

## 15. Between the Po and Adige rivers. Aspects of ancient waterways and settlements from the base of the central Alps to the Mediterranean Sea

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Since the most remote times, waterways together with land routes, favored trade until they reached the most inland areas. We are informed about the events of amber which, according to the story of Herodotus, was exchanged from people to people and transferred from the Baltic and Northern Sea to the Mediterranean by at least three different river routes, that westernmost route along the Rhine-Rhone, that one of the Elbe and Reschenpass-Adige or Mincio-Po, and the easternmost route of the Oder-Morava-Isonzo which in any case flowed into the Po Valley.<sup>1</sup>

Many data lead to the belief that the ancient environment in Northern Italy must have been different from the current one. From the distribution of the findings of flat-bottomed boats, we can understand that in much of Northern Italy it was possible to navigate along the waterways.<sup>2</sup>

Considering the breadth of the forest covers and the lack of diversions for agricultural and/or industrial purposes that characterize today's landscape, the rivers must have had a greater flow and a more stable regime. Moreover, the ancient boats were smaller in size and tonnage than the modern ones.<sup>3</sup>

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<sup>1</sup> Hdt. 3,115; A. Mosca, Paesaggi interconnessi. Tra Pianura e Alpi, *RTopAnt* 33, 2023, 177–202 especially 177.

<sup>2</sup> M. Bonino, Archeologia e tradizione navale tra la Romagna e il Po (Ravenna: Longo 1978); G. Uggeri, Aspetti archeologici della navigazione interna della Cisalpina, in: Aquileia e l'arco adriatico = *Antichità Altoadriatiche* 36 (Udine 1990) 175–196; S. Medas, Navi e navigazioni in Adriatico tra il VII e il V secolo a.C. Considerazioni sull'iconografia navale, in: P. Desantis – E. Govi – V. Nizzo – G. Sassatelli – T. Trocchi (eds.), *Spina etrusca. Un grande porto nel Mediterraneo* (Roma 2023) 313–318; Medas, La navigazione interna, in: Desantis et al. 2023 loc. cit. (n. 2) 477–479. The transport of heavy materials was considered more economical and practical along a waterway rather than along roads: B. Campbell, *Rivers and the power of Ancient Rome* (Chapel Hill 2012) 215–217.

<sup>3</sup> A. Mosca, Vie d'acqua dalle Alpi centro-orientali all'Adriatico in età romana, *RTopAnt* 30, 2020, 127–174 especially 128–129.

## 1. Waterways and settlement

### 1.1. Po River

The *Padus*, together with the entire network of tributaries (the river is currently about 652 km long and has a catchment area of 74,970 km<sup>2</sup>) has always been the backbone of the Po Valley orographic system, favoring contacts between the western part of the plain and the coastal strip of the north-western Adriatic. The imposing system of the Po and its tributaries was therefore the vehicle of commercial traffic between the whole of Northern Italy, Alps and plains, and the Mediterranean Sea (Fig. 1).

Polybius reports that the Po was navigable for 200 *stadia* (about 356 km). Pliny considers the river navigable starting from *Augusta Taurinorum*; towards it flowed the navigable waterways, coming from the left orographic side, from the Alps, as well as the rivers that were emissaries of the great lakes located at the foot of the Alps. Written sources of various types mention the possibility of using the river Po as a waterway.<sup>4</sup> A significant example is the description of the navigation carried out by Claudius on a branch of the Po to reach the Adriatic with his triumphal ship. The emperor would have arrived on the Adriatic through the *fossa Augusta* which was to facilitate relations in the Ravenna's area.<sup>5</sup> River Po in pre-Roman time, presumably marked ancient territorial limits and in Roman imperial age the Po was considered as demarcation of several regions. Already in the Roman republican era the Po must have marked the separation between the two vast territorial areas of *Transpadana* and *Cispadana*; the memory of this division remained handed down by Strabo in the first Roman imperial age.<sup>6</sup> In the Augustan age the river separated four *regiones*: to the south of its course *Liguria* and *Aemilia*; in the north the *Transpadana* and the *Venetia*.<sup>7</sup>

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<sup>4</sup> Polyb. 2,16,10 ss.; Plin. nat. 3,123; 3,16,117–119.

<sup>5</sup> Plin. nat. 3,119.

<sup>6</sup> Strabo 5,1,4.

<sup>7</sup> Plin. nat. 3,123. The same function of demarcation continues even in Late Antiquity; about ancient authors: M. Calzolari, *Il Po in età romana. Geografia, storia e immagine di un grande fiume europeo* (Reggio Emilia 2004) 51–115.

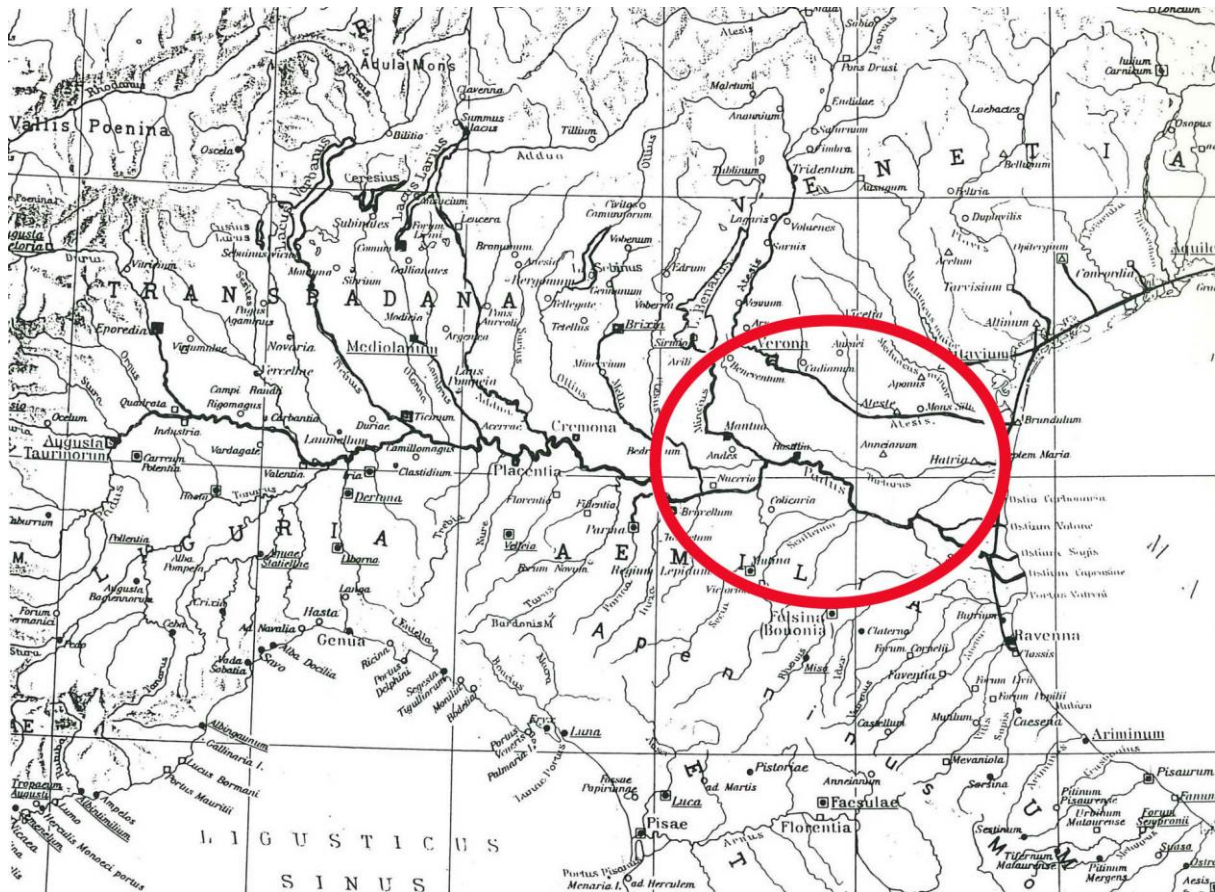


Fig. 1. Territorial district main object of this research (A. Mosca).

## 1.2. Adige River

The Adige currently has a course of about 410 km. Until the 19<sup>th</sup> cent. it was navigable as far as Bronzolo / Bronzol, that is to say, up to about ten km south of Bolzano / Bozen. The slope of the river currently varies from 265 meters above sea level in the area closest to Bolzano, to 194 meters in Trento, to 59 meters in Verona. Until now, in the upper part of its course it has not been considered a territorial demarcation, an element of division; in reality, the territorial demarcations of the populations who inhabited this area before the arrival of the Romans, when *Tridentum* became the main center of the area at the base of the central – eastern Alps, have not been clearly delineated.<sup>8</sup> It is well known, however, that only in the final stretch of its course it delimited the countryside of *Ateste*, separating it from the countryside of Verona. Further east, it separated the countryside of Padova from that of Adria. Ancient authors had precise in-

<sup>8</sup> E. Migliario, *L'Adige in età romana: linea di confine o elemento di organizzazione del territorio?* In: V. Rovigo (ed.), *Il fiume, le terre, l'immaginario. L'Adige come fenomeno storico complesso* (Rovereto 2016) 85–98.



formation on the course of the river, as Strabo recalls.<sup>9</sup> In particular, Strabo 4,6,9 mentions first the Isarco, which begins near the Brenner Pass, where a lake, the Brennersee, is located and then the *Athesis* that flowed from the mountains in the direction of the Adriatic Sea, demonstrating that the Romans had a good knowledge of this sector of the central-eastern Alps. Strabo is only wrong when he states that the Adige, coming from Lake Resia, is a tributary of the Isarco and not viceversa. But this error is justifiable considering the geographical perception of the era in which he lived and what had to be the hydrogeological situation of the Bolzano basin, where the waters of the *Athesis* and the Isarco joined, giving the impression that it was a single river.<sup>10</sup>

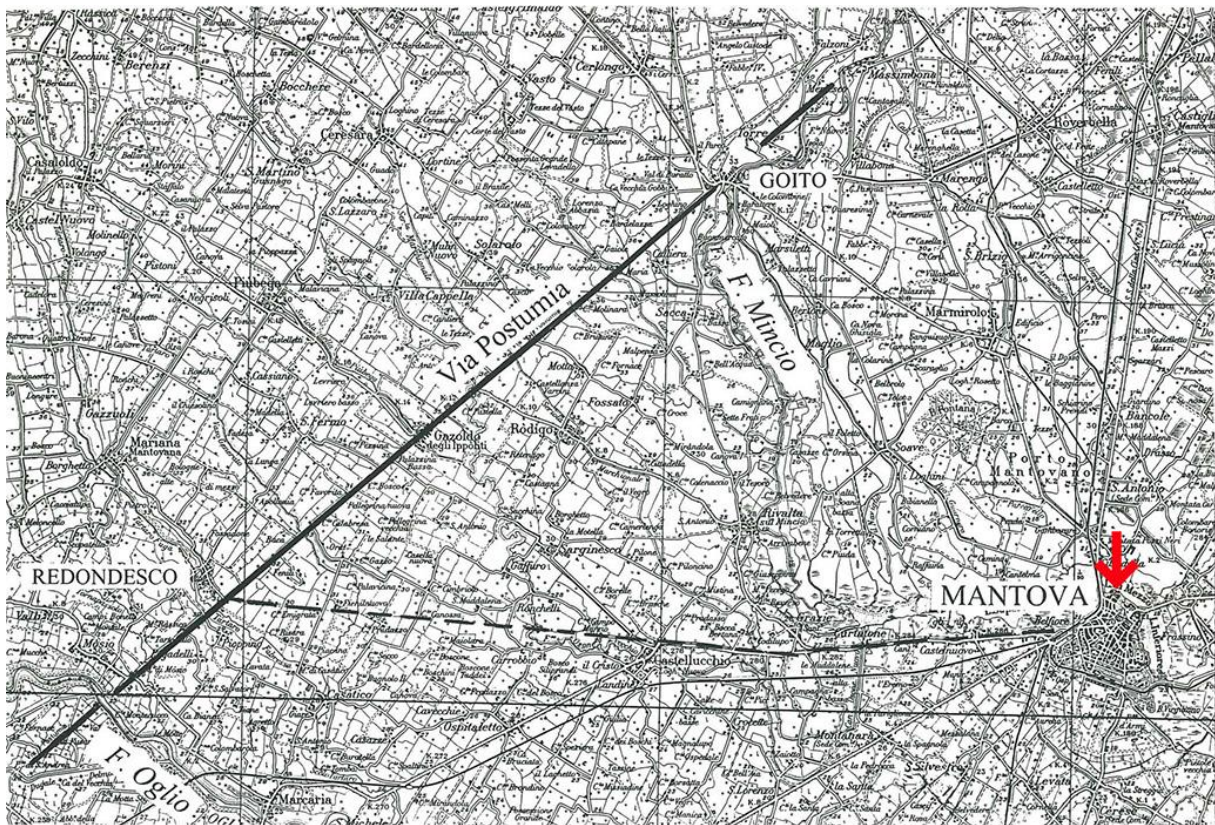


Fig. 2. Via Postumia and Mantua (A. Mosca).

There is only one author who mentions the Adige as a navigable route, even if for a short stretch on the plain,<sup>11</sup> but its course must have been entirely naviga-

<sup>9</sup> Strabo 4, 6,1–12.

<sup>10</sup> See the observations on the location of the archaeological finds (above all amphorae) in the Bolzano hydrographic basin in A. Mosca, *Il complesso sistema stradale alla base delle Alpi centro-orientali*, *RTopAnt* 29, 2019, 171–230 especially 185–186. 204.

<sup>11</sup> Ven. Fort. laud. Mar. 4,678.

ble, as evidenced by numerous data. In fact, various stone materials were transported on the river: the stones and marbles of the upper and middle course of the Adige, the trachyte of the Euganean hills.<sup>12</sup> Trachyte seems to attest to the possibility of carrying out transport on the river from the protohistoric age until at least the 2<sup>nd</sup> cent. A.D. The course of the riverbed is not certain: in the Alpine part it has been shown that the river course has been rectified; in the final part of the plain the Adige has changed course.<sup>13</sup> The Adige represented, together with the Po and the major tributaries of the Po, especially the Mincio and the Ticino, the main route of penetration from the Adriatic into the interior of the Po Valley and from this to the Alpine passes. It is sufficient to think of the key role played near the Mincio river first by the Forcello and then by *Mantua*, not far away from the *via Postumia*: the Roman road dated back to the 2<sup>nd</sup> cent. A.D. passed indeed further north of the city (Fig. 2).

### 1.3. The other watercourses: the Tartaro, the Piganzio, the Tione (Fig. 3a)

We know that in ancient times the Tartaro was navigable and was used for the transport of goods or people from the inner areas nearby Verona to the Po. It reached as far as the territory of Adria. It has been possible to reconstruct at least a stretch of a Roman road in the territory of Gazzo Veronese (Fig. 3 b). But settlement in Gazzo Veronese is supposed to date back to the pre-Roman era.<sup>14</sup>

<sup>12</sup> A. Mosca, Marble and stones used in central eastern Alpine area and in the northern area of Benacus: topographical reconstruction of trade routes and aspects of use in the Roman era, in: P. Pensabene – E. Gasparini (eds.) *Interdisciplinary Studies on Ancient Stone. ASMOSIA X. Proceedings of the Tenth International Conference of ASMOSIA. Association for the Study of Marble and other Stones in Antiquity*, Rome, 21–26 May 2012 (Roma 2015) 575–584.

<sup>13</sup> The Adige broke away just north of Bonavigo and proceeded eastwards. It touched the territorial district of Este and headed towards the lagoon area of Chioggia, where it flowed into a northern branch of the Po. The river fluctuated between different riverbeds: R. Peretto – E. Zerbinati, *Il territorio polesano*, in: G. Cavalieri Manasse (ed.), *Il Veneto nell'età romana 2* (Verona 1987) 279–283; A. Mosca, *RTopAnt* 33, 2023, 190. On the situation between the Roman and post-antique periods: G.P. Brogiolo, *Paesaggi storici dei Colli Euganei e della pianura padovana tra età romana e medioevo*, in: G. P. Brogiolo (ed.), *Este, l'Adige e i Colli Euganei. Storie di paesaggi* (Quingentole 2017) 9–24.

<sup>14</sup> The hydronym *Tartarus* is mentioned in Plin. nat. 3,121 and in Tac. hist. 3,9. On the course of *Tartarus*, see R. Peretto, *Ambiente e strutture antropiche nell'antico Polesine*, in *L' Antico Polesine: testimonianze archeologiche e paleoambientali* (Rovigo 1988) 21–100; C. Balista, *Dal Po di Adria al fiume Tartaro. Trasformazioni paleoidrografiche tra l'età del Bronzo e l'età del Ferro*, *Padusa* 49, 2013, 159–192; A. Mosca, *RTopAnt* 33, 2023, 191. There are numerous archaeological data relating to settlements along the *Tartarus* which range from the Recent Bronze Age to the Iron Age and then to the Roman era and to Post-Antique period. L. Salzani, *Tombe protostoriche dalla necropoli della Colombara (Gazzo Veronese)*, *Padusa* 37, 2001, 83–132; A. Vanzetti – M. Bertoldo – F. Di Maria – D. Monti – L. Salzani – F. Sac-

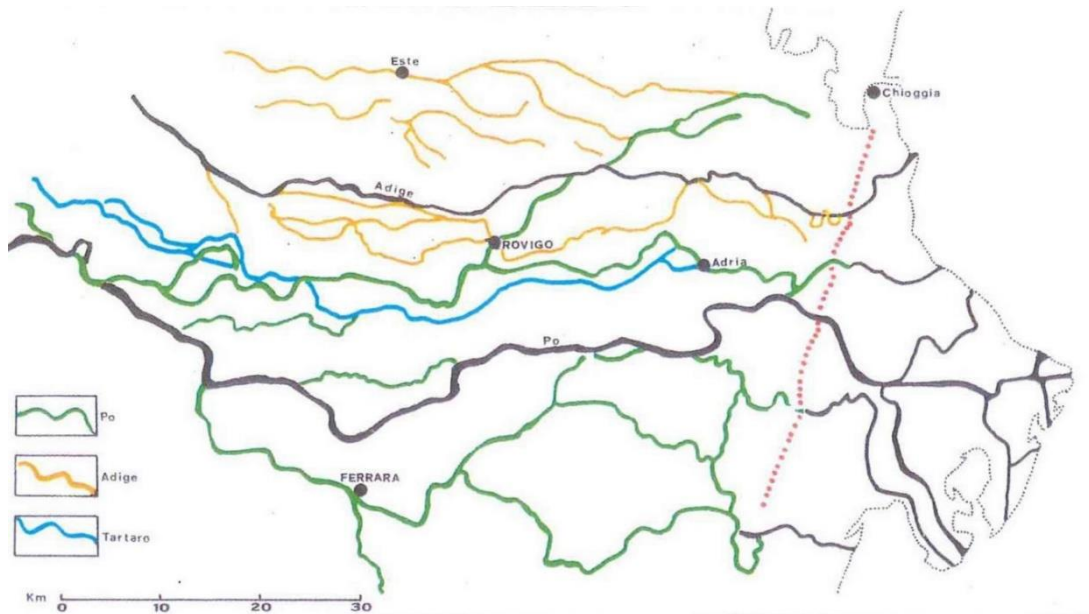


Fig. 3a. Hydrographic situation in the Po Valley towards the Adriatic Sea.- R. Peretto - E. Zerbinati, *Il territorio polesano*, in: G. Cavalieri Manasse (ed.), *Il Veneto nell'età romana* 2 (Verona: Banca Popolare di Verona 1987) 269-283.

coccio, Coazze near Gazzo Veronese, on the Fringes of Veneto and Etruria Padana, NE Italy, in: L. Zamboni - M. Fernández Götz - C. Metzner Nebelsick (eds.), *Crossing the Alps* (Leiden 2020) 171-190; L. Salzani - M. Morelato, *I Veneti antichi a Gazzo Veronese. La necropoli della Colombara* (Quingentole 2022). It was proposed that Coazze in the 6<sup>th</sup> cent. B.C. was a settlement of about 61 ha., it extended north-south along the resurgence rivers Tione and Tartaro and that it had long lasting contacts from the Alpine area to the Mediterranean. A crisis for the settlement is thought to have started in the 4<sup>th</sup> cent. B.C. The presence of Celtic materials in the 3<sup>rd</sup> -2<sup>nd</sup> cent. B.C. is elusive. About the territorial district of Gazzo Veronese in Roman times: P. Basso, *Monumenti funerari romani a Gazzo Veronese*, in: *I mille volti del passato: scritti in onore di Francesca Ghedini* (Roma 2016) 627-641; P. Basso, *Recherches récentes sur la voie Claudia Augusta*, in: S. Zanni (ed.), *La route antique et médiévale, Scripta Antiqua* 196 (Bourdeaux 2017) 91-108; P. Basso, *Excavations in the north of Italy along the via Claudia Augusta*, in: A. Kolb (ed.), *Roman roads. New evidence. New perspectives* (Berlin - Boston 2019) 402-422; P. Basso - V. Grazioli, *La via Claudia Augusta a Gazzo Veronese*, in: B. Bruno - C. Cenci - P. Basso - P. Grossi (eds.), *Verona e le sue strade: archeologia e valorizzazione* (Sommacampagna 2019) 89-102.- About the possibility of communications through Tartaro: A. Mosca, *RTopAnt* 30, 2020, 161. In the Venetian territorial district, the settlement of Oppeano was also important in trade routes, extending over a long hill not far from the Adige river and bathed by tributaries of the Tartaro. The settlement already existed in the Bronze age: it had an extraordinary development in the Iron Age, reaching an extension of about 80 ha.: A. Guidi - L. Salzani, *Oppeano. Vecchi e nuovi dati sul centro protourbano* (Roma 2008); L. Salzani, *Necropoli dei Veneti antichi a Ca' del Ferro di Oppeano* (Verona), *Documenti di Archeologia* 60 (Quingentole 2018); M. Saracino - A. Guidi, *Oppeano nel Veneto: The proto-urban phenomenon in Veneto: a review of the population dynamics of the settlement of Oppeano* (Verona), in: Zamboni et alii (eds.), *Crossing the Alps* (Leiden 2020) 153-170.



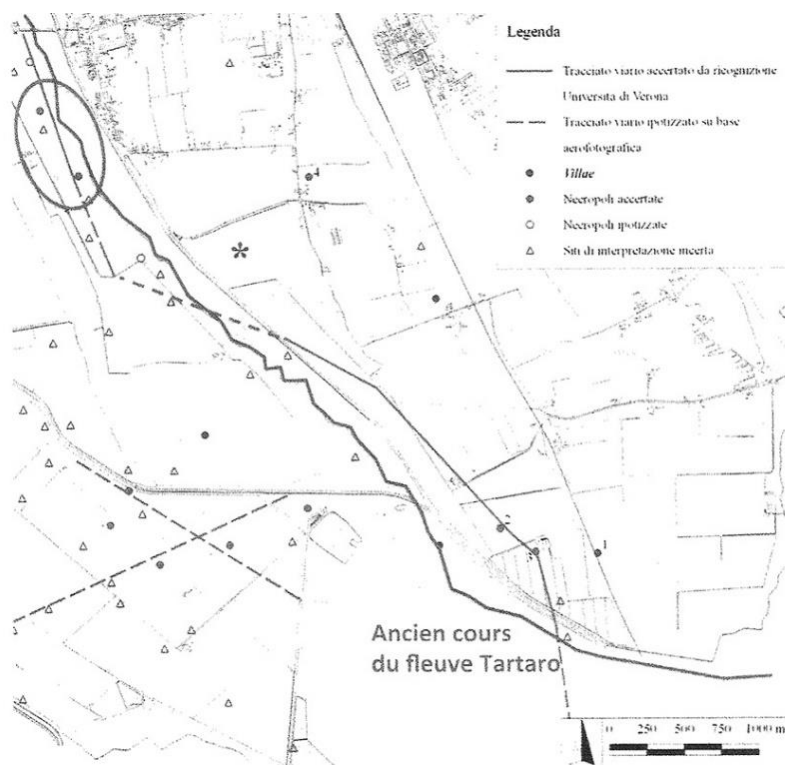


Fig. 3b. Ancient course of *Tartarus* and roads.- P. Basso, *Recherches récentes sur la voie Claudia Augusta*, in: S. Zanni (ed.), *La route antique et médiévale = Scripta Antiqua* 196 (Bordeaux 2017) 91-108.

On the Tartaro there was also a port known in Medieval age as Rovescello (Nogara).<sup>15</sup>

Minor watercourses such as the Piganzio which then flowed into the Po at the current Isola della Scala, and the Tione, which originated from the morainic hills of Garda, cannot be excluded that in some way contributed to the transport of goods through an interaction between waterways and land routes.<sup>16</sup>

#### 1.4. The Adriatic paracoastal fringe in the Po delta area (Fig. 4)

<sup>15</sup> F. Saggioro - N. Mancassola - L. Salzani - C. Malaguti - E. Possenti - M. Asolati, Alcuni dati e considerazioni sull'insediamento di età medievale nel Veronese. Il caso di Nogara (secoli IX-XIII), *ArchMed* 18, 2001, 465-495; A. Castagnetti, Le origini di Nogara (906) fra il re Berengario, il diacono veronese Audiberto, il conte Anselmo e il monastero di Nonantola, in: F. Saggioro (ed.), *Nogara. Archeologia e storia di un villaggio medievale (scavi 2003-2008)* (Roma 2011) 1-50.

<sup>16</sup> C. Cenci - G. Falezza - F. Gonzato, Un tratto di strada tra Hostilia e Verona a Settimo di Gallese, in: Bruno et al. (eds.), *Verona e le sue strade: archeologia e valorizzazione* (Sommacampagna 2019) 103-114.

The paracoastal lagoon fringe was perceived as a unitary system of waters.<sup>17</sup> In the Adriatic paracoastal area, and also in other lowland districts, as shown by the data collected through interdisciplinary research, a system of ditches, *fossae*, had been created to facilitate communications. In this way, connections in an

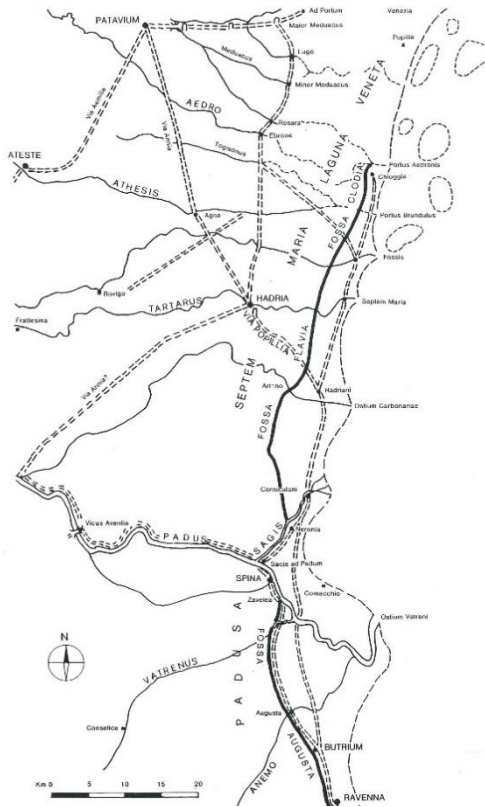


Fig. 4. The north-western Adriatic paracoastal fringe: *fossae* and roads in Roman imperial age.- G. Uggeri, Aspetti archeologici della navigazione interna della Cisalpina, in: Aquileia e l'arco adriatico = Antichità Altoadriatiche 36 (Udine 1990) 175-196.

amphibious environment were made possible. Transport along the waterways could sometimes also be, at least in Roma times, a period in which we have data relating to the methods of transport of goods, facilitated through the *viae heliciariae*, the towpaths, which guaranteed a walkway on the sides of the *fossae*, towing by ropes the boats loaded with merchandise.<sup>18</sup>

## 2. Settlement dynamics

<sup>17</sup> The information on the confluence of the Athesis in the Po delta sector is reported in Plin. nat. 3,121 (*Athesis* and *Meduacus*); Vib. Seq. geogr. 11; Serv. Aen. 9, 67, 6. See also *Tabula* of Peutinger, segm. 3,3-5, 1 (ed. Miller). R. Peretto, Ambiente e strutture antropiche nell'attuale Polesine, in *L'antico Polesine* (Padova 1986) 21-100; C. Balista *Padusa* 49, 2013, 159-192.

<sup>18</sup> Cassiod. var. 12,24,2.



## 2.1. The Bronze Age

Apparently only with the Final Bronze age can we identify large settlements in the immediate vicinity of the two main rivers of Northern Italy (e.g. Frattesina; Coazze and Oppeano, in the settlements preceding the Iron age ones, Montagnana San Zeno). During the Bronze Age the economic conditions probably improved so as to make the control of river navigation towards the Adriatic Sea so advantageous as to overcome the difficulties caused by the risk of floods; maybe there was a favorable paleoclimatic context too. The most recent research has led to consider Frattesina di Fratta Polesine (Fig. 5), in the current district of Rovigo, located on one of the northern branches of the Po, as one of the main centers for river navigation and trade: it was the link between the Adriatic trade routes and the commercial exchanges with continental Asia. It has been hypothesized that from Frattesina was sold the amber that came from trade with the Baltic Sea and north-eastern Europe. Connections with Etruria, transalpine Europe and the eastern Mediterranean converged on this center. In the Final Bronze Age, the town of Frattesina extended in its main nucleus about 21 hectares, but other minor nuclei were connected.<sup>19</sup> The lower course of the Adige was structured in the 9<sup>th</sup> cent. B.C. in forms of territorial organization. The set-

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<sup>19</sup> P. Bellintani, Baltic amber, alpine copper and glass beads from the Po plain. In *Amber trade at the time of Campestrin and Frattesina*, *Padusa* 50, 2015, 111–139; M. Bettelli – M. Cupitò – S.T. Levi – R. Jones – G. Leonardi, *Tempi e modi della connessione tra mondo egeo e area padano-veneta. Una considerazione della problematica alla luce delle nuove ceramiche di tipo miceneo di Fondo Paviani (Legnago, Verona)*, in: G. Leonardi – V. Tinè (eds.), *Preistoria e Protostoria del Veneto. Studi di Preistoria e Protostoria 2* (Firenze 2015) 427–436; M. Baldo – C. Balista – P. Bellintani, *Frattesina di Fratta Polesine: estensione, infrastrutture, definizione di aree funzionali ed evoluzione paleo-idrografica del territorio. Metodologie “a basso impatto” e risultati delle indagini sul campo-anni 2014–2016*, *Padusa* 51–54, 2015–2018, 2018, 7–70; C. Balista, *La posizione geomorfologica dell’insediamento di Frattesina nell’antico Polesine*, in: A.M. Bietti Sestieri – P. Bellintani – C. Giardino (eds.), *Frattesina: un centro internazionale di produzione e di scambio nella tarda età del Bronzo del Veneto*, *Memorie Accademia Lincei* 415, ser. 9, vol. 39, fasc. 1, 2019, 27–37; P. Bellintani – M. Baldo – C. Balista, *Principali caratteristiche morfologiche e strutturali del sito*, in: Bietti Sestieri et al., *Memorie Accademia Lincei* 415, ser. 9, vol. 39, fasc. 1, 2019, 15–26; M. Pearce, *Frattesina e la prospettiva europea*, in: Bietti Sestieri et al., *Memorie Accademia Lincei* 415, ser. 9, vol. 39, fasc. 1, 2019, 339–351.

tlement of Montagnana San Zeno which overlooked the Adige River extended approximately 65 hectares (Fig. 6).

Inside, large craft areas have been identified, which can be connected to workshops for the preparation of ceramics. The numerous casting matrices also prove the active presence of foundry artisans in contact with those of Frattesina and, since the 9<sup>th</sup> cent. B.C., with the mid-Tyrrhenian environment. The settlement of Montagnana Borgo San Zeno came to an end during the 8<sup>th</sup> cent. B.C. Natural events have certainly contributed to this fall, connected with the repeated floods of the Adige. Between the end of the 9<sup>th</sup> and the beginning of the 8<sup>th</sup> cent. B.C. the first necropolises appear in *Ateste*.<sup>20</sup>

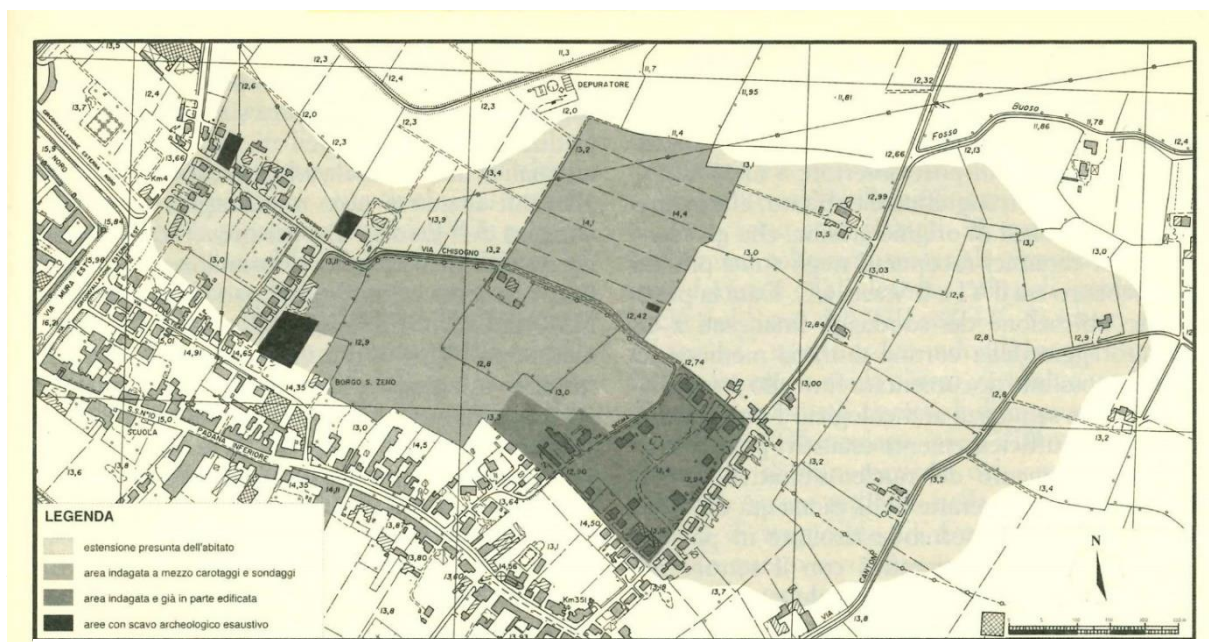


Fig. 6. The settlement of Montagnaga Borgo San Zeno. E. Bianchin Citton – G. Gambacurta – A. Ruta Serafini (eds. ), ... "Presso l'Adige ridente" ... Recenti rinvenimenti archeologici da Este a Montagnaga (Padova 1998).

<sup>20</sup> L. Malnati, ... "Presso l'Adige ridente" ... un millennio di storia tra Montagnana ed Este", in: E. Bianchin Citton - G. Gambacurta - A. Ruta Serafini (eds.), ... "Presso l'Adige ridente" ... Recenti rinvenimenti archeologici da Este a Montagnana, (Padova 1998) 9-12. The discovery of a contemporary settlement to that of Montagnana in Caorle-San Gaetano, in a strategic location controlling the Lagoon, indicates that the populations of Veneto were strongly interested in controlling the coastal and intra-lagoon maritime routes at that time: A. Pellegrini - A. Asta, Evolution of the coastal landscape in Eastern Veneto: new data from preventive archaeology, in: L. Bonora - D. Carboni - M. de Vincenzi (eds.), Eighth International Symposium Monitoring of Mediterranean Coastal Areas. Problems and Measurement Techniques (Firenze 2000) 117-126 especially. 119-120.

## 2.2. The period of Greek maritime hegemony and relations with Etruria

The importance of waterways seems to have increased considerably in the period of Greek maritime hegemony in the Mediterranean and in the Etruscan period, when the ports of Adria and Spina became a sort of emporium between the Mediterranean and the more inland areas.<sup>21</sup> Archaeological data indicate that in the upper Adriatic area Adria, Spina, San Basilio, at the end of the 6<sup>th</sup> cent. B.C. became ports at the mouth of navigable waterways (Figs. 7a-b). Even the port of Altino, located further north, was already active at the end of the 6<sup>th</sup> cent. B.C., as documented by the materials inside a stipe, attesting to commercial contacts from the Greek area, *Magna Graecia* and the Etruscan and Celtic areas. Ports are particularly important, as they were connected by waterways with the inland areas of the plain, where goods could be redistributed quite easily.<sup>22</sup>

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<sup>21</sup> L. Braccesi, *Hellenikos kolpos. Grecità adriatica*, Hesperia 13 suppl. (Roma 2001); R. C. De Marinis, *Il Forcello nel quadro dell'Etruria padana*, in: R.C. De Marinis – M. Rapi, *L'abitato etrusco del Forcello di Bagnolo San Vito* (Mantova). *Le fasi di età arcaica* (Firenze 2007) 265–270.- At Adria recent excavations at 5 meters below the surface have revealed a sector of the ancient settlement from around the mid 6<sup>th</sup> cent. B.C. providing significant information on the Etruscan town. The construction techniques and the materials are suitable for the control of a humid environment, near a relict paleo-channel of the Po di Adria and a secondary Po Valley branch corresponding to the current via Retratto, which guaranteed a connection with the sea and hinterland. The orientation of the structures corresponds to that found in other sectors of the ancient town, testifying to a regular urban layout, which was also maintained in the later stages and into Roman times. The rationally planned urban layout gives Adrias the characteristics of a foundation town rather than a cluster of houses (the Polis Adrias mentioned by Hecataeus of Miletus): S. Bonomi – M.C. Vallicelli – C. Balista, *Data from the Etruscan Settlement of Adria: new excavations in via ex Riformati* (2015–2016), in: L. Zamboni et alii (eds.), *Crossing the Alps* (Leiden 2020) 193–205.- On Spina see: G. Uggeri, *Topografia e urbanistica di Spina*, *Studi Etruschi* 42, 1974, 69–97; N. Alfieri, *La ricerca e la scoperta di Spina*, in F. Berti – P.G. Guzzo (eds.), *Spina, storia di una città tra Greci ed Etruschi. Catalogo della Mostra* (Ferrara 1993) 2–19; S. Patitucci Uggeri, *Spina. Topografia e urbanistica: una revisione*, *RTopAnt* 25, 2015, 63–90; S. Patitucci – G. Uggeri, *Spina. Topografia, urbanistica: un aggiornamento*, in: *Atti dell'Accademia delle Scienze di Ferrara* 94, 2016–2017, 181–220; G. Uggeri, *Spina in età romana*, *RTopAnt* 30, 2020, 203–238; C. Reusser, *La forma urbana*, in: Desantis et al. (eds.), *Spina etrusca. Un grande porto nel Mediterraneo* (Roma 2023) 319–342.

<sup>22</sup> M. Tirelli, *Il porto di Altinum*, in *Strutture portuali e rotte marittime nell'Adriatico di età romana = Antichità Altoadriatiche* 46 (Trieste 2001) 295–316; G. Gambacurta, *Altino preromana* (VIII–IV secolo a.C.), in: M. Tirelli (ed.), *Altino Antica. Dai Veneti a Venezia* (Venezia 2011) 54–61.

### 2. 3. The Gallic and Roman periods

Since 380 B.C., the Po Valley has been inhabited by the Gauls. The commercial contacts therefore changed. The example of the settlement along the Mincio is emblematic: the course of the Mincio was controlled by Etruscan settlements. These centers, following the invasion of 390 B.C. were surrounded by Gauls Cenomani who assumed control of the watercourse from Rivalta upwards (Fig. 8a). The archaeological data available so far in Spina obtained from the study of ceramics document an intense activity of production and sale of local ceramics between the 4<sup>th</sup> and 2<sup>nd</sup> cent. B.C. This increase in the activity of local kilns has been related to the decrease in imports from Attica. The data collected show that painted pottery was spread locally towards Este and Altino, as well as grey pottery.<sup>23</sup> Between the 3<sup>rd</sup> and 2<sup>nd</sup> cent. B.C., inland navigation became a fundamen-

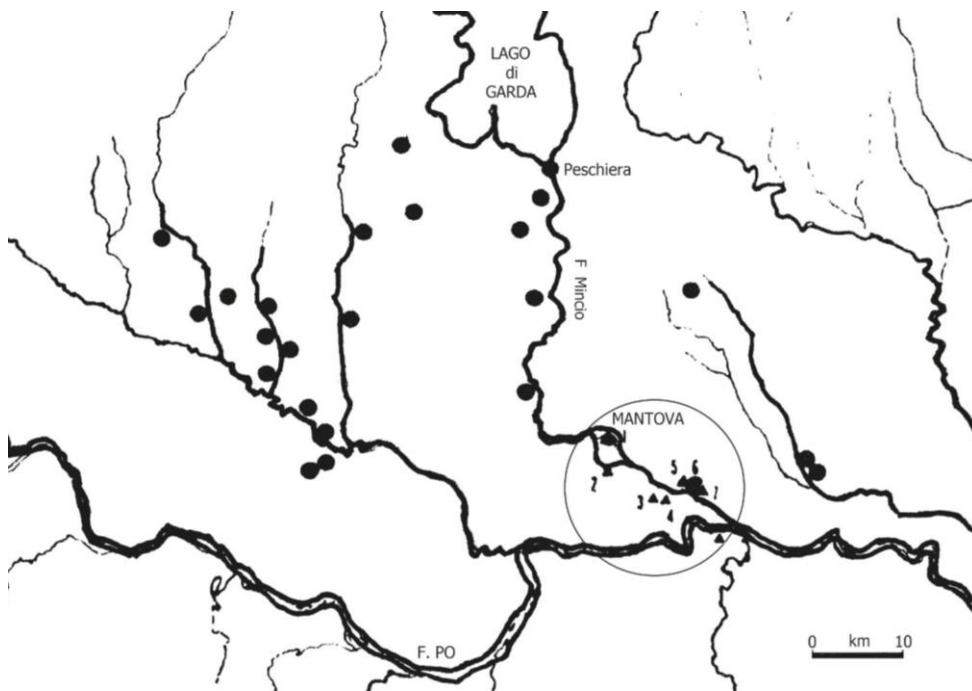


Fig. 8a. Along the Mincio: Etruscan settlements (triangles) and Cenoman settlements (circles).- R. De Marinis, Problemi e prospettive della ricerca protostorica nel Mantovano, in: *Gli Etruschi a nord del Po. Atti del Convegno. Mantova 4-5 ottobre 1986* (Mantova 1989) 24-47.

<sup>23</sup> R. de Marinis – S. Casini – M. Rapi, Il basso corso del Mincio nel IV e III secolo a.C., in: E. Govi, *Il mondo etrusco e il mondo italico di ambito settentrionale prima dell'impatto con Roma (IV-III sec. A.C.)*. Atti del Convegno Bologna 28 febbraio – 1 marzo 2013), Biblioteca Studi Etruschi 57 (Roma 2015) 437-467; S. Patitucci Uggeri – G. Uggeri, Le vie d'acqua nell'Etruria padana e il ruolo di Adria e di Spina, in: *Atti Accademia delle Scienze di Ferrara* 96, 2018-2019, 175-262; S. Patitucci Uggeri – G. Uggeri, Spina tra Greci ed Etruschi. Le ceramiche di produzione locale, *RTopAnt suppl.* 14 (Galatina 2022).



tal tool in the process of Romanization of the Po Valley. The control of the course of the Po, up to about half of its course, was achieved with the foundation of the colonies of Cremona and *Placentia* in 218 B.C.

In the 2<sup>nd</sup> cent. B.C. (Fig. 8b) the environmental situation which in the past had favored the development of the ports of most ancient origin, Adria and Spina, changed (Fig. 9), even if the settlements somehow survive and the port of Adria still maintains its functionality, albeit reduced due to the advance of the coastline and problems of swamping.<sup>24</sup> The foundation of Aquileia in 181 B.C. led to the strengthening of commercial contacts with the Alps area. The gradual consolidation of contacts between the Veneto area and Rome also led to the creation of the road network between the Adriatic port of Aquileia and Rome.

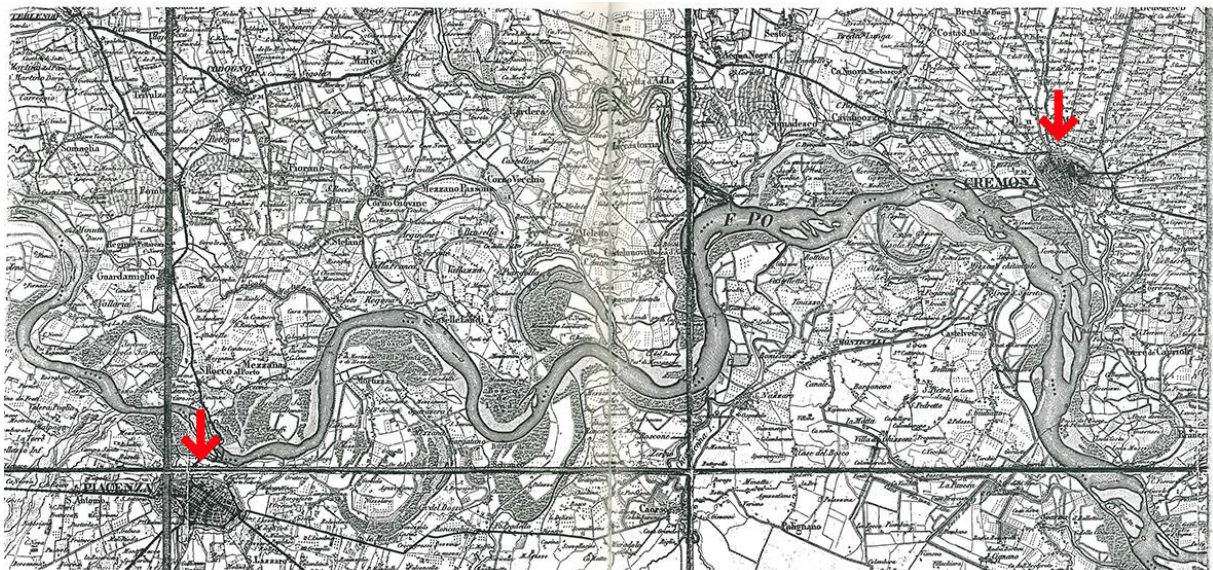


Fig. 8b. Cremona and *Placentia* (A. Mosca).

<sup>24</sup> G. Uggeri, *RTopAnt* 30, 2020, 203–238.



Fig. 9. Spina: plan of the town in relation to modern environmental reclamation.- S. Patitucci-G. Uggeri, Spina. Topografia, urbanistica, edilizia: un aggiornamento, in: Atti Accademia delle Scienze di Ferrara 94, 2016–2017 (Ferrara 2017) 181–220.

In 153 B.C. the direct connection between Roma and the Adriatic area was ensured by the *via Annia*,<sup>25</sup> road which, we can hypothesize on the basis of the route itself which connected centers of Central-Northern Italy that were already important in pre-Romans times, could in part incorporate pre-existing routes which had favored commercial contacts, part of it must have been built *ex nihilo*, following the new political and commercial interests of the Roman republican age and in 148 B.C. by the *Postumia*, the entrenchment road to Piacenza, Cremona and Aquileia passing through Verona, a town which began to gain importance as an urban nucleus thanks to *via Postumia* itself and the Adige river (Fig. 10).<sup>26</sup>

<sup>25</sup> G. Uggeri, La viabilità tra Roma e la Venetia in età repubblicana e la nuova via Annia del 153 a.C., in: Atti della Pontificia Accademia Romana di Archeologia. Rendiconti, 92, 2019–2020 (Città del Vaticano 2020) 3–73.

<sup>26</sup> G. Cera, La via Postumia da Genova a Cremona (Roma 2000); G. Sena Chiesa – E.A. Arslan (eds.), Optima via. Postumia, Storia e archeologia di una grande strada romana alle radici dell'Europa. Atti del Convegno internazionale. Cremona 13–15 giugno 1996 (Cremona 1998).

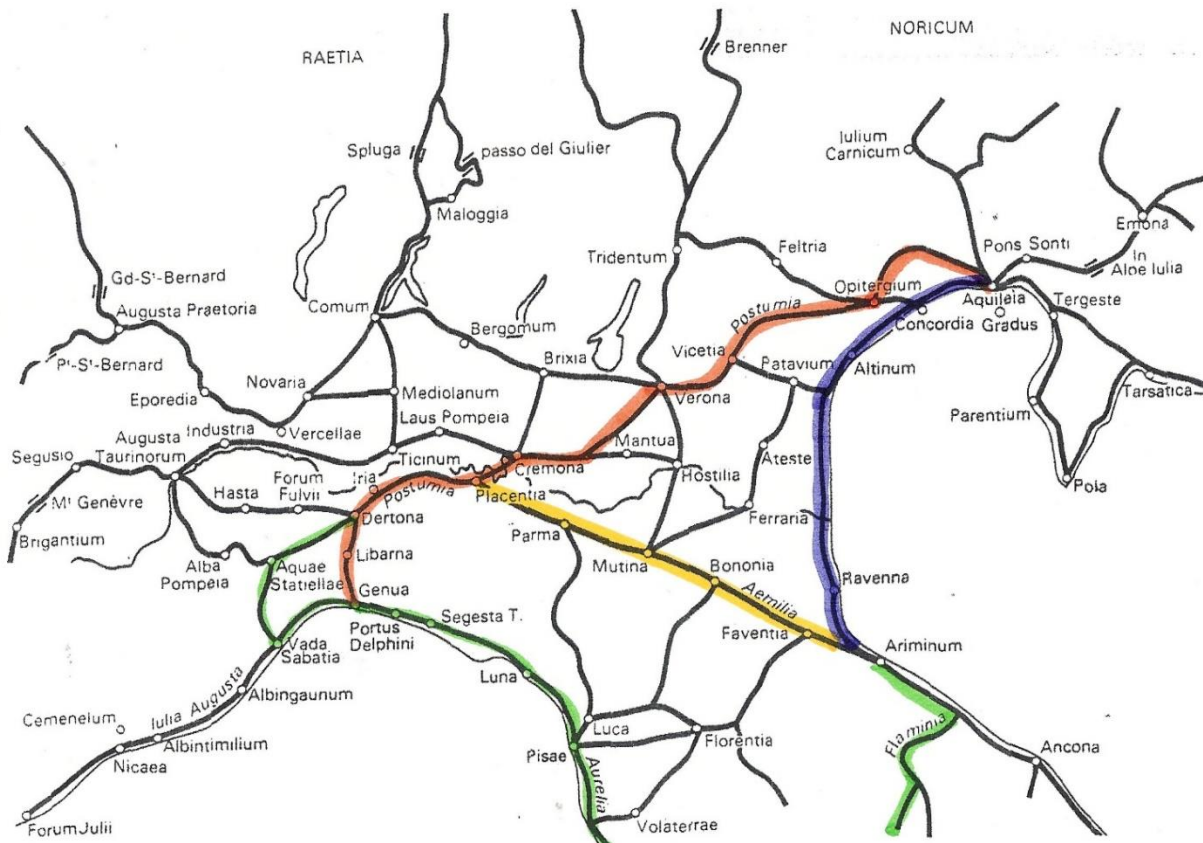


Fig. 10. Major roads (2<sup>nd</sup> cent. B.C.) in Northern Italy (A. Mosca).

With the control of the Alps in the Augustan age, following the wars wanted by Augustus against the in Alpine populations to ensure Rome the possibility of trading with the territories beyond the Alps and of starting an expansionist policy towards the territories beyond the Danube district. Archaeological and historical data suggest a strengthening of the settlements at the base of the Alps and of the infrastructures. The same is true during the reign of Claudius, for the road going up the Adige Valley to the Brenner and Resia passes (Fig. 11).

In parallel with the institution of the *cursus publicus* wanted by Augustus, the road network was improved and the ports of Aquileia, Ravenna, and other ports of the north-western Adriatic, including Altino, were enhanced, also in a strategic function.<sup>27</sup> It was made easy in the pacified territorial districts to carry out

<sup>27</sup> G. Gambacurta, "Et in quem primum egressi sunt locum Troia vocatur" (Liv. I,3). Note sulla topografia di Altino preromana, in: G. Cresci Marrone - M. Tirelli (eds.), *Altino dal cielo* (Roma 2011) 39-57; M. Tirelli, *L'immagine della città dalla ricerca tra terra e cielo*, in: G. Cresci Marrone - M. Tirelli (eds.) *ibidem* 59-80; L. Sperti, *La decorazione architettonica dall'area urbana*, in: G. Cresci Marrone - M. Tirelli (eds.) *ibidem* 95-115; G. Cavalieri Manasse, *Spunti di riflessione sull'urbanistica e l'architettura di Altino*, in: G. Cresci Marrone - M. Tirelli (eds.) *loc. cit.* 175-183.

integrated transports from the Adriatic to the base of the Alps for both commercial and strategic reasons.

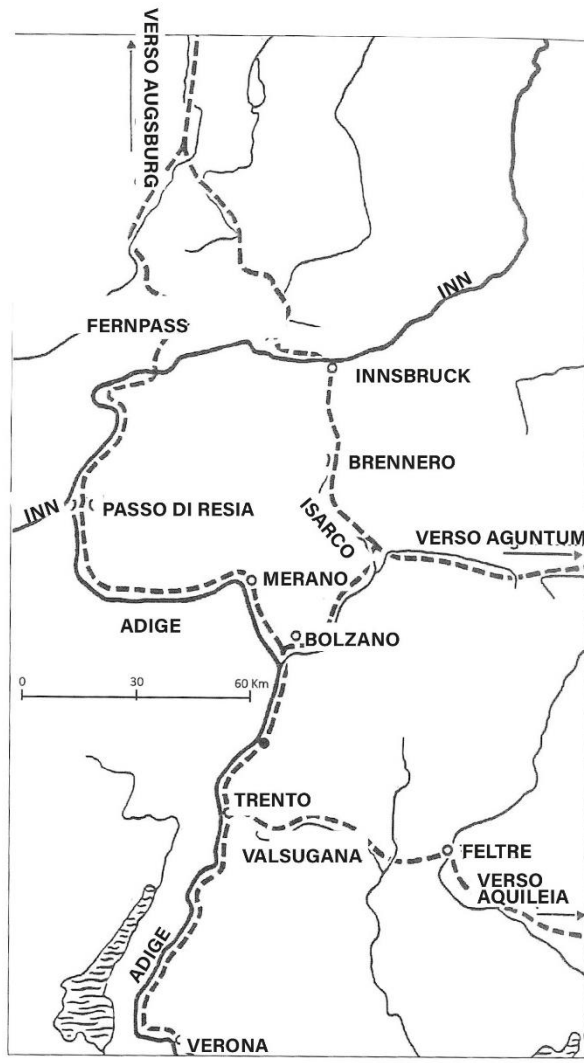


Fig. 11. The Roman road system from the Po Valley towards the Alpine passes: Resia Pass and Brenner Pass.- Mosca 2022, loc. cit. (n. 45).

The integrated system of communications and transport from the north-western Adriatic area to the more inland areas, already partly practiced in pre-Roman times, as shown by the archaeological data, has a significant development in relation to the territorial reorganization promoted by Augustus and the increase in trade (e. g. amphorae, especially 6B, tableware, glasses) and the passage of people. As part of the reorganization process, foundations and refoundations of settlements functional to navigation and viability, construction of *villae* and *vici* were planned.<sup>28</sup> Starting from the end of the 1<sup>st</sup> cent. A.D., but especially in the

<sup>28</sup> A. Mosca, Il complesso sistema stradale alla base delle Alpi centro-orientali, *RTopAnt* 29, 2019, 171-230, e.g. 131-132.



2<sup>nd</sup> – 3<sup>rd</sup> cent. A.D., the flow of goods changed, at least in part, following the progressive increase in the production of manufactured goods in the transalpine Danube and Rhine area, linked to the strengthening of the *limes*. But, the transport of goods from the south continued, as attested, for example, by the transport of amphorae and ceramic tableware from North Africa.<sup>29</sup> Waterways to supplement the land road network continued to be important even when *Mediolanum*, from the end of the 3<sup>rd</sup> cent. A.D., took on the role of capital (286–402 A.D.). In fact, *Mediolanum* was located in the center of a network of waterways and land routes. The importance assumed by Ravenna from the beginning of the 5<sup>th</sup> cent. A.D. would seem to be linked to the strengthening of navigation along the southern branches of the Po, which connected Ravenna with the inland area of the Po Valley, while the waterways, despite the progressive swamping of the canalization works, occurred in the territory of Aquileia, could probably be accessible.<sup>30</sup> The proposal of the Po as a political and administrative border was presented in the 6<sup>th</sup> cent. A.D. during the Gothic war. It was foreseen in a diplomatic agreement, subsequently rejected by Belisarius, that the Goths would keep the territory north of the river and the Byzantines would annex the one to the south.<sup>31</sup> The same pact was proposed two years later, but, it seems, without any agreement.<sup>32</sup>

### 3. Archaeological data: key-settlement between Lake Garda, the Po and the Adige Rivers and the Adriatic paracoastal area.

In the region between the Mincio and the Po, from the base of Lake Garda, some settlements seem to hold a key-position, as they are functional for inland navigation.

Along the *Mincius* river (Fig. 12a), the Etruscan center of Forcello acquired importance during the Iron Age. The site already had an earlier phase. The settlement, located a few kilometers south-west of Mantova, extended between the 6<sup>th</sup> and 4<sup>th</sup> cent. B.C. for about 12 hectares, was characterized by a fully urban structure, surrounded by an embankment. Forcello was founded around 540 B.C. and abandoned in 380 B.C. in conjunction with the advance of the Gauls into Northern Italy and the acquisition of importance of *Mantua*. It had an orthogonal layout with main road axes and minor streets that intersected and de-

<sup>29</sup> A. Mosca, Trento. Dinamiche insediative, ambiente e risorse territoriali, *Agri Centuriati* 21, 2024, 65–91 especially 67–68.

<sup>30</sup> E. Gritti, Ravenna tardoantica: il *Liber pontificalis ecclesiae ravennatis* e le recenti scoperte archeologiche, *Medioevo Adriatico* 4, 2012, 31–44 <https://hdl.handle.net/11562/510349>: Palazzo di Teoderico; Basilica di San Severo; Basilica Petriana; Mura di Ravenna.

<sup>31</sup> Procop. Goth. 2,29,2 (540 A.D.).

<sup>32</sup> Procop. Goth. 3,2,15 (542 A.D.).

limited neighborhoods occupied by both residential and productive buildings. It was located at the confluence of two important traffic routes: the land route that, starting from the cities of inland Etruria, crossed the Apennines and the centers of Marzabotto and Bologna (ancient *Felsina*).



Fig. 12a. Main settlements along the Mincio river: Forcello, Mantua, Arilica (A. Mosca).

The Adriatic sea route which, arriving from the Aegean, exploited the ports of Adria and Spina, and then continued through river routes to the heart of the Po Valley. The inhabitants of Forcello were of Etruscan origin, as evidenced by the locally produced artifacts and the presence of inscriptions with characters of the Etruscan alphabet or with proper names and with formulas of possession that refer to the Etruscan environment.<sup>33</sup> The numerous transport amphorae found (of which it has been possible to recognize at least eight different origins) show that the products of exchange from the Mediterranean trades were mainly represented by wine and oil. The high percentage of amphorae found in all levels of the settlement is unparalleled in any other site in the Po Valley.<sup>34</sup> Trade with the eastern Mediterranean is attested through small polychrome glass containers coming mainly from Rhodes. Imported materials such as Attic ceramics, Greek amphorae (fig. 12b). Paleovenetian, Rhaetian, Golasecchian, and Celtic ornaments of both the Halstatt and LaTene circles are evidence for intense com-

<sup>33</sup> R. C. De Marinis, Il Forcello di Bagnolo San Vito: dalla scoperta allo scavo, in: R.C. De Marinis – M. Rapi, (eds.), *L'abitato etrusco del Forcello di Bagnolo San Vito* (Mantova). Le fasi di età arcaica (Firenze 2007) 25–34; R.C. De Marinis – S. Casini – M. Rapi 2015 loc. cit. (n. 23) 437–467.

<sup>34</sup> R.C. De Marinis, Le anfore greche da trasporto, in: R.C. de Marinis– M. Rapi (eds.), *L'abitato etrusco del Forcello di Bagnolo San Vito* (Mantova). Le fasi di età arcaica (Firenze 2007) 165–201.

mercial traffic with the neighboring populations of Northern Italy, as well as with Greece through the ports of Adria and Spina.<sup>35</sup>

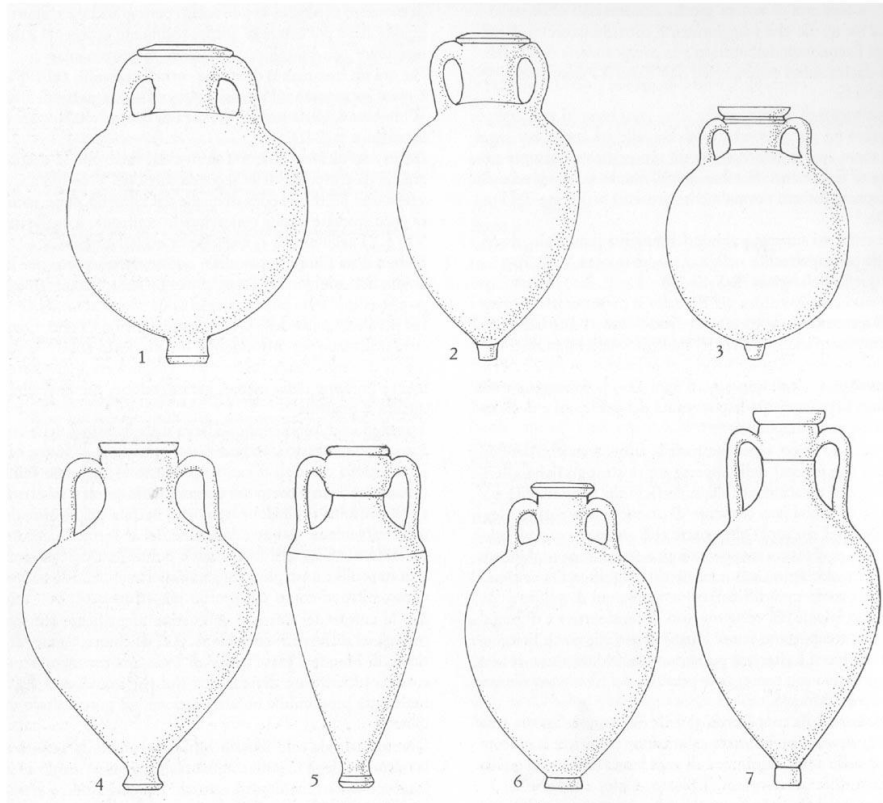


Fig. 12b. Types of amphorae found in the Forcello settlement of Bagnolo San Vito.- R. De Marini, *La ceramica attica del Forcello*, in: *L'abitato etrusco del Forcello. Le fasi arcaiche* (Firenze 2007) 115-130.

In Mantova recent excavations attest to settlement phases ranging from the Bronze Age (excavation of Gradaro-Fiera Catena) to the Middle Ages (excavations of Via Rubens, "Casa Canonici di Santa Barbara"). *Mantua* has been considered a newly founded Etruscan city, together with Marzabotto and Spina (Fig. 13).<sup>36</sup>

<sup>35</sup> R.C. De Marini- S. Casini -M. Rapi, *Il contributo del Forcello alla cronologia della transizione tardo Halstatt- antico La Tène*, in P. Piana Agostinetti (ed.) *Celti d'Italia. I Celti dell'età La Tène a sud delle Alpi. Atti del Convegno*, Bologna 2010 (Roma 2017) 13-41.

<sup>36</sup> Pliny recalls that *Mantua* is the only remaining Etruscan town north of the Po (Plin. nat. 19,130); Vergil explicitly in the *Aeneid* (Aen. 10,198-203) and indirectly in the *eclogae sive Bucolica* (ecl. 9,59-60) recalls its Etruscan origin of *Mantua* by resorting to myth. In the battle against the Rutuli an Etruscan contingent arrives to help Aeneas from *Mantua*. Its guide is the founder of the town, Ocno. Servius (in *Vergilii Carmina Commetarii*, Aen. 10,198) also mentions the Veneti and the Gauls among the populations from which *Mantua* originates. The Etruscan past of the city is evident both for the type of ceramics found and for the various inscriptions. The ancient *Mantua* is located in the northern part of the current his-

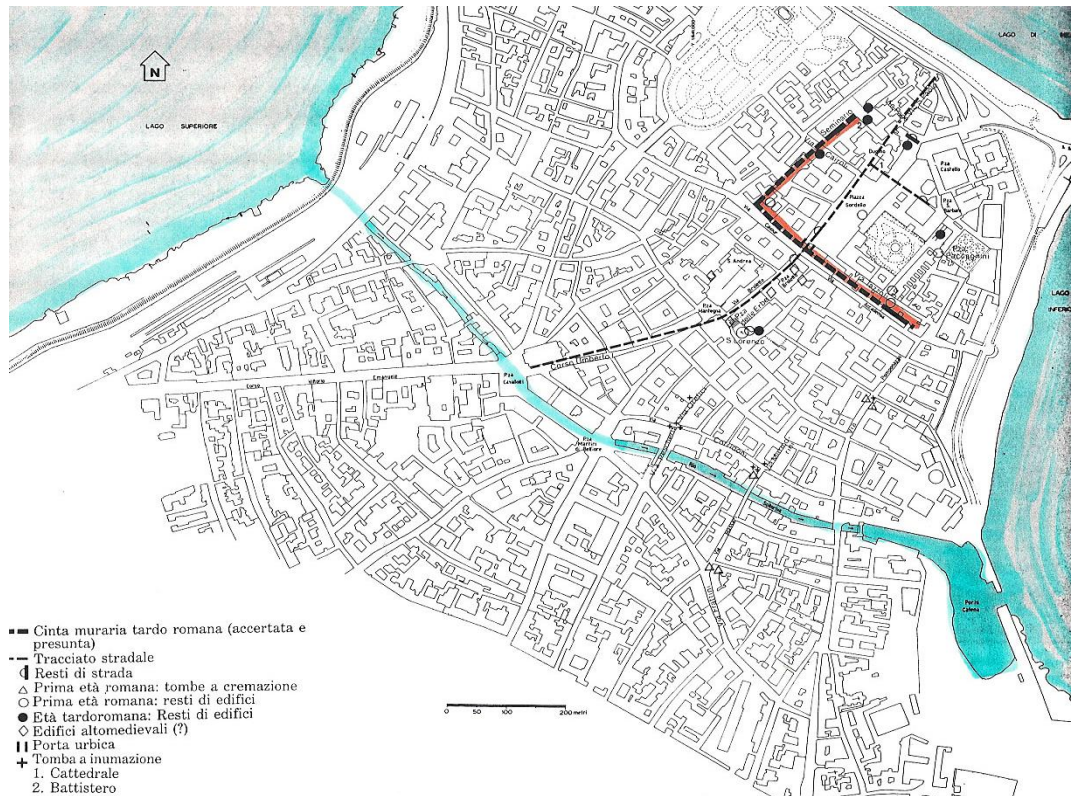


Fig. 13. *Mantua*: supposed plan of the Roman town (reviewed by M.T. Grasso – P. Frontini, Lombardia (Roma 2009) 244 fig. 10.

toric center, on the sandy hills that emerged from the course of the Mincio. Archaeological data suggests that it was inhabited in the 5<sup>th</sup> cent. B.C., but the town must have had an urban layout in the 4<sup>th</sup> cent. B.C. The buildings were made of wood and clay. In the 4<sup>th</sup> cent. in *Mantua* is attested Attic ceramics, amphorae filled with oil and wine from Greece. In the 3<sup>rd</sup> cent. B.C. products arrived from Central Italy, especially from the Etruscan territory (e. g. Volterra black painted ceramics): G. Sassatelli, *La situazione in Etruria padana*, in: *Crise et transformation des sociétés archaïques de l'Italie antique au V<sup>e</sup> siècle av. J. C. Actes de la table ronde de Rome, 19-21 novembre 1987*, CEFR 137 (Roma 1990) 51-100 especially 84-85; A.M. Tamassia, *Mantova. L'organizzazione urbanistica*, in *Milano capitale dell'impero romano, 286-402 d.C.* (Milano 1990) 281-282; A.M. Tamassia, *Le antiche mura di Mantova*, in: *Mura delle città romane in Lombardia. Atti del Convegno* (Como 1993) 145-152 fig. 5; E. Menotti – A. Manicardi, *Mantova e il suo territorio in età tardoantica ed altomedievale*, in: G.P. Brogiolo (ed.), *Gli scavi al battistero di Mantova (1984-1987)*, *Documenti di Archeologia* 34 (Quingentole 2004) 141-162; A. Manicardi, *Mantova: topografia e potenziale archeologico della civitas vetus dalla tarda antichità all'alto medioevo*, *Documenti di Archeologia* 58 (Quingentole 2015). G. Sassatelli, *Spina, l'Adriatico e il Mediterraneo*, in: Desantis et alii (eds.), *Spina etrusca. Un grande porto nel Mediterraneo* 17-19 especially 22.



Etruscan archaeological data from the 5<sup>th</sup> – 6<sup>th</sup> cent. B.C. have also been found in the *Arilica*, Peschiera district, proving that trade in the area at the base of Lake Garda was controlled by the Etruscans,<sup>37</sup> or that commercial relations were very intense.

Situated at the point where the Mincio flowed from Lake Garda, *Arilica*, in Roman period is considered a *vicus*. New data report that the ancient Roman *vicus* has suffered various environmental problems, caused by the recurrence of phenomena linked to the rise of water and the contribution of muddy deposits from the Mincio. In the Roman imperial age, the route called via Gallica was inserted between the buildings. The roadway, obliterated by swamping, was covered with pressed gravel and pebbles. The epigraphic documentation relating to the *nautae* and *navicularii Arelicenses* dated back to the middle imperial Roman age allows us to hypothesize that the settlement, with marked strategic and commercial characteristics and the via Gallica itself, were related to the nearby city of Verona of which *Arilica* could have constituted a port appendix on the lake and on the Mincio.<sup>38</sup> The urban road of *Arilica* was rearranged in the 4<sup>th</sup> cent. A.D., as attested by a milestone by the emperor Giovianus. In the area of Lake Garda the existence of a Roman port of considerable size in the Sirmione area, at the Lugana, is connected to a Roman settlement at the ancient road called via Gallica (Fig. 14 a). This port, dated back to the Roman imperial age (1<sup>st</sup> – 2<sup>nd</sup> cent. A.D.), was characterized by wooden piles fixed into the lake bed and arranged in a semicircle. Also a dock for mooring at Padenghe is attested (Fig. 14 b).<sup>39</sup>

<sup>37</sup> S. Casini – R. De Marinis – P. Frontini, Ritrovamenti di V e IV secolo in territorio mantovano, in *Gli Etruschi a nord del Po* (Udine 1986) 124–130 especially 129 n. 22.

<sup>38</sup> B. Bruno, Peschiera del Garda: scavi recenti nel vicus di *Arilica*, *QuadAven* 16, 2000, 78–83; B. Bruno – F. Meloni, La via Brescia-Verona “Via “Gallica”: gli scavi a Peschiera del Garda, in: B. Bruno et alii (eds.), *Verona e le sue strade: archeologia e valorizzazione* (Sommacampagna 2019) 129–144. See also A. Mosca, Navigation on Lake Garda from Antiquity to the Middle Ages, in: G. Huber-Rebenich – C. Rohr – M. Stolz (eds.), *Wasser in der mittelalterlichen Kultur / Water in Medieval Culture* (Berlin – Boston 2017) 193–205.- The port of Hostilia became the seat of the *dromonarii* to make transport from Ravenna along the Po easier: Cassiod. Var. 3,31.in the Middle Ages, fossae in the territory of *Hostilia* connected the Po with the more internal plain areas. The presence of *fossae* is remembered within the woodland landscape in the 9<sup>th</sup> century A.D.: A. Mosca, *RTopAnt* 33, 2023, 186.

<sup>39</sup> G. Massensini, Note sui resti di un antico porto a Padenghe sul Garda, *Benacus. Museo archeologico della Val Tenesi* 1, 1973, 43–49; L. Fozzati – M. D’ Agostino – A. Mosca – M. Tirelli, I porti dell’Italia settentrionale in età romana: fiumi e laghi, in: M. Urteaga – A. Pizzo (eds.), *Entre Mares. Emplazamiento, infraestructuras y organización de los puertos romanos* 2 (Roma 2024) 987–1000 especially 995– 996.

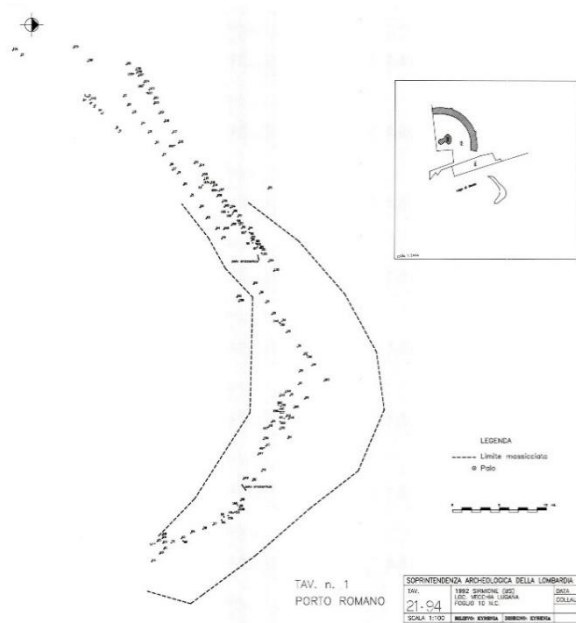


Fig. 14a. Plan of the Roman port of Sirmione.- L. Fozzati et al. *I porti dell'Italia settentrionale in età romana: fiumi e laghi*, in: M. Urteaga-A. Pizzo (eds.), *Entre Mares. Emplazamiento, infraestructuras y organización de los puertos romanos 2* (Roma 2023) 987–100.

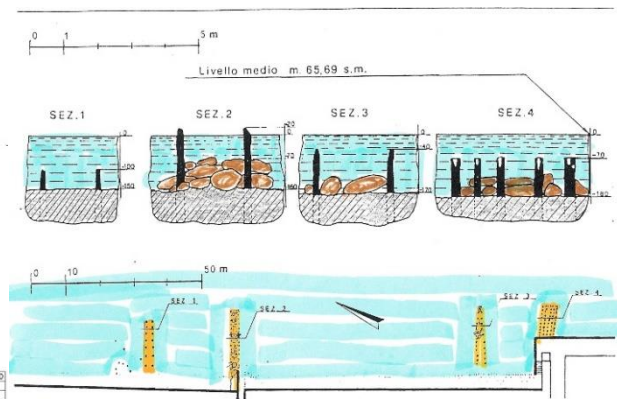


Fig 14b. Padenghe on Lake Garda: Roman dock.- E. Massensini, *Note sui resti di un antico porto a Padenghe sul Garda*, *Benacus, Museo archeologico della Val Tenesi* 1, 1973, 43–49.

*Hostilia* was the terminus from which it was possible to go up the plain from the Po towards the Alpine valleys. The road to the Alps was opened in the Augustan age and it is attested by a series of milestones dating back to the Roman imperial age. In the flat stretch, the transport of heavy goods could be facilitated by the presence of canals that also allowed a towing upstream against the current. The easternmost of the ditches that in the Middle Ages connected the Po with the inland areas of the plain is mentioned as a border reference in the wooded landscape of the low plain in medieval documents.<sup>40</sup> Goods from the western plain could also arrive in *Hostilia*, or in the surrounding area, on the Po. From *Hostilia* a Roman road went in the direction of the Alps (Fig. 15).

<sup>40</sup> On the topographical location of *Hostilia*: A. Mosca, *RTopAnt* 33, 2023, 185. About the flow of goods: G.M. Facchini, *Merci e mercati lungo il fiume Po: Calvatone – Bedriacum e Hostilia, due centri a confronto. Prime osservazioni*, *Quaderni di Archeologia del Mantovano* 2 (Quingentole 2000) 101–112; on the stretch of road between *Hostilia* and Verona: C. Cenci-G. Falezza-F. Gonzato, in: *Verona e le sue strade: archeologia e valorizzazione* (Sommacampagna 2019) 103–114.

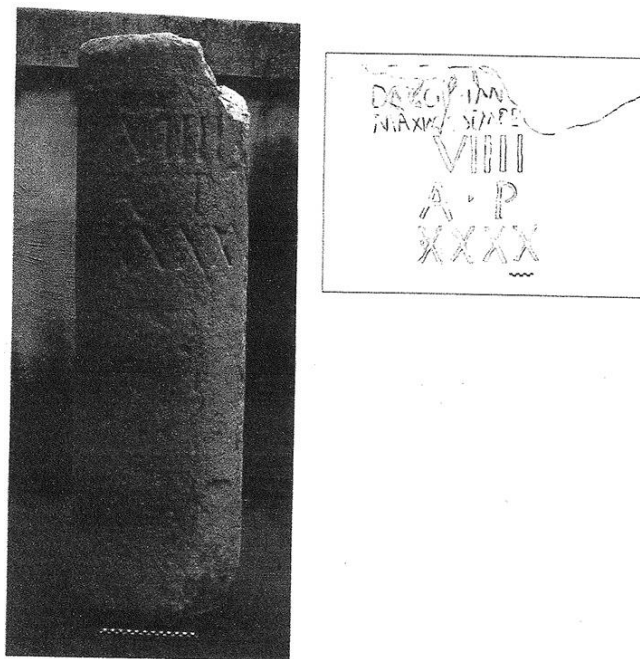


Fig. 15. Milestone (CIL V 8048 = AE 2005, 641) recovered in San Pietro di Cariano along the road from the river *Padus*.- Basso 2017 loc. cit. (n. 14).

The most important Roman centers along the Adige, proceeding from northwest to southeast, were *Tridentum*, Verona and *Ateste*. In the area at the base of the Alps along river Adige, several settlements existed in the Bronze age, but they gained importance in the Iron Age. Among these some were small *emporia*. Such as Settequerce / Siebeneich in the upper course of the Adige, west of Bolzano / Bozen, located in the last navigable stretch of the river.<sup>41</sup> Vadena / Pfatten, a settlement located above a bend of the river where docking was to be facilitated. From Vadena it was possible to reach the more internal areas. The settlement is known by its extensive necropolises. In this stretch of the Adige Valley it seems that a river crossing was possible, since traces of settlements have also been found on the opposite side of the valley.<sup>42</sup> Along the course of the Adige, also in the Trento area, several sites are in direct or indirect contact with the river, proving the control of the road route of the Adige Valley.<sup>43</sup> In the early Roman imperial period, the internal road network was also strengthened, passing from the Po area to the ancient passes, and the road that connected the Val Pusteria with the Adriatic with the territories gravitating around the Adige

<sup>41</sup> C. Marzoli, F. Wiel Marin, Terlan / Terlano. Siebenaich / Settequerce, in *Tutela dei Beni Culturali in Alto Adige 2012–2013* (Bolzano / Bozen 2016) 306–314.

<sup>42</sup> F. Marzatico – U. Tecchiati, *The Bronze Age in Trentino and Alto Adige*, *Preistoria Alpina* 34, 1998, 27–60; L. Dal Ri – P. Gamper – H. Steiner (eds.), *Abitati dell'età del Bronzo e del Ferro. Controllo delle vie di comunicazione attraverso le Alpi* (Trento 2010); C. Marzoli, Laimburg, in *Tutela dei Beni culturali in Alto Adige* (Bolzano / Bozen 2021) 356–358; A. Mosca, *RTopAnt* 30, 2020, 150.

<sup>43</sup> A. Mosca, *Agri Centuriati* 21, 2024, 65–92.

Valley. Several settlements had arisen in the Roman-imperial age along the watercourse in such a position to ensure easy contact with the side valleys. Some sites along the upper course of the Adige were important in the Roman imperial age, in particular the site of Terlano / Terlan west of Bolzano, situated right on an ancient bend of the Adige.<sup>44</sup> One of the customs stations, the *statio Miensis* where the *quadragesima Galliarum* was requested, was located behind this territorial district (Fig. 16a).<sup>45</sup>

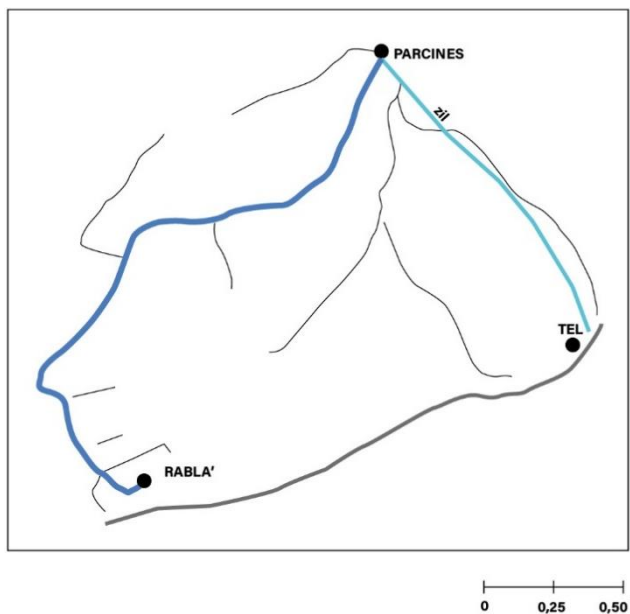


Fig. 16a Topographical reconstruction of the *statio Miensis*, where the toponym Tol is attested.- Mosca 2022 loc. cit. (n. 45).

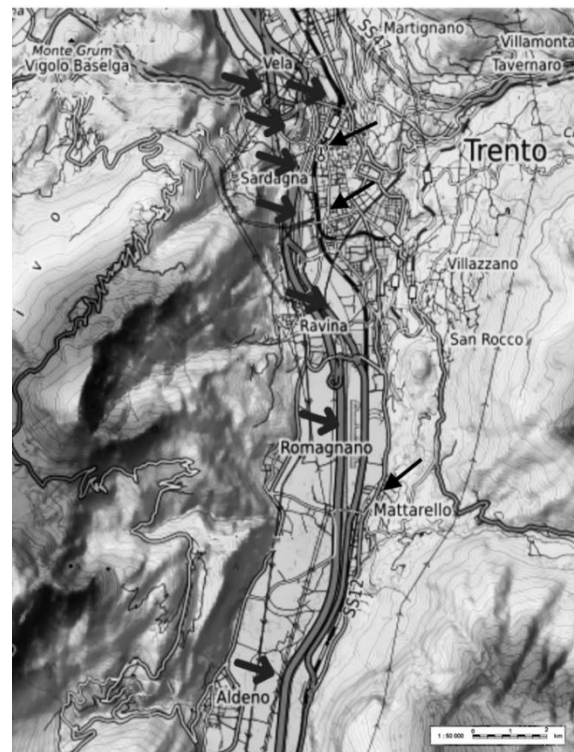


Fig. 16b. Traces of pre-Roman settlements along the Adige in the territorial district of Trento. (A. Mosca).

The Roman city of *Tridentum* stands on the site of Final Bronze age and Iron Age settlements of Rhaetian tradition. At the moment a house dated back to the Iron Age has been found near the river at La Vela, on the right of the Adige, while pre-Roman settlement traces have been identified in several points of the east-

<sup>44</sup> A. Mosca, RTopAnt 30, 2020, 149–159.

<sup>45</sup> A. Mosca, Viabilità in area alpina tra persistenze e trasformazioni, in: M.L. Marchi – G. Forte – D. Gangale Risoleo (eds.), Landscape 2. Una sintesi di elementi diacronici. Crisi e resilienza nel mondo antico (Venosa 2022) 53–63.



ern hill and along the Adige and the Fersina route (Fig. 16b).<sup>46</sup> The urban layout of the Roman *Tridentum* seems to have been organized towards the end of the 1<sup>st</sup> cent. B.C. on a fan formed by the Fersina river and other watercourses, after a complex and invasive regimentation of the waters that had to precede the construction of the urban system typical of the Roman world. The urban Roman layout on the left side of river Adige was surrounded on three sides by water.<sup>47</sup> In the district of *Tridentum* there was an increase in the flow of amphorae in the Julio-Claudian age, which confirms the importance of waterways and transport. These transports seem to continue with a certain frequency until the 2<sup>nd</sup> cent. A.D., but goods and amphorae from Mediterranean trade arrived in the upper Adige district until Late Antiquity.<sup>48</sup>

In Verona pre-Roman and Roman stratifications have been found in Castel San Pietro. Paleovenetian ceramics from the 5<sup>th</sup> cent. B.C. have been recovered on the hill.<sup>49</sup> In an environment of Paleovenetian tradition, Verona began to take on an urban form in the 2<sup>nd</sup> cent. B.C. and, during the 1<sup>st</sup> cent. B.C., in relation to the political and social changes that occurred in the Roman *Transpadana*, presumably when the city began to be a *municipium* starting from 49 B.C., it took on a regular layout within the bend of the Adige. The lines of the blocks of the city founded on the right bank of the Adige are still perfectly legible. In fact, they are the sign of a substantial persistence of the Roman road grid, which has survived the architectural and urban transformations that have not altered its original configuration. The urban plan of the 1<sup>st</sup> cent. B.C. was oriented according to blocks, whose shape is rectangular and with some differences from each other. In Verona, the relationship between the river and the road network is emphasized by the fact that the *via Postumia* converged in the *forum*, perpetuated by the current Piazza delle Erbe, and then passed beyond the Adige presumably by a wooden bridge, parallel to the still standing Ponte Pietra (Fig. 17). The preminent role of the *via Postumia* within the urban center was emphasized

<sup>46</sup> E. Mottes – N. Degasperi, Struttura seminterrata della seconda età del Ferro a La Vela di Trento, *AAIpi* 2014, 210–211. Traces of pre-Roman settlements are attested in Trento both in the urban area and along the roads that led to the side valleys, where artifacts from commercial exchanges dated back from the Iron Age to the entire Roman imperial age are attested: A. Mosca, *Agri Centuriati* 21, 2024, 69–77.

<sup>47</sup> A. Mosca, *Agri Centuriati* 21, 2024, 67.

<sup>48</sup> A. Mosca, *Agri Centuriati* 21, 2024, 68 ss. on the settlement phases of *Tridentum*.

<sup>49</sup> L. Salzani, Castel San Pietro: le documentazioni protostoriche, *Civiltà Veronese* I.2, 1985, 9–14; G. Cavalieri Manasse, Verona. Il caso di una polis megale in Cisalpina, in: P. Sommella – L. Borrelli Vlad – V. Emiliani (eds.), *Luoghi e tradizioni d'Italia 2* (Roma 2004) 21–44; B. Bruno – G. Cavalieri Manasse, Verona in destra Adige prima della fondazione del *municipium*, in *Metalli, creta, una piuma d'uccello: studi di archeologia per Angela Ruta Serafini*, *Documenti di archeologia* 67 (Quingentole 2021) 47–62.

by the presence of the monuments that overlooked, also fountains and arches with functional value and ideological propaganda.<sup>50</sup>

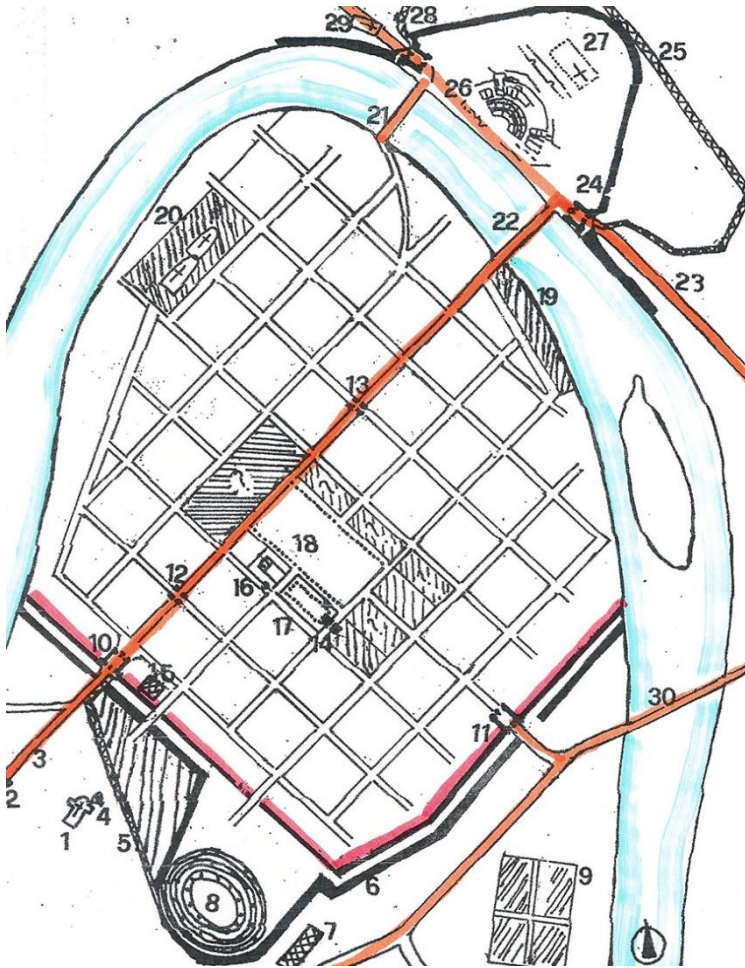


Fig. 17 Verona in Roman times inside the bend of the Adige; *via Postumia* is centrally located.- Reworked from Cavalieri Manasse 1987 loc.cit. (n. 52).

*Ateste* seems to have been founded by *synecism* at the beginning of the 8<sup>th</sup> cent. B.C., when Montagnana San Zeno lost importance. Blocks of Euganean trachyte have been identified in the pre-Roman layers: they are a proof of river

<sup>50</sup> G. Cavalieri Manasse, *La via Postumia a Verona. Una strada urbana e suburbana*, in: E.A. Arslan – G. Sena Chiesa (eds.), *Optima via. Postumia, Storia e archeologia di una grande strada romana alle radici dell'Europa. Atti del Convegno internazionale. Cremona 13-15 giugno 1996* (Cremona 1998) 111-143; G. Cavalieri Manasse, *La via Postumia a Verona "venti anni dopo"*, in: B. Bruno et alii (eds.), *Verona e le sue strade: archeologia e valorizzazione* (Sommacampagna 2019) 59-80. About Arco dei Gavi: B. Bruno, *Verona. L'arco dei Gavi e la Postumia: riflessioni e riletture dei dati per il progetto urbano*, in: *NAVe: Notizie di Archeologia del Veneto* 2 (Firenze 2013) 185-198.

transport.<sup>51</sup> Various archaeological and epigraphic data lead us to believe that it is not a coincidence that in parallel with the stabilization of the military fleet on the northern Adriatic, in the area of Ravenna, the urban layout of *Ateste* was strengthened.<sup>52</sup> The Roman city stands on the site of the ancient Paleovenetian center. In 31 B.C., following the battle of *Actium*, *Ateste* became a colony of former soldiers and its territory was divided for the allocation to the veterans who had fought in that battle. The reasons for this choice are identified in the Roman government's desire to promote the process of integration and the reclamation of the territory. Furthermore, it had evidently been considered important to ensure a stable presence of soldiers and people linked to the emperor in the area of *Ateste*, along the final course of the Adige.

Emblematic within the lagoon fringe, among the small settlements, is for example the situation of two internal settlements, actually on the same intra-lagoon route (Fig. 18). One, in the area of San Basilio of Ariano Polesine, about 40 km south-east of Rovigo, had been identified with the *statio* of *Hatriani*; the other in the area of Corte Cavanella, not far from the Adige River, about 12 km south of Chioggia and about 18 km north of Adria, with the *statio* of *Fossis*. They were located along the same route and were connected to canalization works that allowed contacts both with the Adriatic Sea and with the inland areas. The life cycles of these two Roman settlements go from the end of the 1<sup>st</sup> cent. B.C. to the 5<sup>th</sup> cent. A.D. The site of *Fossis* is mentioned in archival documents with the toponym of Fosson.<sup>53</sup> The existence of a landing place is supposed to be in San

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<sup>51</sup> G. Gambacurta – A. Ruta Serafini, Le necropoli dell'età del Ferro di Este e Saletto, in: E. Bianchin Citton et alii loc. cit. (n. 20) 15–223; A. Ruta Serafini (ed.), *Este preromana: una città e i suoi santuari* (Treviso 2002) 270–275; G. Gambacurta, Relationships between city and necropolis in North-East Italy, in: Zamboni et al. (eds.), *Crossing the Alps* (Leiden 2020) 137–151 especially 143–144 (Este).

<sup>52</sup> In the stretch that Adige crossed *Ateste*, the river divided into two branches: M. S. Bassignano, *Regio X Venetia et Histria*, in: *Supplementa Italica* n. s. 15 (Roma 1957) 11–376 especially 24. E. Baggio Bernardoni, *Este*, in: Cavalieri Manasse (ed.), *Il Veneto nell'età romana* 2 (Verona 1987) 219–234; G. Tosi, *Este romana: l'edilizia privata e pubblica*, in: E. Baggio Bernardoni– G. Tosi (eds.), *Este antica. Dalla preistoria all'età romana* (Este 1992) 357–418; R. Gregnanin, *Ritratto di Augusto da Este*, in: G. Sena Chiesa (ed.) *Augusto in Cisalpina. Ritratti augustei e giulio claudi in Italia settentrionale* = *Quaderni di Acme* 22 (Milano 1995) 105–112; P. Zanovello, *Aqua atestina, aqua patavina: sorgenti e acquedotti romani nel territorio dei Colli Euganei* (Padova 1997); C. Tagliaferro, *Ateste. Indicatori forensi*, in: *NAVe Notizie di Archeologia del Veneto* 2 (Firenze 2013) 177–182.

<sup>53</sup> F. de Bellis, *Un ripostiglio di IV secolo rinvenuto a San Basilio (Ariano Polesine)*, *Padusa* 15, 1979, 174–181; C. Previato, *L'insediamento romano di San Basilio (Ariano nel Polesine, Rovigo): tra ricerche d'archivio e nuovi scavi*, in *Urbanistica, insediamenti e territorio, strade, ricerche sui Monti Aurunci. Atlante tematico di topografia Antica* 34 (Roma 2024) 103–125; L. Sanesi Mastrocinque, *L'insediamento di Corte Cavanella (Loreo)*, *Rovigo, AVen* 7, 1984, 191–198; L. Sanesi Mastrocinque, *Appunti preliminari sull'insediamento di*

Basilio di Ariano Polesine identified in the *statio Hatriani*, as traces of wrecks pertaining to two flat-bottomed boats with the cargo transported were found near the residential building. A quay and a landing along a canal are instead clearly documented at Corte Cavanella di Loreo, the *statio Fossis*. The layout of the villa included rooms, some even heated, joined by porches and a courtyard. Not far from the residential building, traces of wrecks of two flat-bottomed boats containing blocks of pink marble from Valpolicella have been identified.<sup>54</sup> The presence of pink marble from Valpolicella transported by one of the boats is an indication of the trade of stones from the Verona area to the Mediterranean Sea by water transport. The two recovered wrecks have been dated back between the end of the 1<sup>st</sup> and the beginning of 2<sup>nd</sup> cent. A.D.<sup>55</sup>

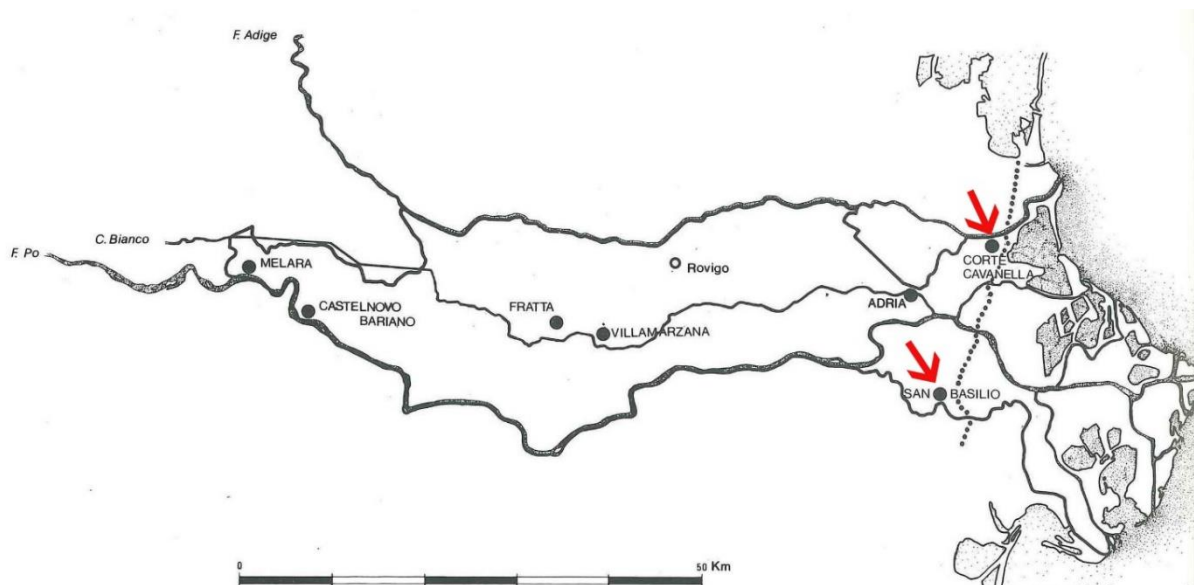


Fig. 18. Position of Corte Cavanella and San Basilio near Adria, along a intra - lagoon trench.- (A. Mosca).

## Conclusions.

At least since the end of the Bronze Age, the paleographic situation attests to a settlement organization that provided for the use of waterways. In fact, the main

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Corte Cavanella (Loreo, Rovigo) e la mansio Fossis. Un problema topografico alla luce degli scavi 1983, *AVen* 6, 1983, 83-92.

<sup>54</sup> U. Dallemulle, S. Basilio (Ariano Polesine). Seconda campagna di scavo, *Padusa* 13, 1977, 113-124 especially 123.

<sup>55</sup> S. Medas, La navigazione lungo le idrovie padane in epoca romana, in: G. Cantoni-A Capurso (eds.), *On the Road: Via Emilia 187 a.C.* (Parma 2017) 155-156 especially 152.



settlement centers recognized at the current state of research are located in close relation to rivers, lakes, and canals. The role of settlements changes in relation to environmental transformations (hydrogeological changes, above all) and the mutated political and economic situations in the Mediterranean area. In Roman times, the communication roads that were opened in the Republican age in the second century B.C. and then in the Augustan age made it possible to increase trade and the movement of people by intercepting the waterways or alongside them. The system of waterway networks intercepting the roads equipped with infrastructure was perfected in the Roman imperial age and lasted, at least in some sections, until Late Antiquity and beyond, exploiting above all the southern ports of the northern Adriatic. With the exploitation of the waterways that crossed the roads starting from the 2<sup>nd</sup> cent. B.C. and which for some stretches followed the previous road system, we note that some centers take on urban dimensions.

In the period of Theodoric, between the end of the 5<sup>th</sup> and the beginning of the 6<sup>th</sup> cent. A.D., the road network was reorganized, the port of Ravenna was strengthened, the fleet was increased and navigation on the Mincio, the Po, and, presumably, on Lake Garda and the Adige was ensured. Strategic controls were also strengthened, in order to guarantee continuity with the previous system.<sup>56</sup> During the 5<sup>th</sup> cent. A.D. and further into the Byzantine era, the *Civitas Classis* took on a key role in trade from the Mediterranean Sea to Northern Italy, up to the base of the Alps.

Therefore, archaeological data prove that the waterways, due to their strategic function, remained in use after the 5<sup>th</sup> cent. A.D. They integrated with land routes, until the great changes, both environmental and, above all, political, no longer guaranteed the conditions for medium and long-range trade. However, military and customs control over waterways and roads was perpetuated, as attested for example by the capitular of Lituprand, referring to a situation between 603 and 643 A.D. and the castles located to control the Adige Valley and the Po Valley branches.<sup>57</sup> These were the rivers of Northern Italy, with the lakes

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<sup>56</sup> A. Mosca, in: G. Huber-Rebenich – C. Rohr – M. Stolz (eds.), *Wasser in der mittelalterlichen Kultur / Water in Medieval Culture* (Berlin – Boston 2017) 193–205.- In Ravenna breakwaters that allowed ships access from the sea were built towards the end of the 1<sup>st</sup> century B.C., but the Classe neighborhood took on the aspect depicted in the mosaic of S. Apollinare Nuovo (6<sup>th</sup> cent. A.D.) only in Late Antiquity. In the Byzantine era, commercial ships could enter the port by following the flow of the tides. The layout of the streets and buildings dates back to the Late Antique-Byzantine period. The ancient city, even if changed, survived as it had a highly developed port function linked to trade.

<sup>57</sup> C. G. Mor, *Un'ipotesi sulla data del "pactum" c.d. Litprandino con i "milites" di Comacchio relativo alla navigazione sul Po*, *Archivio Storico Italiano* 135, 3/4, 1977, 493–502.

and canals connected to them. Since ancient times contributed to facilitating trade and transit of goods from the Po Valley and the Mediterranean Sea to the central-eastern Alpine chain. The landscape, despite the changes caused by the wandering of the rivers had somehow maintained its functionality over a long time. Only towards the end of the 19<sup>th</sup> cent., it was completely transformed. For example, the disastrous flooding of the Adige in 1882 with the subsequent emergency measures adopted, changed the appearance of the city of Verona and other nearby centers which, until then, had an economy characterized by the presence of the river and, consequently, were inserted in a landscape marked by the presence of river landings. The flooding of the Adige and other waterways, the construction of the railway around 1880 transformed part of the Adige Valley and the urban fabric of Trento. The traces that recall the changes that have occurred over time must be documented and protected to reconstruct the settlement dynamics, to highlight the potential of the waterways.

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