An Ancient Landscape Shaped by the River: The Impact of the Adige at the Base of the Alps. A New Research Perspective

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The goal of this study is to analyze the impact of the upper section of the Adige at the base of the Alps on the ancient landscape and the economy with a focus on the Roman Age.¹

The Settlement Pattern in the Adige Valley in Antiquity

How was the ancient course of the Adige river? It was very different from the current one and it must have influenced the settlement pattern in the entire valley. The river was probably larger and characterized by meanders, as we can see through aerial photographs and as ancient settlements seem to demonstrate. It is sometimes difficult to imagine environmental situations that have helped to define the ancient settlement organization, much more linked to the Adige river than today. Not only the Adige but also its tributaries have changed their course over the centuries, up to major changes between the 19th and the 20th century.² But only maps of the 19th century can attest with more precision how the Adige was before the adjustments and the construction of the railway in the second half of the19th century (1867).³

The river seems to have already influenced settlement patterns in pre-Roman periods. For example, if we consider the pre-Roman sites from south to north in the middle Val Lagarina, Castel Tierno, Castel Pradaglia (right bank) and Dosso Alto near Borgo Sacco (left bank) in the Bronze Age, we will see that they were located to control the Adige river south of Rovereto⁴ while Nomi Cef (right bank) was in a marsh, along the river, south of the modern town of Rovereto in a strategic position, as perhaps the river was a commercial way, but also the river itself or the valley bottom could have been practicable by enemies.⁵ Other settlements had the function of controlling the Adige Valley too, for example some sites scattered above the hills near the modern town of Trento⁶ and "Dosson di Faedo".⁷ Vadena/Pfatten between the modern cities of Trento and Bolzano was recognized as a commercial *emporium* on the river Adige.⁸

The Adige Valley has been used as a commercial route from the Adriatic ports since the pre-Roman period. Different data suggest that goods could arrive directly from the Adriatic ports but neither remains of pre-Roman or Roman boats nor ancient harbors have been identified so far in the upper part of the river. Moreover, the ancient written sources do not mention the practice of navigation along the Adige at the base of the Alps. It was assumed that from the end of the 6th until the early 4th century BC the wine, which arrived inside Greek amphorae via transmarine trade, was poured into wooden

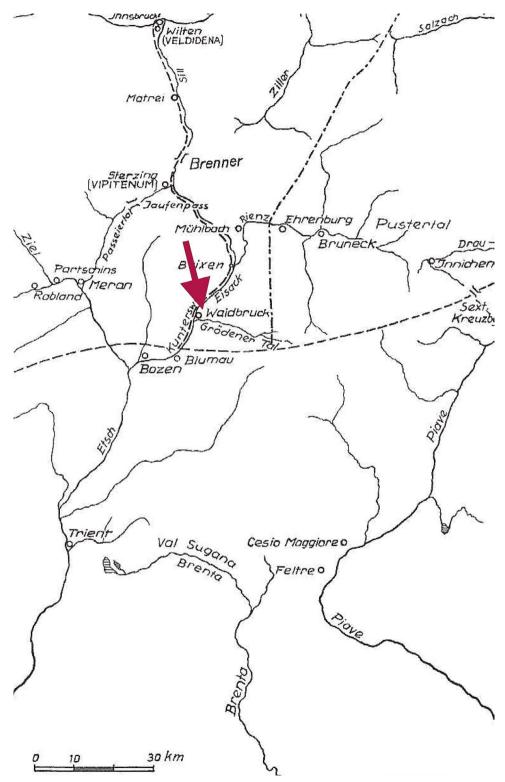


Fig. 1: Location of the Ponte Gardena / Waidbruck statio.

barrels to be transported in the Alpine valleys. This theory was based on the fact that in the area of *Mantua* (Forcello), which was a sort of strategic hub where the waterways met the paths from the Appennines and the paths and the waterways from the Alps, many amphorae from the Aegean area have been found.⁹

Several archaeological artefacts have shown a close relationship with the northern Adriatic area. This was demonstrated in the past with the discovery of artefacts from the Northern Adriatic area in Vadena/Pfatten along the Adige course. The discovery in Settequerce/Siebeneich, in the Terlano/Terlan area, along the ancient course of the Adige river, of an Iron Age settlement with a place dedicated to worship with pottery artefacts of 5th-4th century BC very similar to those discovered in Este, led to the presumption of a direct connection with the Adriatic ports; the importance of the port of Adria in the Northern Adriatic area has been revalued, in connection to the possibility of transport along the river Adige. 11

In the last period of the Roman Republic, exchanges between the population living at the base of the Alps and the Roman world increased, as we can deduce above all from the coins found in some settlements, for example in Laives/Leifers, along the river. ¹² Probable drainage works made by stones along the Adige Valley, at the current state of research have been identified in Laives/Leifers dating back to the 4th century BC and prove that the Adige tended to overflow towards the settlement located on the conoids and in Vadena/Pfatten. ¹³ Here we can believe that this arrangement of pre-Roman settlements makes clear the close link with the river, since the settlements needed to be located near the river and not in a safer position.

The Impact between Local Populations and the Romans

This area, mainly connected to the Roman town of *Tridentum*, is generally supposed to have become part of the Roman world in the early Imperial period. We have a few literary sources about this territory in the first Roman Imperial era.

Perhaps the war between the Romans and the local population at the base of the Alps was not so bloody as reported by Horace.¹⁴ Archaeological data indeed seem to suggest a gradual transition as shown by the flow of goods from the Mediterranean area¹⁵ and as evidenced by the archaeological excavations in the current state of research.¹⁶ The Alps did not mark the border of Italy as today but the border of the Italic regions of Augustus had to be on the southern base of the Alps.¹⁷

The reorganization of the territories at the base of the Alps led to the creation and strengthening of the urban center of *Tridentum* that probably played a decisive role already in the phases of the Roman conquest and must have taken place over several years, as attested by the milestone found in Val Venosta/Vintschgau, and by the edict of Claudius found in Val di Non.¹⁸ When, during the 1st century AD, the emperors of the Flavian dynasty and their successors extended the fortifications along the *limes*

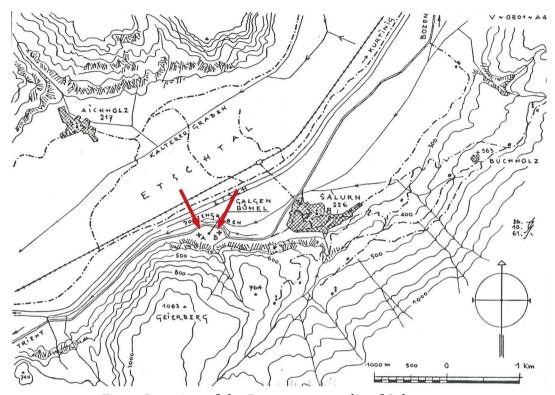


Fig. 2: Location of the Roman necropolis of Salorno.

of *Germania* and *Raetia*, the district became more intensely a territory of passage of armies and traders, but the archaeological data show that the district kept its own characteristics.¹⁹

Reorganization of the Settlement

For the Roman reorganization of the settlement, the river must have played an important role, as the city of *Tridentum*, probably founded in the second half of the 1st century BC²⁰, was built in close connection to the river and in the age of Augustus became the main center (*municipium*) of this district,²¹ as we can deduce from the monumental remains of the Roman town, even if a Roman port has not yet been identified.²²

The roads with their stations (*stationes*) together with the rivers marked the boundaries between the Italian territory and the neighboring provinces. Near the borders the custom stations have been set up. These *stationes* are mentioned in epigraphic sources; but these sources are later than the period when the duty stations may have been placed in key positions.²³ One has been identified in the area of Tel/Töll (which refers to the word *Telonium*) and was identified as *statio Miensis*.²⁴ The other one must have been

located in the area of Colma/Kolmann – Ponte Gardena /Waidbruck along the course of the Isarco, a tributary of the Adige river, and on the main road that led to the Brenner pass, presumably already in the territory of the *Noricum* (fig. 1). This was the custom statio included in the district of the *Publicum Portorium Illyrici*.²⁵

Local people were probably living in typical houses (built by wood and local stones without mortar), while artefacts had to come more massively from the Roman world, as has been noted in Settequerce/Siebeneich, along the upper river course. Willages had necessarily been rebuilt in the same place closely connected to the river, e.g. Laives/Leivers, on the left bank of the river, probably where it was possible to cross the Adige; indeed, in Vaden/Pfatten, on the right bank of the river in front of Laives, a continuous settlement is attested. Set a continuous settlement is attested.

Only some buildings are distinguished as they were built with the use of lime mortar and with Roman imperial tiles. From north to south, on the left bank of the Adige, for example in Laives/Leifers – San Giacomo/St. Jakob, in a building built in the early Roman Imperial period, Roman *tegulae* (also with stamps) were found used in foundations; their purpose was probably to limit water infiltration since the building was in a marshy area near the river. This building had a short life, as it was destroyed by the flooding of the river. Judging from the recovered artefacts it had to be important and it was connected to a road and to the river ²⁹. In another building (1st–3rd century AD), identified as a *mansio*, many tiles have been found with a variant of *AVRESIS* stamp (fig. 3).³⁰ In Laghetti/Laag, in close contact with the river, there were buildings of considerable importance (1st–6th century AD). Excavations have led to recognize tiles with stamps *AVRESIS*, *LOCEIAVRESIS* and *CRVT* with variants and *tubuli* for the heating system. Artefacts from medium to large scale trade (Italic terra sigillata; amphorae similar to Dressel 6 B, but also sigillata and glass from the Rhine area and African red slip ware) have been identified in these buildings.³¹

In Villa/Vill of Egna/Neumarkt (left bank of the Adige (fig. 5), in the 1st century AD, a man who was linked to the Roman culture, judging by the choice of the iconographic motifs of his funerary stele, even if performed by a rough craftsman, had to inhabit there with his family (fig. 4); in the same village, late Roman republican *denarii* and imperial coins were recovered;³² also, in the area around the medieval church of the modern village ancient artefacts are still reused.

Some villages located not far from the river have become important in the 2nd century AD, probably in relation to the importance acquired by the district that is increasingly functional to the needs of the *limes*. For example, in the 2nd century AD the village of Mezzocorona Giontec became more articulate;³³ it is located on the right Adige not far from a part of the valley where the Adige river created a swamp. South of the modern village of Salorno/Salurn an extensive necropolis (1st–4th century AD) was on the left bank of Adige (fig. 2). The graves were presumably aligned along a road parallel to the river. Most of the tombs were from the 2nd century AD, as witnessed by the coins recovered inside them.³⁴

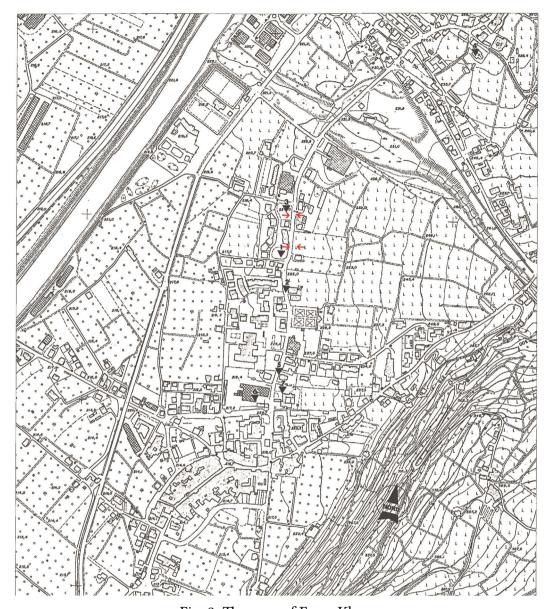


Fig. 3: The area of Egna-Khan.

The territory would seem to become progressively more functional to the needs of the *limes*, as it is probably shown by an inscription recovered in *Tridentum* that recalls the activity of an important man, *Gaius Valerius Marianus* (end 2^{nd} century AD – 3^{rd} century AD). This region suffered a period of crisis in the 3^{rd} century AD, generally related to the arrival of Alemanni. Military control over this territory could have been strengthened. Moreover, the impact of a destructive earthquake seems to have added to the political and economic crisis. 36



Fig. 4: The stele found in Villa/Vill.

The archaeological data of Laghetti /Laag seem to suggest a change of use during the 4th century AD, due to the abundant presence of *militaria*, in the valleys closely linked to the Adige, prestigious residences were created.³⁷ In 357 AD Constance II passes from *Tridentum* to reach the Danube *limes*.³⁸ The pressure of the Goths of Alaric (402 AD) and of the Ostrogoths of Radagaisus (405 AD) seems to have determined a situation of instability, but not the end of the settlement organization along the course of the Adige.

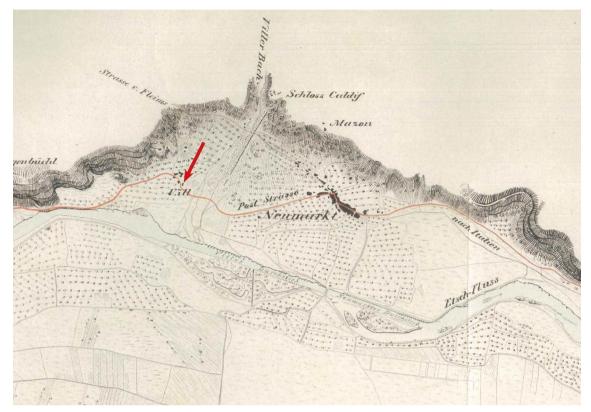


Fig. 5: Location of the area of Villa/Vill.

Economy and Activities Connected with the Settlement

We do not have written sources on productive activities along the Adige Valley, but it is possible to reconstruct the local economy through various data. There must have certainly been a trade in food (especially milk derivates and meat too), but it is difficult to recognize their trade system because they must have been kept in wooden or wicker containers. Through the ethnographic tradition we can imagine that the flow of wood along the course of the Adige could have been practiced and that, perhaps, as attested from the Middle Ages onwards, saw mills should have been present where the streams entered the Adige.³⁹ A Roman relief of *Attis* found in Trento could be connected with a *collegium* of *dendrophoroi*.⁴⁰

The wool craftsmanship had to be widespread, as attested by the loom weights dated back in Roman age spread throughout the territory. Through ethnographic tradition we can imagine flocks of sheep that passed along the Adige valley from the Alps to the plain and vice versa.

Most of the houses were built with local stones and wood. One of the main activities was to work with the stone, practiced above all in *Tridentum*, where ancient quarries on the eastern hills are attested. Many artefacts were created in Roman times (from the 1st

century BC onwards) in local stones ("Marble of Pilo "or "Rosso di Trento"): small altars; sarcophagi, columns, capitals, but also slabs, polygonal blocks for paving roads and for milestones. In the upper part of the Adige Valley the porphyry had to be worked; it was used to create small grain mills.⁴¹

We know that *tegulae* with the stamp *AVRESIS* and variants⁴² are widespread throughout the Adige river. This stamp was found in contexts dating back to the early Imperial age: for example, in *Tridentum* at "*porta Veronensis*" dated, in the current state of research, in the age of Claudius, and in another building, in a context dated back between the age of Augustus and the Flavian age.⁴³ A large sorting warehouse of these artefacts was seen in Ora/Auer area (Unterberg/Sottomonte) in the first half of the 20th century, but the kilns have not yet found, although many clues seem to identify the Ora/Auer as a production center.⁴⁴ As the stamp appears in buildings that seem connected to central power ("*porta Veronensis*" in *Tridentum*) or in buildings connected with roads and drainage works (for example, the building identified as a road station in Egna Khan and the one of Laives/Leifers – San Giacomo/ St. Jakob) we could here hypothesize a production of *tegulae* controlled by the central power.

The stamp *Caius Rutilius* (with variants) is also well documented. The most ancient specimens appear in a building of Laives/Leifers San Giacomo/St. Jakob dated in the first half of the 1st century AD. The findings of tiles-bearing this stamp are mainly concentrated in the area between Verona and the modern town of Bolzano.⁴⁵ It is perhaps possible to hypothesize that brick products of *gens Critonia* arrived as far as Adige Valley from the workshops located in the district of Ravenna or in the Padua area.⁴⁶ From the north Adriatic area came the brick tiles with the stamp *Pansiana* widespread from the mid-1st century AD to 79 AD.⁴⁷

A workshop of clay products (tiles and loom weights) was located at higher altitude, as that one in Prà de Rover near Cei in Val Lagarina (4th–5th century AD), south of *Tridentum*⁴⁸. In Prà de Rover (about 900 m over sea level) there were clay pits, the possibility of water supply, large areas for processing and timber for baking ovens. North of *Tridentum*, in Cortaccia/Kurtatsch and in Predonico along a side street that becomes more and more important in Late Antiquity, some kilns have been identified but, at the current state of research, no stamp can be associated without doubt. In Cortaccia/Kurtatsch stamps with three circles have also been identified.

Conclusions

Numerous data suggest that River Adige influenced the organization of the settlement and the productive landscape of the district. If we examine the distribution of pre-Roman and Roman sites placed in the Adige Valley, it becomes clear that many sites were located along the river and that the presence of marshes and the danger of damage caused by floods forced the choice of conoids as settlement sites. It is also evident that

many sites were placed in control of the river and of the valley, as river and valley, if on the one hand facilitated the possibility of trade, on the other hand represented a dangerous location.

The plantations are supposed to be mainly relegated to hilly slopes or to a few areas of the valley floor sheltered from floods, instead of expanding upon the whole valley, as nowadays. Consequently, in the Roman era a large part of the Adige Valley, is supposed to have had a typical vegetation of a wet environment; only sites protected from the river floods could be used for agricultural practices. In fact, stone presses for grapes have been noticed in the hilly area facing the Adige Valley (for example in Cortaccia/Kurtatsch).

The presence of the urban center of *Tridentum* linked to the river, the attestation of Roman stations on the valley floor, the settlement continuity of several sites along the river, the presence of Roman coins and of people who choose iconographic motifs typical of the Roman world in their stelae, the trade of terra sigillata and of other goods from the Mediterranean area, the circulation of heavy tiles that contributed to the creation of new buildings, they are all elements that make us realize that the river, with the road-system, must have been an aggregating element in the territory.

Notes

- ¹ From north to south: Adige Valley from the area of the modern center of Merano/Meran as far as the southern outskirts of Trento and Val Lagarina as far as the area of the modern town of Rovereto.
- ² About morphodynamics, see Angelucci 2016.
- ³ See the "carta Claricini" dated between 1845–1850, probably in 1847 (Ranzi Werth 2016).
- ⁴Battisti 2010, 11.
- ⁵ Marzatico et al. 2010, 283.
- ⁶ Marzatico et al. 2010, 283.
- ⁷ Nicolis 2010.
- ⁸ Zanforli Tecchiati 2010, 615 f. with previous bibliography; see also Alberti 2015.
- ⁹The remarkable findings of amphorae coming from the Aegean area (end of 6th century beginning of the 4th century BC) carried out at Forcello near *Mantua* (De Marinis 1987, 213) led to the hypothesis that the wine was decanted into wooden containers (Sassatelli 1987, 89 f.), most suitable for mixed transport (waterways and paths) up to the innermost places: see Dal Ri Rizzi 2005, 200–203. Olive oil was carried too.
- ¹⁰ See now Alberti 2015, with previous bibliography.
- ¹¹ Marzoli Wiel Marin 2016, 306–314. Cups from the district of Attica (1st half of the 4th century BC) were found there.
- ¹² Gorini 2000, 208; Marzoli et al. 2016, 209.
- ¹³ Zanforlin 2010, 591 (Laives/Leifers); Coltorti 1991, 24 (Vadena /Pfatten).
- ¹⁴ Hor. Carm, 4, 4, 17–18; 4,14. Strabo, who wrote the Geographia by 18 AD, says that the populations in the Alpine region seem to change following the Augustan conquest, as they were forced to pay taxes and were controlled directly by the central power (Strabo 4.6.9 C 207).

- ¹⁵Buonopane 2000, 160- 166.
- ¹⁶ Marzatico Endrizzi 2016, 160–162; Marzoli et al. 2016, 208.
- ¹⁷Clemente Mosca 2015, 683. See also Steidl 2011.
- ¹⁸ CIL V. 8003: CIL V. 5050.
- ¹⁹ Marcone 1991, passim.
- ²⁰ Bassi 2016, 175-178. 190.
- ²¹ Faoro 2014, 99- 103. 116.
- ²² Ciurletti 2014, 21–24 (proposal for the reconstruction of the urban scheme, without a port). However, the identification of a river port is generally problematic (see Chevallier 1968, 90). For the location and the function of two river docks in Trento in the Middle Ages, see Mosca 2009, 460.
- ²³ About the origin of the *Quadragesima Galliarum*: De Laet 1949, 170; France 1993, 895–927. *Publicum Portorium* already existed starting from the Republican age; it was then reorganized in the age of Augustus, until in the 2nd century (with Traianus or Adrianus) the management of the *portorium* was passed by *societates* to private *conductores*; Marcus Aurelius had reaffirmed imperial control over customs entrusting them to *procuratores* (De Laet 1949, 384–388. 403–405).
- ²⁴ CIL V, 5090 = ILS 1561 = IBR 68 (dated back in 217 or 246 AD); another inscription, even if less clear, would appear to be connected to the *statio*: see Buchi, 2000, 91 f. In *statio Miensis* in the 3rd century AD the *Quadragesima Galliarum* was required, that is to say the tax of one fortieth of the value of the commodity. The tax was due for goods coming from Gauls, but later also from Germany. Here we can suppose that *stationes* occupied larger area than what was usually considered until now.
- ²⁵ CIL V, 5079 = IBR 57 (*Isis Augusta*); CIL V, 5080 = ILS 1859 = IBR 58 (*Isis Myrionyma*); CIL V5081 = ILS 3160 = IBR 59 (a slave *Mercurialis* works as *vilicus*). These inscriptions seem to date back in the late 2nd century AD: see Buchi 2000, 91.
- ²⁶ Marzoli et al. 2016, 209.
- ²⁷ Marzoli et al. 2016, 211.
- ²⁸ Marzoli et al. 2016, 212: in the necropolis so far identified, most of the artefacts date back to the late Roman empire.
- ²⁹ Marzoli Rizzi 2005.
- 30 Di Stefano 2002.
- 31 Dal Ri Fusi 1997, 94-104.
- 32 Paci 2002, 146 f.; Alberti 2002.
- 33 Bassetti et al. 2004, 330.
- 34 The excavations had been carried out at the end of the 19^{th} century; the data were published in the 20th century (Noll 1963).
- 35 CIL V, 5036 = ILS 5016 (end 2^{nd} century AD/ 3^{rd} century AD; see Buchi 2000, 81-83). This man was a *patronus* of *Tridentum*. Probably he was in charge of the procurements of the *legio III Italica* (established in 165-166 AD) allocated to the *Castra Regina* (Regensburg); or he was responsible for collecting the tax (*annona*) intended to maintain the *legio III Italica*.
- ³⁶ The building-*statio* of *Endidae* was destroyed by an earthquake in the 3rd century AD: see Galli– Galadini 2002.
- ³⁷ Marzoli et al. 2015.

- 38 Amm XVI, 10- 20.
- ³⁹ A production plant operating by water, connected to the presence of running water, has been identified e.g. in Mezzocorona-Giontec (Bassetti et al. 2004, 330). However, it could also be connected to a smith workshop or be multi-functional.
- ⁴⁰ Mosca 2011, 440-444.
- ⁴¹ Mosca 2015.
- ⁴² Five types are known: see Bassi et al. 2005, 154–157.
- ⁴³ Bassi et al. 2005, 155. But we can think that the production has continued ever further, as it would seem to be demonstrable in relation to the presence of olive oil amphorae Dressel 20 (1st–3rd century AD).
- ⁴⁴Bassi et al. 2005, 157.
- 45 Buchi 1979, 154, n. 12; Bassi 1995, 88-92; Bassi et al. 2005, 156; Righini 2008, 362 f.
- ⁴⁶ Zerbinati 1993, 113.
- ⁴⁷Buonopane 2000, 160; about the origin and the diffusion see Matijasic 1983, 993–995.
- ⁴⁸ Rigotti 2007, 94 f. fig. 44; 174 fig. 129.

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Fig. 1: Steidl 2011; elaboration by A. Mosca. – Fig. 2: Noll 1963; elaboration by A. Mosca. – Fig. 3: Di Stefano 2002, 161 fig. 3; elaboration by A. Mosca. – Fig. 4: Paci 2002. – Fig. 5: Ranzi – Werth 2016; elaboration by A. Mosca.

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