - <https://www.schloss-tratzberg.at/>  
*Opening times: daily from 10:00 to 16:00 (last admission), winter break: 9 November – end of March, daily guided tours.*

## Accessibility

*The upper storeys are not accessible to wheelchair users. The castle has several parking spaces. Bus number 4111 runs from Schwaz and Jenbach stations to the car parks.*

Tratzberg Castle stands above the valley floor between the municipalities of Stans and Jenbach and has an eventful history stretching back over 700 years.

Emperor Maximilian I had used the castle of his ancestors as a hunting lodge: during his reign, the structure was destroyed by fire and came into the possession of the Tänzl, a merchant family that had become rich through silver mining in nearby Schwaz and had begun building a castle.

After many changes of ownership, Tratzberg Castle ended up in the hands of the Fugger dynasty and ultimately in the possession of the Enzenberg family, who reside there to this day.

As one of the most beautiful Renaissance castles in Tyrol, it features particularly impressive architecture and rich interior fittings.

Highlights include the magnificent Habsburg Hall with its painted family tree from Rudolph I to Charles V.

There are several rooms with furnishings from the late Gothic and Renaissance periods, including the Fugger Room with its Gothic post bed, complete with original textiles, and the Queen's Room with its elaborately carved ceiling decorations.

A further highlight is the large arms and armour collection, which contains numerous different weapons including polearms, firearms, swords and sabres.

Of particular interest for KLANG are several blades made in Belluno, including one by the great master Andrea Ferrara himself.

The armoury offers a wide selection of objects, especially from the 16th and 17th centuries, providing an excellent overview of the changes in armour techniques during this period.

Tratzberg Castle can be reached via a short walk through the surrounding forest, or by taking the castle's miniature train, which leaves for the castle every half hour from the Schlosswirt inn.

## Remarks

The magnificent painting of the inner courtyard was commissioned by the Fugger family. This courtyard has only recently been restored to its former splendour.

The castle has a number of secret doors as well as an escape route for residents in the event of the castle being captured by enemies. The castle was uninhabited for 150 years until in 1847 it came into the possession of the Counts Enzenberg, who repaired it and today inhabit it: much of the property is now open to the public.

## Bibliography

Graf Enzenberg 1958; Goëss-Enzenberg 2010.

*(Michael Hölzl)*



*The armoury of Tratzberg Castle (photo F. Messner)*





*Tratzberg Castle  
(photo Familienstiftung Schloss Tratzberg)*

## Mining in the Stubai Valley

*Mines, museums and collections, archaeological sites, historic/contemporary production centres*

**Museum:** *Fulpmes Museum of Blacksmithing*

**Municipality:** *Fulpmes*

**Coordinates:** *47,155385, 11,348161*

*(Fachschulstraße 4, 6166 Fulpmes)*

**Contact:** *+43 5225 696024 - [info@stubai.at](mailto:info@stubai.at)*

*<https://www.stubai.at/aktivitaeten/sehenswuerdigkeiten/schmiedemuseum/>*

*Opening times: open only in summer from 14.00-17.00: group visits by arrangement.*

*All visits must be pre-booked.*

### **Accessibility**

*Please contact the museum. Parking is available on site.*

Mining records for the Stubai Valley date back to the 14th century. While the area was never truly rich in minerals, iron was excavated here in some places, in particular on the Burgstall and, more specifically, on the Upper Burgstall, which supplied most of the ore.

Gold and copper were also occasionally mined in the Stubai Valley. Exact records of the mines in the area, which belonged to the Hall mining court, are unfortunately very scarce for the Middle Ages and the court archives have been lost.

In the 20th century an attempt was made to recommission the long-abandoned iron mines to supply the war machine of the Third Reich, but nothing ultimately came of these grand plans.

The forges down below were always of greater importance in the Stubai Valley than the mining activity itself. Fulpmes saw the establishment of a veritable forging industry whose traces can still be seen to this day.

Already in 1413, a forge had been built by the miners in the village to produce tools for the surrounding mines.

More and more objects were also produced for farming and everyday life, however: in the 17th century there were thus 45 smithies in the area. In 1680 the *Stubai Handelskompanien* (trading companies) were established to ensure the efficient transport of the ever-increasing flow of manufactured items.

Rather than employing porters to send goods to other countries, the companies opted for transport using wagons.

Fulpmes is home to the Museum of Blacksmithing, located in the Riedlhaus, itself formerly a forge.

This provides a sound history of the blacksmith's trade and a fine display of old tools. There are machines from the 19th century preserved in their original condition, with

four particularly impressive large hammers that can still be operated by hydropower from the Schlicker Bach stream.

### Remarks

To this day the STUBAI cooperative, which grew out of the old forges, produces particularly high-quality tools that are exported to over 60 countries.

Around 1420, Duchess Anna awarded a seal to the Stubai master smith Stephan, depicting a hatchet and a hammer crossed in a shield. This seal refers to the objects produced by the master.

There are numerous stories and legends concerning the mines of the Stubai Valley that have been handed down to this day

### Bibliography

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*(Michael Hölzl)*



*Fulpmes Museum of Blacksmithing has preserved impressive examples of modern-day iron-working (photo TVB Stubai Tirol)*



*Iron was mined in the Middle Ages and modern times in the mountains around Fulpmes in the Stubai Valley.  
Tools of high quality are still produced in the valley today  
(photo TVB Stubai Tirol/Andre Schönherr)*



## Fügen mining district

### Öxeltal show mine

### Fügen museum of local history

*Industrial archaeology, mines, museums and collections, archaeological sites*

**Municipality:** Fügen

**Coordinates:**

*Spieljoch cable car: 47,338976, 11,843143*

*Öxeltal show mine: 47,326777, 11,780237*

*Fügen museum of local history at the Widumspfstie: 47,345363, 11,848584*

**Address:**

*Spieljoch cable car for the show mine: Hochfügener Straße 77, 6263 Fügen*

*Öxeltal show mine: 6264 Fügenberg*

*Fügen museum of local history at the Widumspfstie: Lindenweg 2, 6263 Fügen*

**Contact:**

*Spieljoch cable car:*

*Open: 22.05.21 - 26.10.21*

*First ascent: 09.00 - Last ascent: 16.00 - Last descent: 16.30*

*+43 5288 62991 - [info@spieljochbahn.at](mailto:info@spieljochbahn.at)*

*<https://www.spieljochbahn.at/de/sommer/spieljochbahn-im-sommer>*

**Öxeltal show mine**

*Open: 27 June to 5 September, booking required at the ski school office in the valley station.*

*+43 5288 62991 - [info@spieljochbahn.at](mailto:info@spieljochbahn.at)*

*<https://www.spieljochbahn.at/de/sommer/familienbergerlebnis-spieljochbahn/79-schaubergwerk-oexeltal>*

**Museum of local history at the Widumspfstie:**

*Open: Tuesdays to Fridays 14.00 - 17.00, group visits by arrangement.*

*+43 5288 62262 - +43 650 2448028 - [info@hmv-fuegen.at](mailto:info@hmv-fuegen.at) - [www.hmv-fuegen.at/](http://www.hmv-fuegen.at/)*

**Accessibility**

**Öxeltal show mine:**

*The mine is unfortunately not accessible to those with reduced mobility. There is a large car park at the Spieljoch cable car. Bus line 8333 runs to the cable car from Uderns and from Hochfügen.*

**Museum of local history at the Widumspfstie:**

*Please inquire at the museum. Car parking is available in front of the museum.*

Take the Spieljoch cable car up from Fügen, then a pleasant hike of 30-40 minutes along the former miners' track brings you to the Öxeltal show mine.

From there it is possible to explore the Julius gallery with a trained mining guide, while learning all about iron ore mining in the Ziller Valley and the area's 600-year mining history.

The working methods and harsh working conditions of the miners are also described: each man would arduously excavate half a centimetre a day to achieve an annual progress of 1.5 metres into the rock.

The way back via the panoramic path lets you imagine the difficulties and dangers of transporting ore into the valley.

Porters would bring several ore bags made of textile and pigskin, each weighing around 60 kg, on low sleds down to the foot of the mountain. From there the ore was taken to Kleinboden for processing.

The empty ore bags were hauled back to the mountain by dogs. The volumes moved, some 1,500 tonnes of iron mineral a year, would have meant almost unimaginable transport difficulties.

In Fügen itself you can also learn a great deal about the mining history of the Ziller Valley.

The local history museum in the Widumspfiste, right in the centre of the village, offers the visitor gems of folk culture and customs as well as explanations of ancient crafts such as the wainwright, cooper, ropemaker and hatter.

Mining and smelting too are particularly well represented. Alongside the numerous models and replicas are many finds that vividly illustrate the history of mining.

Tools for iron processing and products from the Middle Ages through to the 20th century are exhibited, as well as prehistory: the museum contains a number of finds from a local urnfield dating from the Bronze Age, demonstrating the long history of settlement at Fügen.

## **Remarks**

The Öxeltal show mine is located at 1,824 metres above sea level, making it Austria's highest show mine. The Julius gallery contains the original wooden fittings from when the mine was worked.

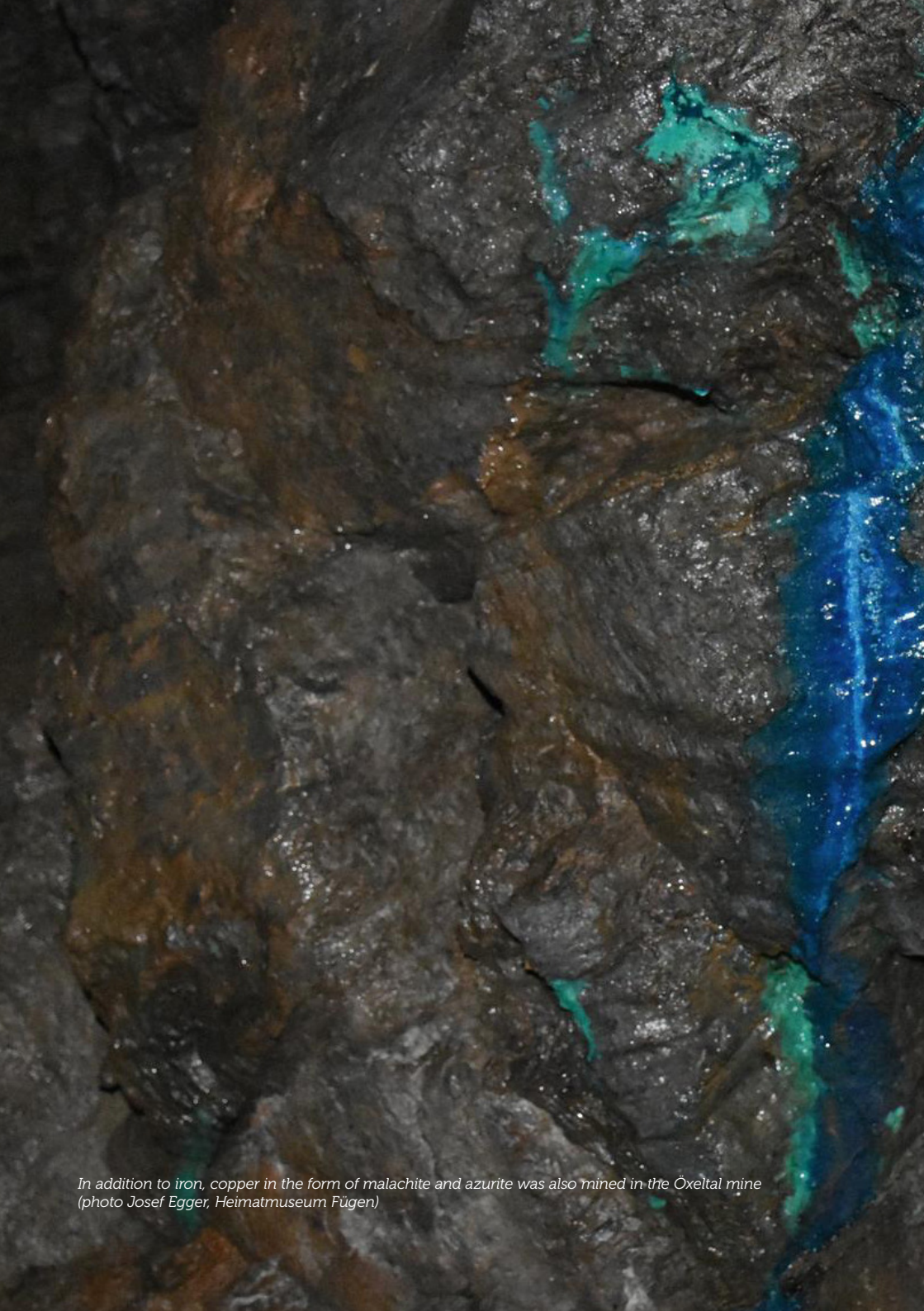
The museum in the valley has a model of part of the mine and describes the various professions engaged in the mining industry.

Another special feature of the local history museum at Fügen is its exhibition on the Ziller Valley National Choral Society and the popularity of the song "Silent Night", to which these singers and Fügen itself have made a major contribution.

## **Bibliography**

Reichsritter von Wolfskron 1897; Srbik 1929; H. Wenger, A. Wenger 2004.

*(Michael Hölzl)*



*In addition to iron, copper in the form of malachite and azurite was also mined in the Öxeltal mine  
(photo Josef Egger, Heimatmuseum Fügen)*







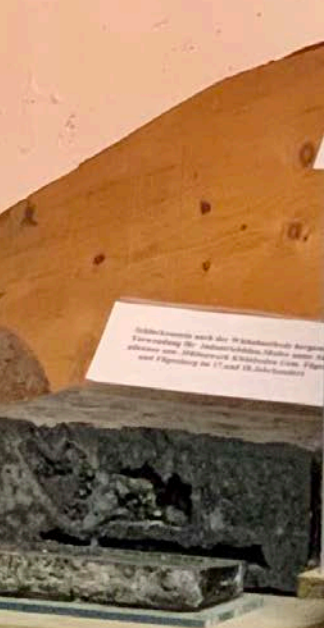
Kleinbodener Sensenschmiede 1870



Für die Erzeugung einer Tonne Roheisen  
werden benötigt:  
ca. 2,5 to Spatzen 8,8 to Kalk  
und 7,5 to Holzkohle.

Maßstab  
1:10

Schmelztemperatur wird der Hüttenbesitzer bestimmt.  
Verarbeitung der Rohschmelze (Schmelze) unter der  
Leitung von Hüttenbesitzer Kleinbodener (siehe Foto  
und Erklärung der 17. und 18. Schmelze).



# The Hofburg (Bishops' Palace) in Brixen/Bressanone

*Historic building*

**Municipality:** Brixen

**Coordinates:** 46.714917, 11.655611 (Hofburgplatz, 2, 39042 Brixen/Bressanone, South Tyrol, Italy)

**Contact:** +39 0472 830505 - [info@hofburg.it](mailto:info@hofburg.it) - [hofburg.it](http://hofburg.it)

*Opening times: daily from 10.00 to 18.30 from spring to 30 September  
10.00 to 17.00 from 1 October to 8 November*

*Winter opening times: 27 November 2020 to 10 January 2021*

*Daily 10.00 to 17.00, closed 24 and 25 December 2020*

## Accessibility

*A modern museum, accessible to all, that also offers special guided tours.*

*As no parking is available in the historic centre it is advisable to use the parking garages if possible.*

The Hofburg of Brixen is a demonstration in stone of the power of the Prince-Bishops. This mighty complex is located in the southwestern part of the old town and, together with its moat, it also represented a powerful defensive structure. Bishop Bruno von Kirchberg (d. 1288) began building a castle in 1265, both to better protect himself and as a demonstration of his authority. At that time the bishops of Brixen held not only spiritual but also secular powers within the County of Tyrol.

The Bishop of Brixen is of particular importance for the KLANG project, as the iron mines at Fursil were owned by the diocese.

The profits from the mines thus flowed into the Bishop's pockets and enabled him to finance his extensive construction works. From 1595 the castle was rebuilt in Renaissance style with arcades added around the courtyard with statues depicting the Habsburg family tree.

The Hofburg owes its present appearance to a reconstruction during the Baroque period at the beginning of the 18th century.

Today the Hofburg houses the Diocesan Museum and the Diocesan Archive, which contains numerous important sources for the history of iron mining in Fursil.

Of particular note are certain special exhibits such as the chasuble with eagle motif of St. Albuin (d. 1006), one of the most important garments dating from the Middle Ages. It was made in Byzantium of purple silk and was a gift from the Holy Roman Emperor to Bishop Albuin. The chasuble is superbly preserved and a unique testament to medieval craftsmanship.

Worth mentioning in addition to the numerous treasures held in the cathedral is the very large exhibition of nativity scene that spans three centuries and offers interesting

insights into folk art. The Hofburg thus gives a fine overview of church history in both artistic and power-political terms.

## Remarks

Visitors to the Hofburg should be sure to view the massive entrance portal. The gates are covered with iron and show clear marks of fighting, with bullet holes and square perforations caused by polearms. According to legend these are the traces of the peasant uprising of 1525, when insurgents under the command of the revolutionary Michael Gaismair stormed the Hofburg.

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Gelmi 1984; Flachenecker, Heiss, Obermair 2000; Kronbichler 2010.

*(Florian Messner)*



*The Brixen Hofburg seen from the west (photo Ladislav Luppá, Wikimedia)*





*The picturesque inner courtyard of the Brixen Hofburg.  
(photo Ugo Franchini, Wikimedia)*

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