Self-sufficiency and Integration in Wider Production/ Exchange Networks at Entella (Sicily) and in its Territory: Continuity and Transformations from the Archaic to the Byzantine Age

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Thanks to 35 years of systematic research at Entella (Contessa Entellina, province of PA, Italy), the SAET Laboratory of the Scuola Normale Superiore (Pisa) can now manage complex data from both excavations in the town and surveys in the surrounding territory, in inland western Sicily.

Since 1983, the Scuola Normale has been carrying out systematic excavations at Entella, a settlement occupied from the Bronze Age to the early Imperial Age, and again in the Middle Ages.¹

In the surrounding area, a systematic intensive archaeological research (the 'Contessa Entellina Survey') was carried out by the Scuola Normale Superiore in the municipal territory of Contessa Entellina, between 1998 and 2004 (fig. 1). The surveyed area is



Fig. 1: The Contessa Entellina Survey. The administrative boundary of the Comune of Contessa Entellina (yellow).

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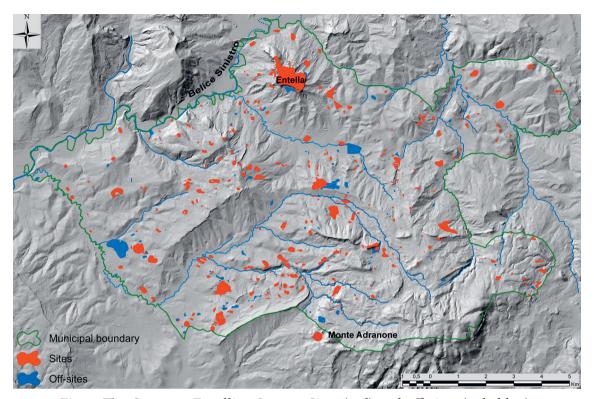


Fig. 2: The Contessa Entellina Survey. Sites (red) and off-sites (pale blue).

136,4 square km; a total of 285 sites, and 152 off-site finds have been identified (fig. 2). Full publication of the results has been published in 2021.²

Cereal cultivation, breeding (sheep and cattle), olive growing and viticulture, together with timber and firewood from the mountains in the southeastern corner represent the typical produce. This is true in modern times, and we may assume that it was the same in the past, with different ratios throughout the centuries. In addition, quarrying of clay and gypsum provided good raw material for ceramic production and for building in Antiquity and the Middle Ages.³ The Belice River and a dense road network favoured local connections and transport facilities to the southern coast and to North Africa.

Within a comprehensive analysis of import/export, we will focus on transport amphorae as markers of commercial trends throughout the centuries. We will also start our investigation from the beginning of the evolution of the main settlement (Entella) into a proper town.⁴

Through the 7th century BC a progressive structuring of settlements took place. Two larger hill sites (Entella and Calatamauro) controlled the other settlements at lower altitudes (fig. 3a).

In the 6th century BC Entella evolved into a real urban centre, with city walls and important public buildings. A good 82 sites are spread around the territory (fig. 3b); the

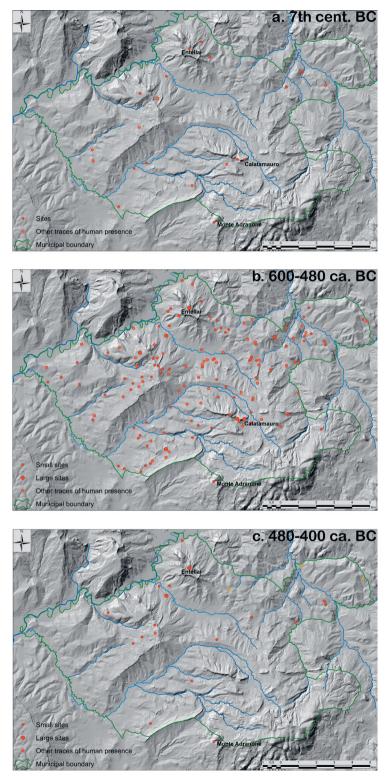


Fig. 3: The Contessa Entellina Survey. Archaic and early Classical settlement.

settlement is also functionally structured, with ceramic production centres around the town.

The first recognisable imports, probably from Selinous, around the end of the 7th century BC, consist of rare B1 cups from Entella and one other site.

Imports increase throughout the 6th century BC and consist of a few fine wares and a dozen amphorae, mainly Corinthian A and western Greek, suggesting commercial relations both with Selinous to the south and Himera to the north⁵. Kilns located around Entella⁶ supply almost all of the ceramic needs both of the town and of the territory with high quality ware, imitating Greek shapes too.⁷

After the first decades of the 5th century BC, a dramatic decline occurs in the number and extension of settlements, as well as in the rest of western Sicily. This crisis is generally connected with the aftermath of the battle at Himera in 480 BC. Only 16 sites survive (fig. 3c), including Entella but not Calatamauro. Ceramics clearly dating to the second half of the 5th century BC are few and consist mainly of black-glazed pottery and three western Greek amphorae. Also at Entella ceramics from the second half of the 5th century are rare.

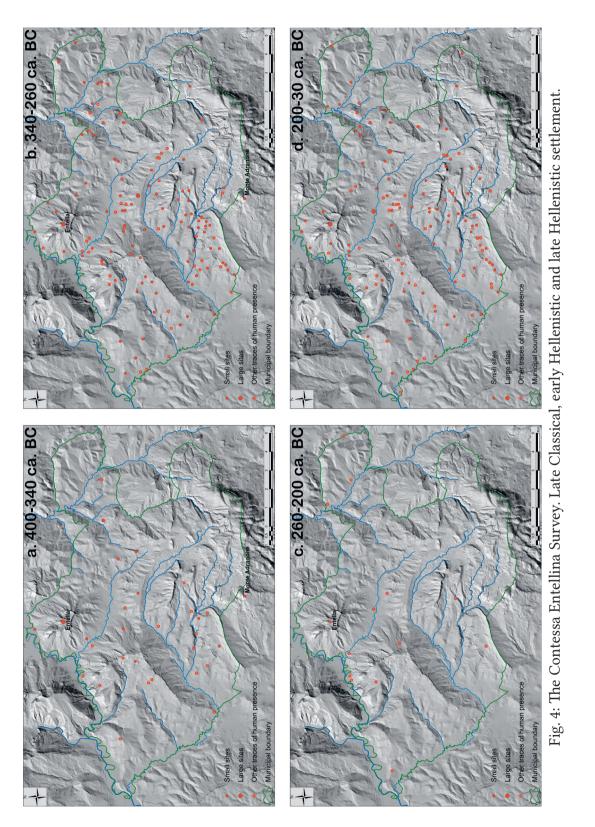
From the end of the 5th to the last quarter of the 4th century BC an upturn in the number of sites (30) can be seen.⁸

Material evidence for the first three quarters of the 4th century BC is evanescent with regard both to quantity and to chronological reliability of ceramics as a whole (fig. 4a): as for commercial vessels, 22 amphorae fragments come from 17 sites, and consist mainly of 'greco-occidentali recenti' (MGS II) and a few Corinthian B amphorae. The Punic amphorae, belonging to types that evolved throughout the 4th century BC, are even fewer.

As for the MGS II amphorae, the recent analysis of a misfired rim fragment from Entella⁹ strongly supports the hypothesis of a local production of MGS II amphorae for local and regional transport and trade. Clay analyses merely prompt us not to exclude a local origin of this container, due to the presence of the same clay layers ('Formazione di Terravecchia') over a wide area in western Sicily.¹⁰

An impressive *floruit* of rural settlements (fig. 4b), together with a considerable growth of the town itself, marks the final period of Carthaginian *eparchia*, from the time of Timoleon to the beginning of the first Romano-Punic War.

As a whole, ceramic assemblages strongly correspond to the Sicilian Hellenistic *koinè*. Punic amphorae (86 fragments) come from 28 sites and 2 off-site finds;¹¹ amphorae of Greek tradition ('a quarto di cerchio', 'a echino', MGS III and MGS IV: 127 fragments) from 36 sites and 1 off-site find; ancient Greco-Italic amphorae (132 fragments) from 36 sites and 3 off-site finds. As a whole, there is a 1:3 ratio between Punic amphorae on the one hand (86), and Greek tradition amphorae or ancient Greco-Italic amphorae on the other (259). This ratio should not be intended as an expression of the success of the two trade circuits, but rather as the different volume of local consumption of specific foodstuffs. This figure is biased by a single site ('148-Piano Cavaliere'),¹² from where



almost half of all the amphorae of this phase come. A deeper insight into the function of this site is obviously needed. Again, possible local containers are found side-by-side with others vessels whose fabrics suggest a Poseidonian/Velian or northeastern Sicilian – southern Calabrian provenance.¹³

Considering the content of the amphorae, nothing can be added to the current hypotheses pointing primarily to wine, olive-oil, fish and fish sauces. Wine is the most probable content of MGS II – MGS III – MGS IV amphorae, partly of possible local provenance as suggested by fabric analyses. ¹⁴ On the other hand, amphorae from southern Campania could testify to a persistent link of Entella with the motherland of the Campanian mercenaries who had settled at Entella at the turn of the 5th century BC. ¹⁵

The central decades of the 3rd century BC witness another dramatic crisis of the settlements both in the town of Entella and in its territory (fig. 4c). Epigraphic documents record a forced abandonment of Entella and its territory, with the town and the countryside remaining empty and uncultivated for several years or decades. The offer of cereals and seeds from several communities to the Entellinians, as recorded in the A1 Entella decree, ¹⁶ testifies to the deep crisis in local agriculture caused by the deportation. Between the second half of the 3rd century and the early 2nd century BC only 9 Greco-Italic amphorae come from 8 sites. These amphorae fragments are the main clue to dating the few sites of this phase.

After the resettlement at Entella, a transition occurred from mere self-sufficiency to an intensive production of cereals, strongly encouraged by Rome. From the end of the 3rd and for the whole of the 2nd century BC, the settlement grows further (fig. 4d). Entella is once more the main political and administrative centre, but its inhabitants progressively move from the town on the plateau surrounded by steep cliffs to the sites in the surrounding plains, within easy reach of roads and water streams.

Ceramic evidence from the town and from the countryside shows a change in the provenance of the amphorae. While local products disappear, and transport amphorae in local fabrics are no longer found, a massive import of wine takes place from the Gulf of Naples and from Tyrrhenian Italy, carried in Greco-Italic and Dressel 1 amphorae. There are 325 fragments of them from 81 sites; much lower in number are the Punic (27 fragments from 10 sites) and Rhodian (8 fragments from 7 sites) amphorae. Other ceramics (table- and kitchenware) show a similar trend, with imports from Campania and the Punic world. As a whole, several sites are larger and yield a more complex ceramic assemblage including e.g. Megarian bowls. 18

A general view of the trend of the presence of the different amphora types throughout the different Archaic, Classical and Hellenistic phases of the rural Entella settlement is shown in this graph (fig. 5).

In the following centuries¹⁹ (late 1st century BC-1st century AD; fig. 6a) the territory yielded 30 Dressel 2-4 amphorae, mainly from the Tyrrhenian area (the same is true for a part of the internal Red Slip Ware, kitchenware and Italic Sigillata, from Puteoli and Etruria). A Sicilian amphora of 'Gallic' type, and a Lamboglia 2 from the Adriatic

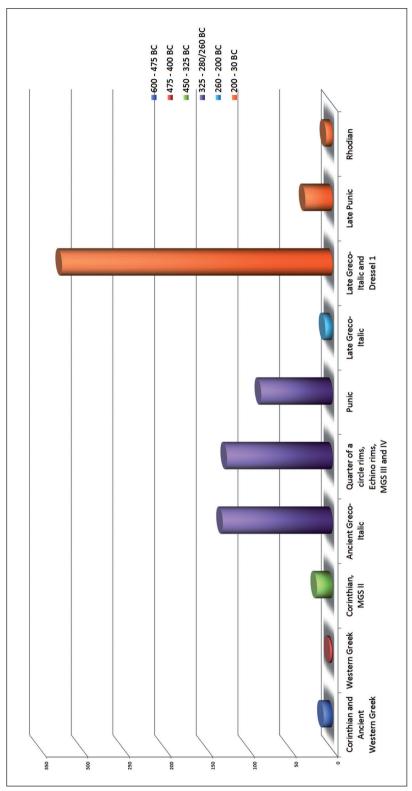


Fig. 5: The Contessa Entellina Survey. Archaic to late Hellenistic amphorae trend.

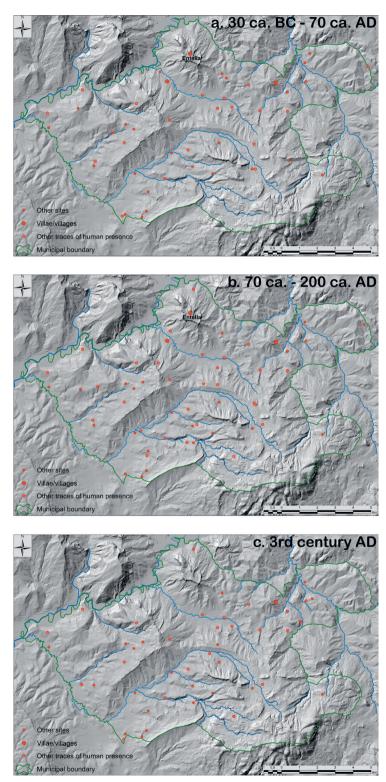


Fig. 6: The Contessa Entellina Survey. Roman early and mid-Imperial settlement (red).

area complete the list of amphorae of this period. These imports hint at a local wine requirement only partially satisfied by local production and integrated by imports, that are in any case less marked than in the late Republican phase. A small number (15 frg.) of Dressel 21/22, some of which are of regional production, testify to the importing of fish or fish sauces from the regional coastal area.²⁰

The same data and proportions are true for the town of Entella, where a decreasing population continues to live throughout the whole of the 1st century AD.

Entella is abandoned in the first decades of the 2^{nd} century AD, but this has no perceptible consequences on the import/export balance in the short/medium run.

In the last decades of the 1st, but mainly in the 2nd century AD (fig. 6b) there is the first appearance of African amphorae (6 items), probably containing olive-oil, wine and *salsamenta*. They testify to a trade with Tripolitania and some areas of Tunisia; their small number hints at an almost complete self-sufficiency of this territory, as suggested by the disappearance of imports from other areas (e.g. the Tyrrhenian area), formerly attested.

The number of African amphorae increases at the end of the 2nd and mostly throughout the 3rd century AD (fig. 6c), with 20 items from Tunisia (wine, olive-oil and *salsamenta*) and 2 from Tripolitania (olive-oil). An isolated exemplar of Kapitän 2 attests to the import of Aegean wine, while there is no trace of imports from Iberia or Gallia, as is usually seen in inner Sicily.²¹

An appraisal of the evolution of the volume of trade of regional wine in the investigated area, as witnessed by amphorae of S. Alessio/Benghazi MR1/Agora M524 type, is hindered by the small dimension of the fragments found, among which only 2 rims can be dated to the end of the 1st-early 3rd century AD. The other 16 fragments, consisting mostly in 'a fiore' handles, can only be dated to the 1st-4th century AD.²²

From the end of the 1st to the 3rd century AD, imports from North Africa, in particular from the Carthaginian region and the Hammamet Gulf, are of considerable volume and precocious with regard to table- and kitchenware, while significantly smaller in volume with regard to items carried in amphorae (fig. 8).²³ This difference hints at a partial self-sufficiency of our territory, where a good deal of olive and wine cultivations still survived.²⁴

Regarding Late Antiquity,²⁵ more than 90% of the identifiable amphorae come from Africa, while only a few are of eastern Mediterranean (LRA 1 and 2), Italian (Keay 52) and Sicilian ("Sicilian type" amphorae) provenance. As well as in the early and middle Imperial age, there is no evidence of local production of transport amphorae within the investigated area.

As well as in the 2^{nd} and 3^{rd} century AD, throughout the 4^{th} century AD (fig. 7a) amphorae are rare, testifying therefore to a local olive-oil and wine production that provided a partial self-sufficiency. Only 30 amphorae can be dated to the 4^{th} century AD, not counting a few amphorae roughly datable to the $3^{rd}-4^{th}$ century AD. Among 4^{th} century AD containers, Africana III B amphorae are well attested (over 20 ex.).

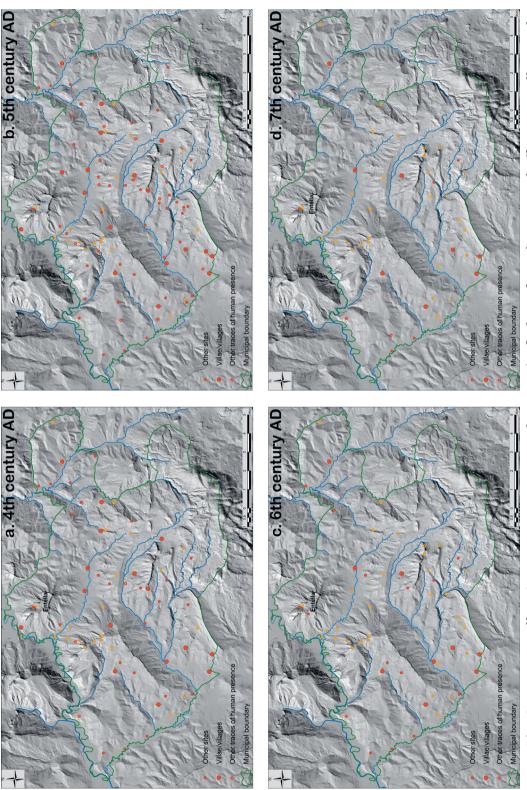


Fig. 7: The Contessa Entellina Survey. Late Antique settlement. The findings from the sites and off-sites in yellow in the map allow only a general chronology 4th-7th cent. AD.

From the first decades of the 5th century AD (fig. 7b) the picture changes dramatically (fig. 8). All over the investigated area, amphorae are abundant and widespread. They consist mostly of Africana III C and *spatheion* 1 (200 items, roughly in a 1:6 proportion), and Keay 35 A and B (the latter attested in 50 exemplars) types, followed by Keay 57, *spatheion* 2A, and other isolated types.

This extraordinary increase is mostly due to African amphorae, containing *salsamenta*, wine and, to a smaller extent, olive-oil. Wine and olive-oil are foodstuffs that the Entellan country could surely yield. The impressive number of 5th century AD imports in the investigated area, therefore, suggests a clear tendency towards a wheat monoculture aimed at export (primarily towards Rome and to the *suburbium*), that probably led to a drop in local olive-oil and wine production, no longer sufficient for the local population.²⁶

Fourth and 5th century AD artefacts, in the investigated area, testify to a market open to imported products, and a strong level of integration in an interregional exchange network. In particular, most of the goods (over 90% of transport amphorae) and vessels (fine-ware, lamps, coarse pottery) come from Africa. The majority of African items could reach Sicily as part of cargoes in ships sailing back to Africa from Rome; but in southwestern Sicily we can add another supplying form (in particular in the 5th century AD), through local navigation from current northern Tunisia to the southwestern coast of the island, as demonstrated by M. Bonifay: a circular trade probably linked to the African demand of peculiar Sicilian goods (sulphur from Agrigentum mines?).²⁷

There is no need to imagine direct contacts between the Entella region and North Africa: African goods probably reached one of the main harbors of southern Sicily and were re-distributed, via coastal navigation, to minor ports, from which they continued up river-valleys and penetrated inland areas.

Saltus and *silvae* exploitation was probably a constant in the economy of the Entella region throughout the centuries. As for the late Imperial age, it reveals a picture of a rather diversified and dynamic economy, and therefore presumably more adaptable to short- and long-term crises and changes.

At present, we lack clues to identify changes in the 6th and 7th centuries AD. There is still a fairly good level of integration in the Mediterranean exchange network.²⁸ Imports from Africa continue up to the end of the 7th century AD, even though we witness a progressive drop, maybe owing to a population decrease, and/or to a reduced and/or socially diversified availability of those goods. The transport amphorae of the 6th and 7th century AD consist mainly of Keay 62 and Keay 61 amphorae, besides most of the Keay 64 and other isolated amphorae types.

At the end of the 5th century AD, a sudden fall in the number of rural sites is detectable in the Entella region (fig. 7b-d). The available data strongly suggest that this dramatic fall was the outcome of systemic transformations of land tenure and exploitation, in the region. This crisis may be connected with the possible development of a tendency towards grain monoculture, detected in our region, as we have seen (but also in other

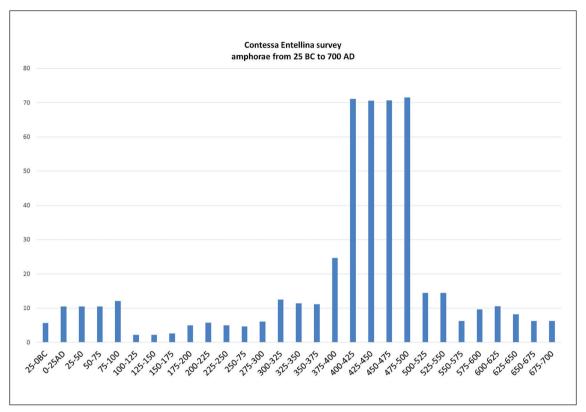


Fig. 8: The Contessa Entellina Survey. Early Imperial to late Roman amphorae trend.

districts of inland Sicily), in the 5th century AD, and to the economic changes affecting the Mediterranean area after the Vandal conquest of Africa (439) and the final interruption of the *annona* from North Africa (455).²⁹

However, any attempt to explain the drastic settlement changes between the 5^{th} and the 6^{th} century AD solely within the framework of grain production, runs the risk of underestimating the complexity of the late antique Sicilian economy, where monoculture tendencies appear to be counterbalanced by crop diversification in private consumption-oriented agricultural production and by a deep-rooted presence of specialized productions. 30

Between the late 5th and 7th century AD the small number of oriental amphorae from the investigated area suggests that the latter reached our territory not directly from the east, but through Africa.³¹ Also the trade with eastern Sicily and southern Italy is definitely smaller than that with North Africa³². Only the Arab conquest of the latter (698: the fall of Carthage) will cause a drastic drop in exchanges between the two shores of the Sicilian Channel.

Notes

- ¹ For a comprehensive bibliography of the research at Entella, see Gulletta 2001. Further, updated literature is in Michelini 2021b, 230–237.
- ² Entella II 2021.
- ³ On ceramic production at Entella from the archaic age to the Middle Ages, and on gypsum quarrying in antiquity on the Entella plateau, Corretti et al. 2017, 67–68, with former bibl.
- ⁴ On the archaic and early Classical age: Serra 2021.
- ⁵ The import of transport amphorae witnesses to a local economy partly open to external trade, and no more self-sufficient and autarchic: for Sicily as a whole Albanese Procelli 2003, 48, 176; Serra in Facella et al. 2019, 239.
- ⁶ Guglielmino 2000.
- ⁷ Montana et al. 2017, with former bibl.
- ⁸ On late classical, early and late Hellenistic ages: Michelini 2021a.
- ⁹ Corretti in Corretti et al. 2017, 79-82.
- ¹⁰ Montana 2011, 48–49.
- ¹¹ From the end of the 4th cent. and for the first 30 years of the 3rd cent. BC, the *emporia* of Panormos and Solous play a relevant role in the increasing circulation of Punic amphorae (probably containing fish) and in the flourishing trade between the Tyrrhenian basin and the Carthaginian *eparchia*: Bechtold 2015a, 68–71; Ead. 2015b, 96–99.
- 12 Michelini 2021b, 563-589.
- ¹³ On the distribution of Velian and Paestan amphorae in western Sicily: Bechtold 2013, 68-80.
- ¹⁴ Corretti Capelli 2003; Corretti et al. 2014.
- ¹⁵ On the role played by Italic mercenaries settled at Entella, and in Sicily as a whole as a Hellenizing factor, and as carriers of artistic influence and trade contacts with the Italian Peninsula within Tyrrhenian mobility, esp. by the end of the 5th cent. BC: Ampolo 2001b, p. XIII; De Vido 2007, 306 and notes, with former bibl.; de Cesare 2006, 434–437, with former bibl.; Michelini in Facella et al. 2019, 241, 247.
- ¹⁶ On cereals at Entella in Hellenistic times Ampolo 2001a; Ampolo 2001b for a general review of the Entella decrees.
- ¹⁷ Corretti et al. 2014, 524-526.
- ¹⁸ Michelini 2021a, 77–79.
- ¹⁹ On early and middle Imperial age Vaggioli 2021.
- ²⁰ At least some of the Dressel 21/22 amphorae show fabrics apparently similar to those produced in the Alcamo kilns (Giorgetti González Muro 2011).
- ²¹ According to present evidence, Sicilian trade with Gallia and Iberia is rather small in volume, and limited to port cities: Wilson 1990, 253, 275; Malfitana Franco 2012, 187–191.
- ²² On wine production in Roman Sicily: Wilson 1990, 191–192; Wilson 1993, 289–290.
- ²³ On the partial autonomy of ceramics trade compared to foodstuff trade: Panella 1986, 445.
- ²⁴ Sicilian productions of wine and olive oil (the latter only for local needs and not for export: Wilson 1993, 290; Malfitana et al. 2013, 423) able to satisfy local consumption are attested in this period also in other districts of western Sicily, e.g. in the territories of Segesta (Molinari Neri 2004, 112–114; Cambi

- 2005, 630–631), Agrigentum (Rizzo et al. 2014, 218), Selinous (Lentini 2010, 211–212), Baucina (Bordonaro 2011, 92), Alesa (Burgio 2008, 251).
- ²⁵ On Late Antiquity (4th-7th cent. AD), see Facella 2021.
- ²⁶ See Facella 2014, 5–6. A similar picture is witnessed in the Agrigentum (Rizzo et al. 2014a, 218), Segesta (Molinari 2002, 334; Molinari Neri 2004, 117–122; Cambi 2005, 632–633), Trapani (Filippi 2003, 502) and Selinous (Lentini 2010, 211–212) regions. For Italy in general, see Vera 1997/1998, 54–55.
- ²⁷ Malfitana Bonifay 2016, in part. 376–381, 409–410. 415–416. 423, 442.
- ²⁸ Similarly to the picture that emerges in the Segesta region (Molinari 2002, 334) and, in general, in inland Sicily (Vaccaro 2013, 281).
- ²⁹ See Facella 2021, 186–193 for a more detailed analysis.
- ³⁰ See Belvedere 2004, 4 and note 31; Rizzo 2010, 290; Molinari 2013, 102. On a clear tendency towards polyculture among ecclesiastical tenants in Gregory the Great's Sicily, see Vera 2006, 449–450. For a brief overview of the economy of rural Sicily in the 7th cent. AD, see Cacciaguerra et al. 2015.
- ³¹ Cfr. Caminneci 2010, 7 and Facella et al. 2014b, 543, both with bibl., and, more in general, McCormick 2001, 107–108.
- ³² Facella et al. 2014a, 534.

Image Credits

Fig. 1: Laboratorio di Storia, Archeologia, Epigrafia, Tradizione dell'antico (SAET), Scuola Normale Superiore (SNS), based on Google Earth image. – Fig. 2–8: SAET, SNS.

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