

All Roads Lead to Veii: Using Networks to Contextualize Etruscan Inscriptions in Anagnia

Connected Past 2025

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Introduction

- A series of Etruscan inscriptions at a Hernican sanctuary in Anagnia provides some of the earliest examples of epigraphic contact between Etruria and Latium
- One inscription has a special epigraphic character (X) with distinct usage in northern and southern Etruria
 - X = /s/ originated in Veii in southern Etruria; X = /t^h/ originated in Clusium in northern Etruria
- The special character in Anagnia has only been interpreted as the Clusium X on linguistic grounds, but the implications of this interpretation on epigraphic mobility and regional connections has not been explored
- Using a broader array of archaeological, epigraphical, and historical data, I have constructed networks using the igraph package in Rstudio to test for feasible paths of epigraphic movement between Anagnia and Clusium and Veii
- I argue that the network analyses based on these data strongly suggest movement of Veii X to Anagnia is more feasible, which would change the standard reading of this inscription



Roadmap

- Brief introduction to major Etruscan epigraphic developments
- Overview of the evidence S. Cecilia sanctuary in Anagnia
- Description of the problem
- Description of the data
- Network analyses
- Conclusions
- Appendix

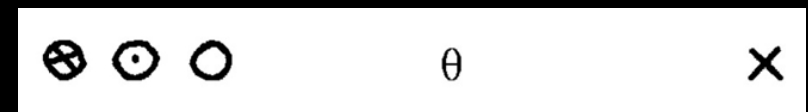
Regional Etruscan Alphabet Experimentation

- The Etruscan alphabet was derived from the Greek alphabet, but phonological mismatches between the two languages caused alphabet experimentation that varied across Etruria
- Sibilants (/s/ and /ʃ/) and the Velar Stop (/k/) constitute the most noticeable regional differences
- Theta (/tʰ/) also has a variety of attested forms, aided in part by the lack of the sound /o/ in Etruscan

Table 14.1 Regional Spelling of the Sibilants (/s/ and /ʃ/) and the Velar Stop (/k/).

Regions	/s/	/ʃ/	/k/
Northern (Chiusi)	𐌱	𐌶	𐌵
Central (Tarquinia)	𐌶	𐌱	𐌴
Southern (Caere and Veii)	𐌶	𐌶	𐌴

Wallace 2016:206; NB
exceptions are common;
Veii also has a X /s/



Benelli 2017:251, listing
common forms of theta
on the left; NB there are
even more forms of theta
attested

Background: Etruscan Inscriptions in Anagnia

- Excavations at two sanctuaries in Anagnia have yielded 15 new inscriptions—some in Hernican and some in Etruscan (Crawford et al. 2011:16; 343-358; Colonna & Gatti 1990)
- The prevalence of 6th century inscriptions on Etruscan bucchero (5/8 inscriptions) at the S. Cecilia sanctuary suggests contact with Etruscan peoples, although the question of which Etruscan peoples remains an open question

Frequently Referenced Sites

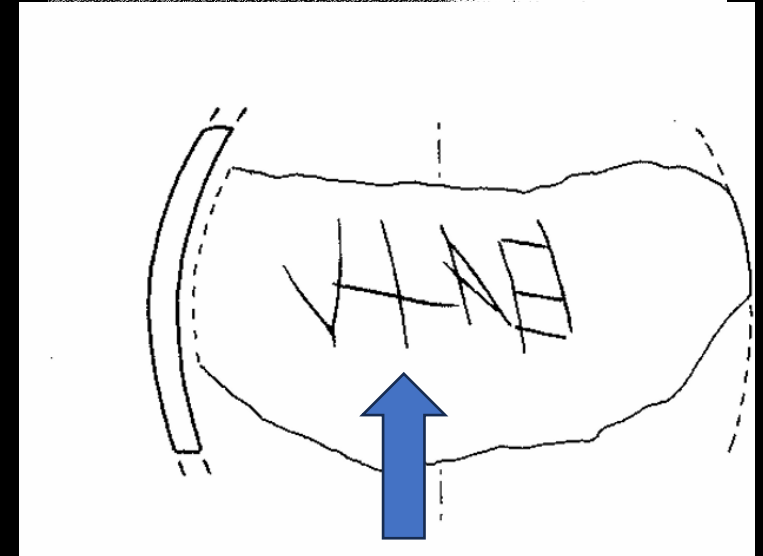
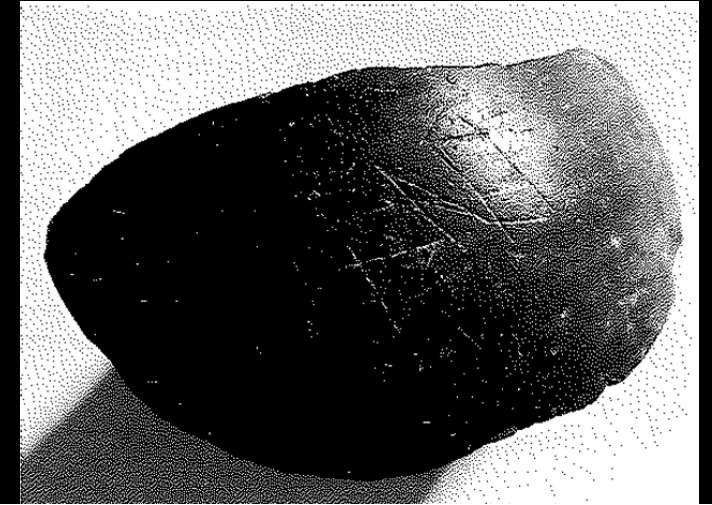


Site

- Anagnia/Anagni
- Caere/Cerveteri
- Clusium/Chiusi
- Veii/Veio

Background: Etruscan Inscriptions in Anagnina

- The interpretation of one inscription can provide starkly different answers to the question of which region of Etruscans were connected to the S. Cecilia sanctuary
- The third letter (X) in this right-to-left inscription either signals contact with southern or northern epigraphic traditions:
 - Veii X /s/ > /hasu/
 - Clusium X /t^h/ > /hat^hu/



Background: Etruscan Inscriptions in Anagnina

- Colonna (1990:243; followed by Crawford et al. 2011:350 & Meiser 2014:411) notes the difficulties of this inscription but ultimately prefers the reading of the Clusium X on linguistic grounds:
 - Although Anagnina is much closer to Veii, where X = /s/, the word */hasu/ is unattested in the 10,000 + extant Etruscan inscriptions
 - Names that may be formed on the same root as /hat^hu/ are attested a handful times, including:
 - /hat^hisnas/ (late 7th century Veii)
 - /hat^hilnasi/ (late 7th century Ponte Sodo, Vulci)
 - /hat^helnas/ (6th-5th century Crocifisso del Tufo, Volsinii)
 - /hatufa/ (2nd century Clusium)

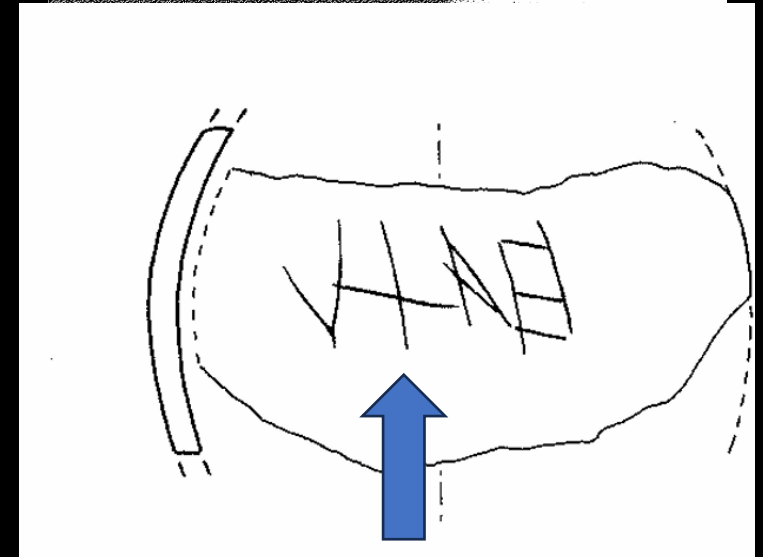
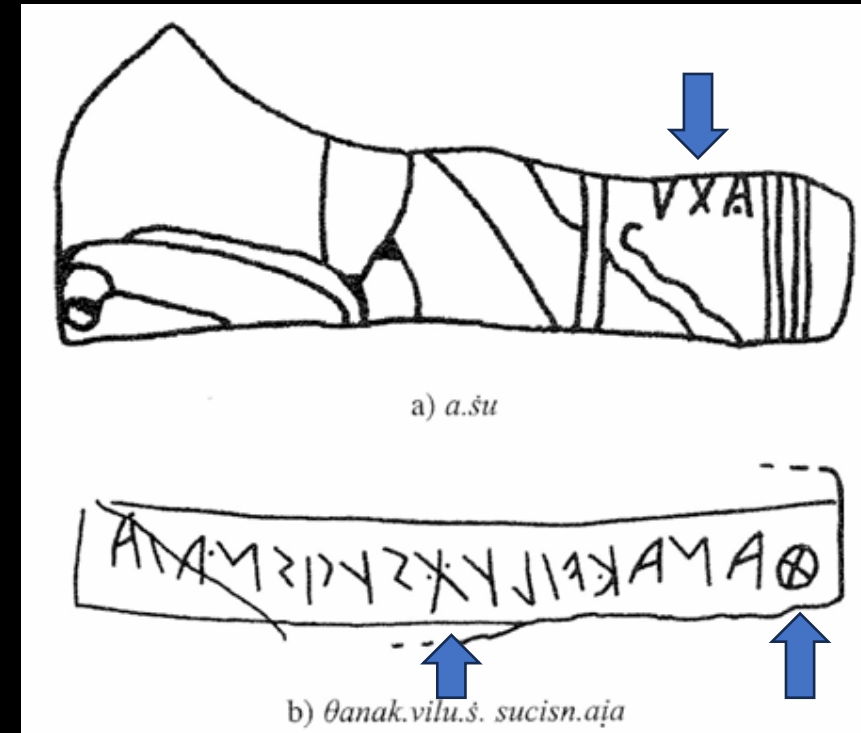


Image: Colonna & Gatti 1990: 242

Revisiting the Inscription: Linguistics and Epigraphy

- Colonna's linguistic argument is plausible, but potentially related names only appear three times before the 4th century, and /hat^hu/ is otherwise unattested
- The name /asu/ is also attested three times before the 4th century (including once with Veii X)
- There was great variety in Etruscan names in the 7th and 6th centuries, and otherwise unattested Etruscan words are not uncommon (Benelli 2017:259; Wallace 2008:80, 123)
- In the context of mobility of enslaved persons in Etruria, Benelli (2024:63) argues that “pure speculation on the forms of names will lead nowhere” and that archaeological and epigraphic evidence should take precedence
- The overlap in form between the Veii X and Clusium X blocked the Clusium X from appearing in major southern Etruscan cities like Caere, Veii, Tarquinia, and Falerii (607 Archaic Period [ca. 700-400 BCE] inscriptions)

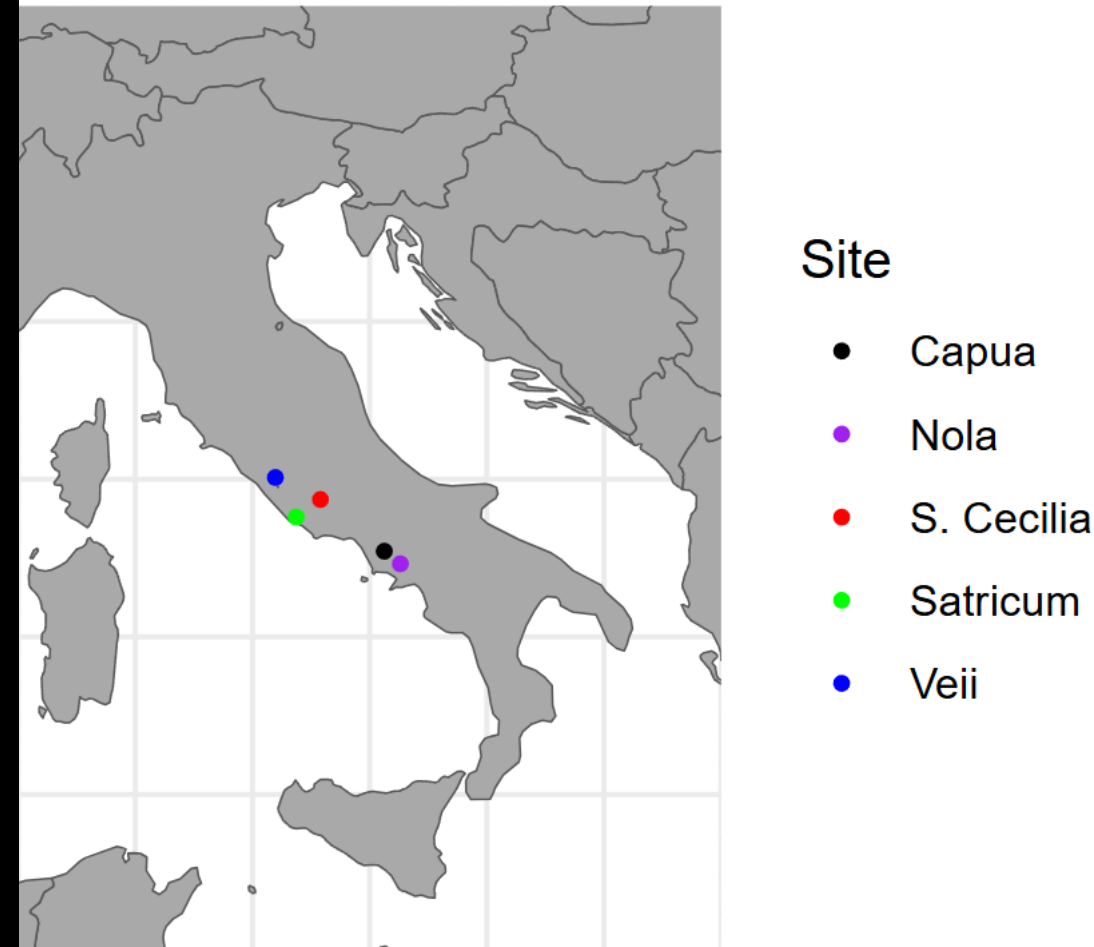


Fragments of bucchero cantharus; right-to-left inscription; location (Veii) and date (late 7th-6th century BCE) based solely on epigraphic grounds; Image: CIE 6712

Revisiting the Inscription: Archaeology + History

- Non-inscriptional archaeological and historical evidence was not discussed in Colonna's argument
- A particular miniature achromatic ceramic vase type is well attested in the S. Cecilia sanctuary as well as sanctuaries in Veii and Satricum (Ambrosini 2012:351)
- Barker and Rasmussen (2000:139-140) argue that inland colonies at Capua and Nola were founded with overland movements from Veii through Latium as early as 800 BCE

Relevant Sites

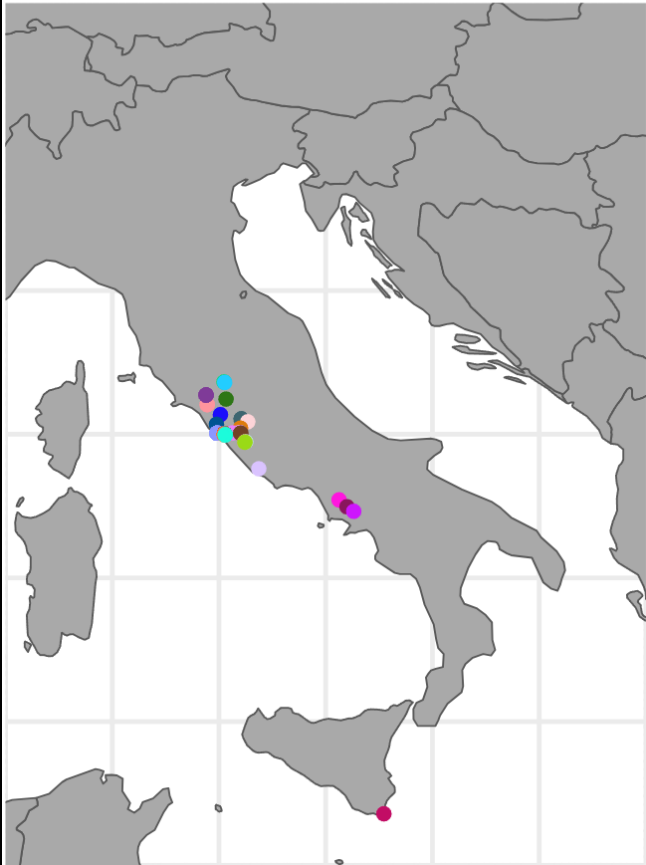


Data Collection

- I have compiled a dataset of 1,791 Etruscan inscriptions whose average date falls within the Archaic Period (ca. 700-400 BCE; cf. Benelli 2017:247-249) on the basis of *Etruskische Texte (ET)*, *Corpus Inscriptionum Etruscarum (CIE)*, and *Rivista di Epigrafia Etrusca (REE)*
- The dataset includes the following:
 - Etruscan region according to Meiser's (*ET*) 33 categories
 - Whether the inscription has a specified findspot (binary)
 - The specified findspot (if available) along with latitude and longitude (from Pleiades and Google Maps)
 - The date range for the inscription along with average date
 - The object type of the inscription
 - The inscription type (e.g., grave inscription) according to Meiser's 10 categories
 - Alphabet type (Northern, Southern, Mixed, Uncertain) on the basis of sibilants and velars
 - Alphabet direction (left-to-right or right-to-left)
 - Presence or absence of Caere S, Veii X, Clusium X, and Cortona retrograde E (occurs once in this date range in Cortona)

Visualization: Distribution of Special Characters

Caere S (71x)



Max Haversine Distance: 145km*

Satricum – Volsinii

*excluding colonies/sea travel

(cf. Barker & Rasmussen 2000:139-140)

185km overland from Veii to Capua

Veii X (27x) + Anagnina



Max Haversine Distance: 174km

Anagnina – Marsiliana d'Albegna

Clusium X (19x) + Anagnina



Max Haversine Distance: 340km*

Anagnina – Spina

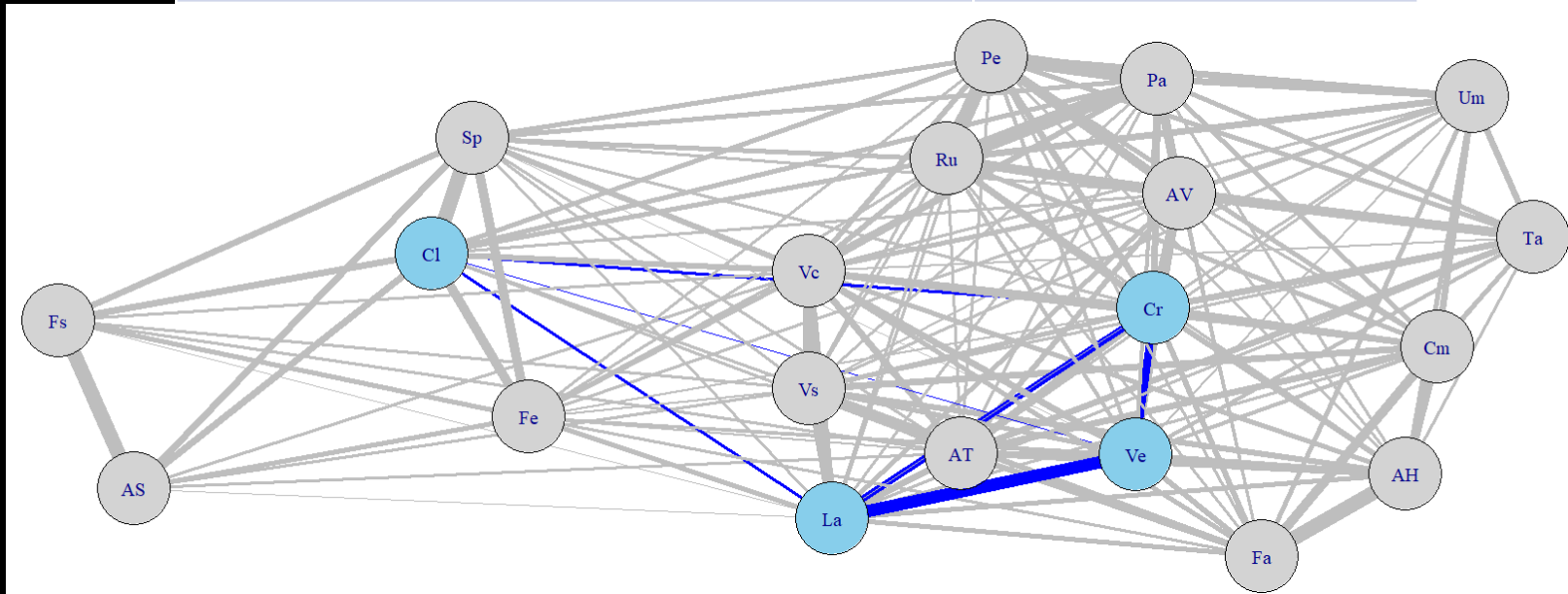
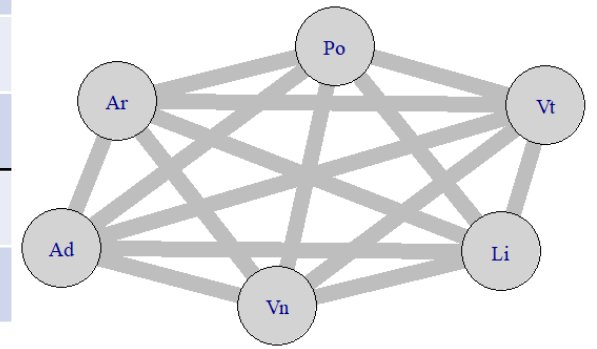
*excluding inscription in Gallia Narbonensis

Initial Regional Network Analysis

- My first analysis calculates non-directional edge weights on the basis of eight equally weighted criteria (only one linguistic) with inscriptions binned into Meiser's (2014) broader regions (regions = nodes):
 - Presence of sanctuaries with the miniature achromatic ceramic vase type
 - Presence of Caere S
 - Presence of Veii X
 - Presence of Clusium X
 - Presence of left-to-right writing direction in greater than 15% of inscriptions
 - Presence of North Etruscan abecedarium
 - Presence of majority Northern or Southern Etruscan alphabet inscriptions
 - Presence of names built on root /hat^h/
- To be conservative, the Anagnia data is encoded according to Colonna's reading—*If Colonna's readings of /hat^hu/ and an inscription with AE as the beginning of a North Etruscan abecedarium are not followed, there is no edge between Latium (including Anagnia) and Clusium* (Meiser 2014 does not consider the AE inscription to be Etruscan)

Visualization: Regional Network Analysis

Edge	Edge Strength
Latium (incl. Anagnia) – Veii	0.875
Latium (incl. Anagnia) – Clusium	0.250
Latium (incl. Anagnia) – Caere	0.500
Latium (incl. Anagnia) – Vulci*	0.625
Latium (incl. Anagnia) – Volsinii*	0.500

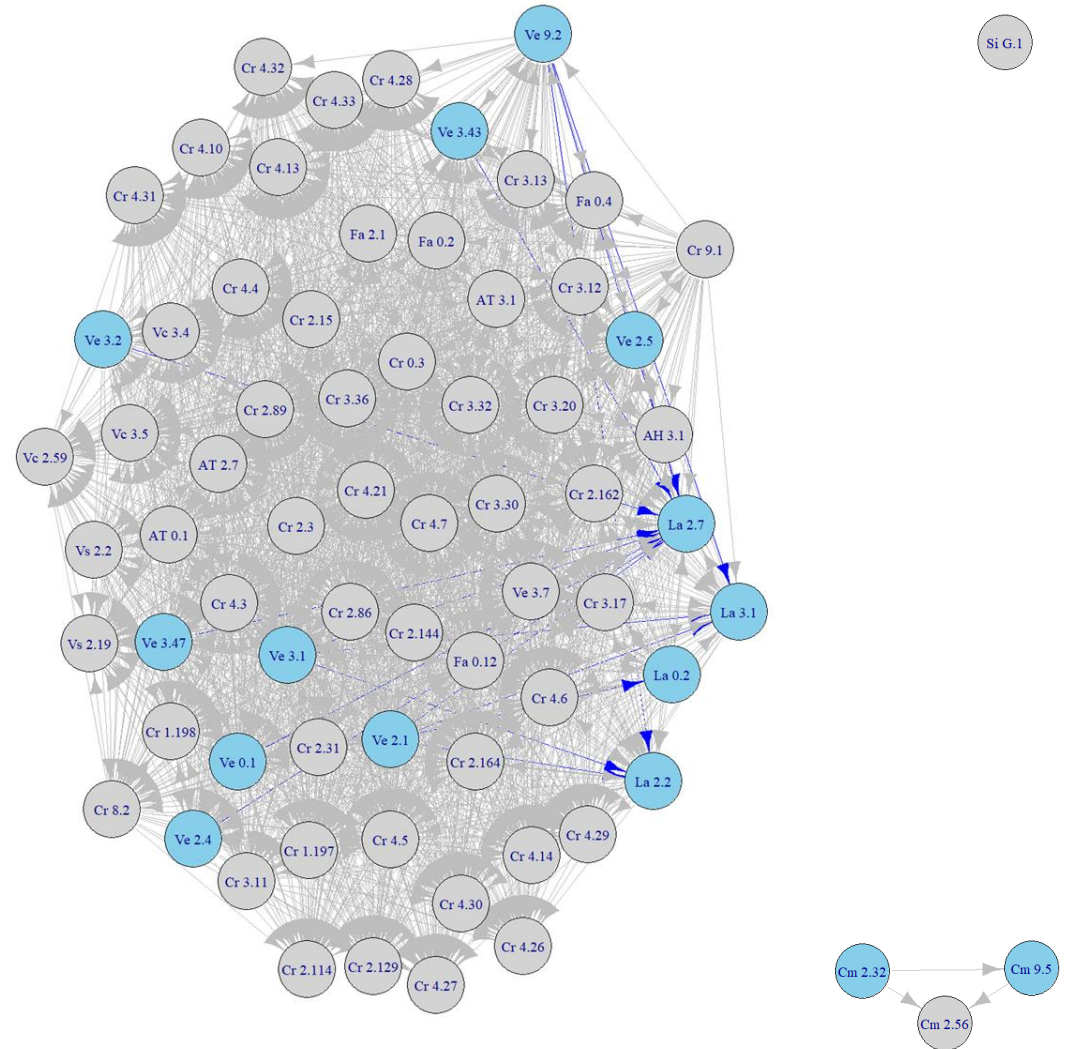


Special Character Networks with Inscriptions as Nodes

- To get a more precise picture of special character movement across findspots, I ran network analyses on the groups of inscriptions with special characters with the inscriptions as nodes
- Edge weights are based on 7 equally weighted criteria:
 - Object type
 - Inscription type
 - Alphabet type
 - Presence of Caere S, Veii X, and Clusium X
 - Alphabet direction
- A distance constraint of 87km was applied (according to the longest Haversine distance between an inscription and the next nearest in the Caere S, Veii X and left-to-right alphabet data, excluding colonies)
- The networks are directional, with nodes with earlier dates leading to nodes with later dates

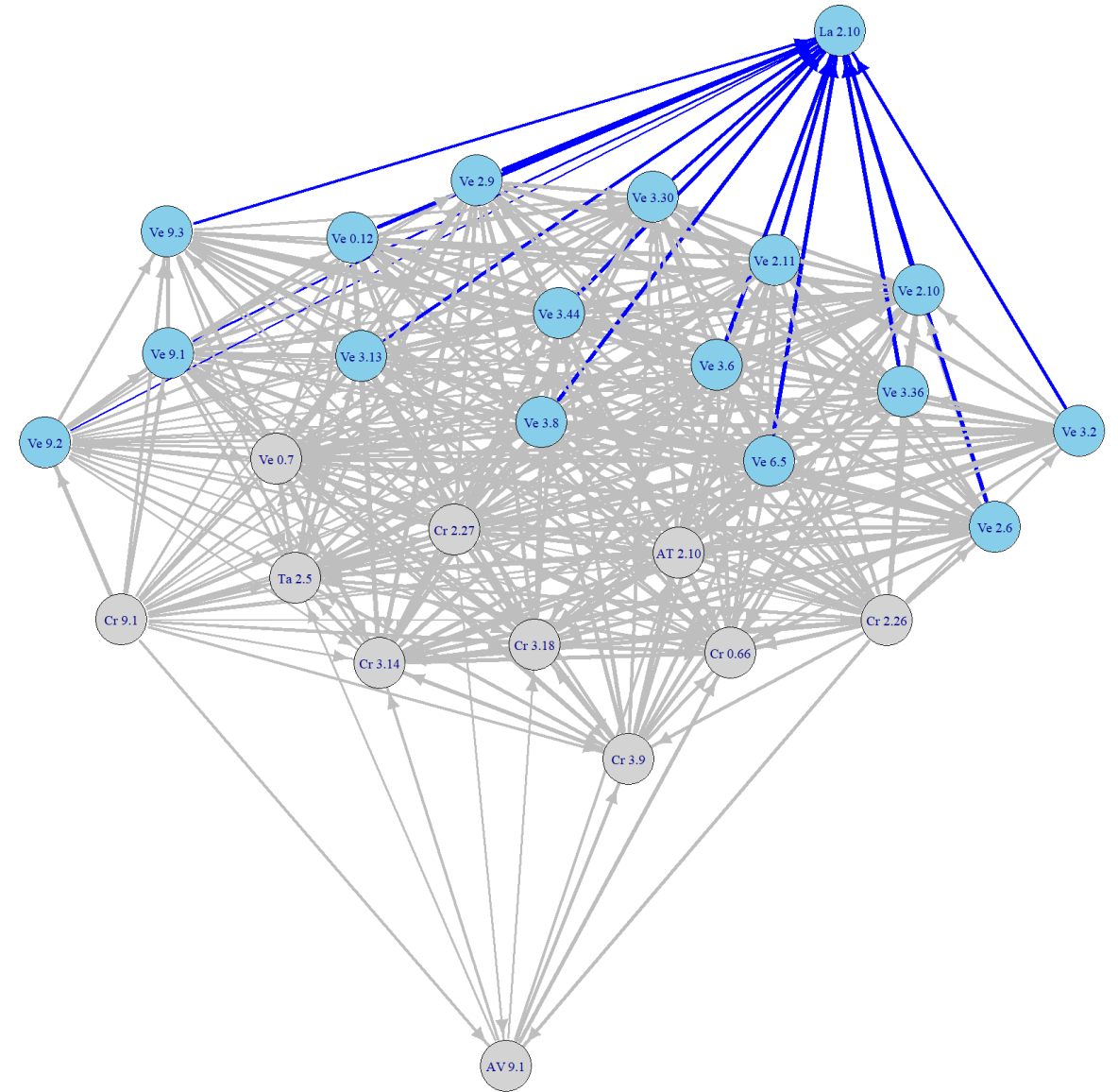
Caere S Network

- Four inscriptions in Latium have the Caere S (3x Rome, 1x Satricum)
- Outgoing edges greatly outnumber incoming edges for these nodes, indicating early contact with the Etruscan language in Latium and early adoption of southern special epigraphic characters
- Although incoming edges from Caere outnumber incoming edges from Veii, all inscriptions in Latium have incoming edges from Veii
- Historical evidence favors epigraphic contact between Veii and Latium, since the two earliest instances of Caere S in southern Italy are at Capua and Nola, the colonies of Veii reached overland



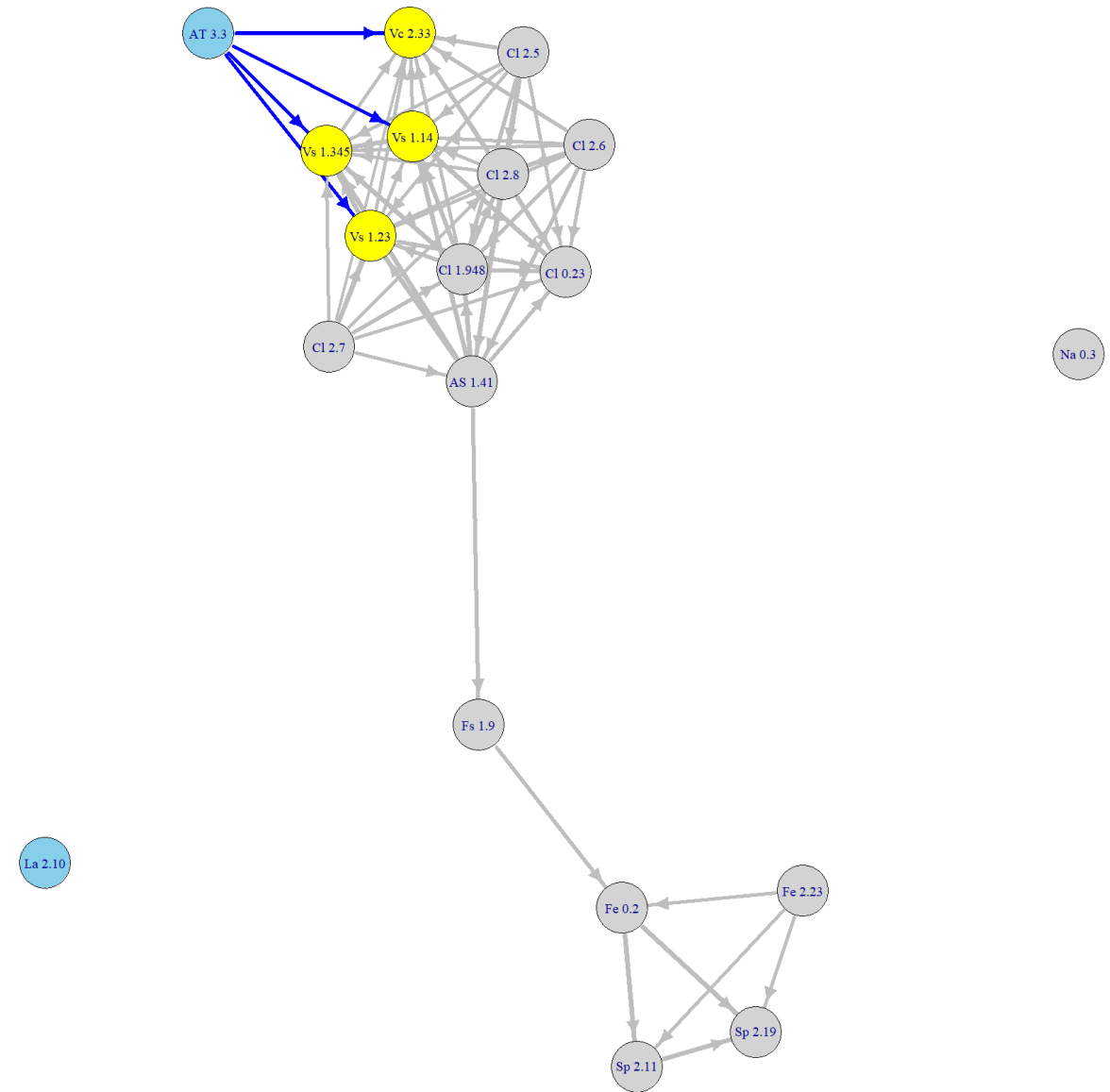
Veii X Network

- All edges to Anagnia (La 2.10) are incoming, and all edges are from inscriptions in Veii
- Chronologically, Veii X was well established in Veii before the inscription in Anagnia was made
- Geographically, only inscriptions from Veii are within 87km of Anagnia
- Historically, movement from Veii to southern Italy through Latium corroborates the directionality of this network



Clusium X Network

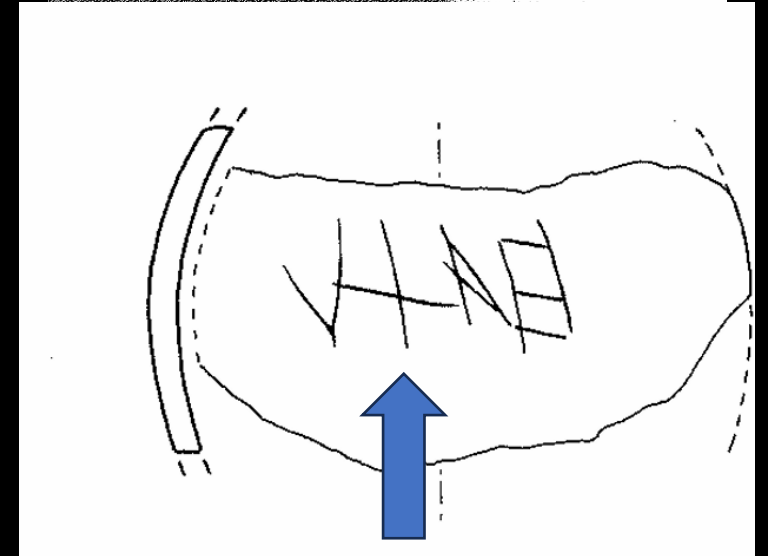
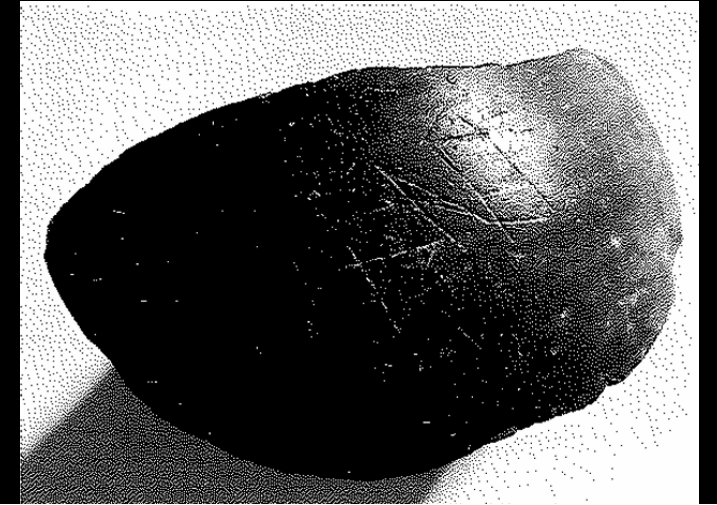
- This less dense network is the only network that includes bridges
- Movement from Clusium > Ager Saenensis > Faesulae > Felsina is plausible
 - Ager Saenensis and Faesulae had the strongest edge weight (1.0) in the regions network
- Outgoing edges from Ager Tarquiniensis (the closest inscription to Anagnia) to Volsinii and Vulci capture a 100-150 year difference in inscription date
- Robustness test: this is the result whether average date, starting date, or end date is used to determine directionality
- There is no predating inscription close enough to AT 3.3 to explain movement of Clusium X to Ager Tarquiniensis



Conclusions

- Archaeological, epigraphical, and historical evidence has suggested that the interpretation of this inscription from Anagnia be revisited
- Network analyses built on archaeological and epigraphic data show a much clearer path for Veii X to Anagnia than Clusium X, and historical data provides a mechanism of movement from Veii to Anagnia
- The form /hasu/ remains linguistically difficult, but the privileging of archaeological and epigraphical material has provided an otherwise coherent account of epigraphic movement and connections
- Etruscan (epigraphic) data has received little computational attention (cf. Daveloose 2025), and there is much to be gained from testing epigraphical and archaeological hypotheses with computational methods

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Bibliography

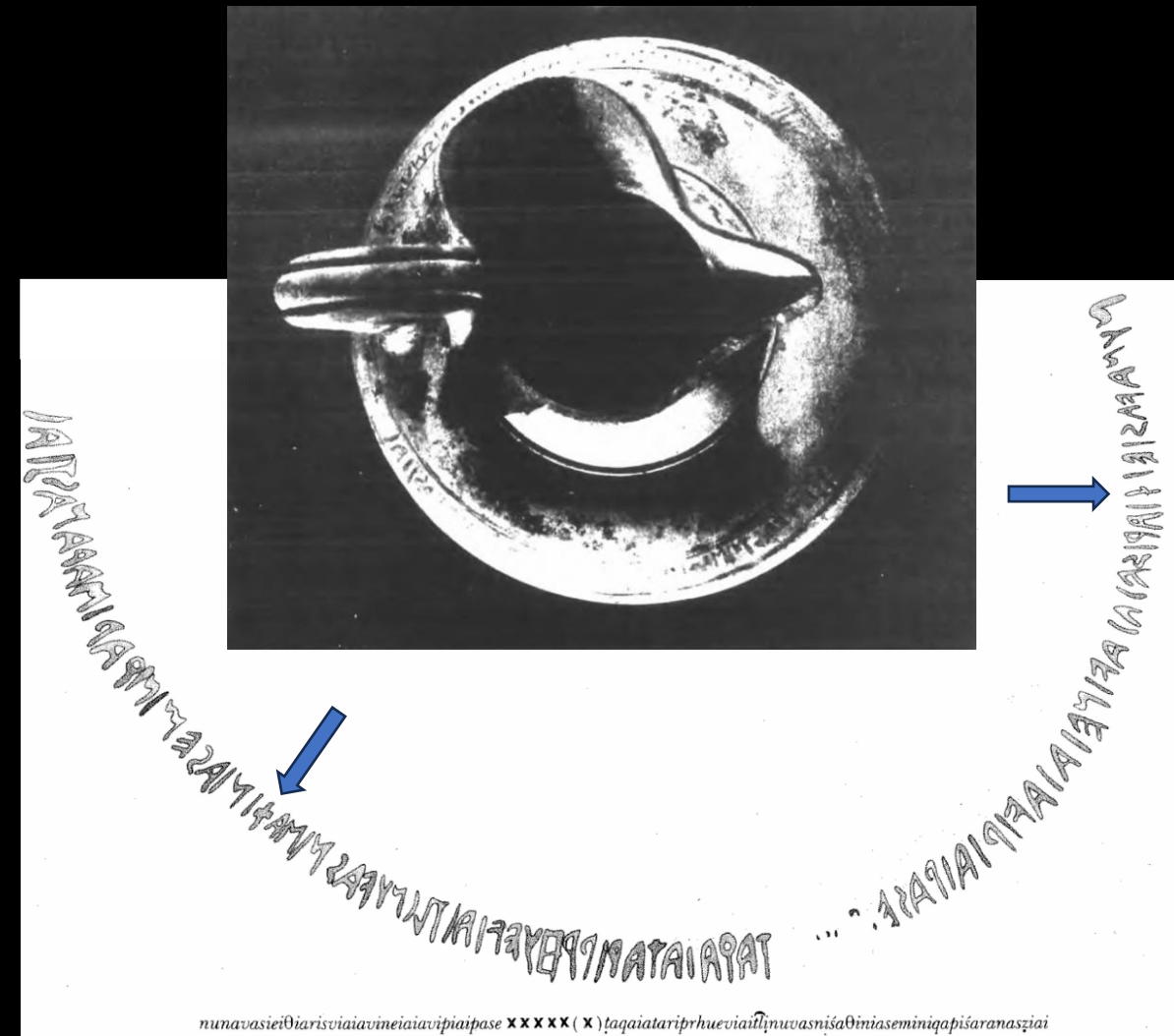
- Ambrosini , L. 2012. Le olpette in ceramica acroma depurate nei contesti votive: il caso del Santuario di Portonaccio a Veio. *MEFRA* 124.
- Barker, G. & Rasmussen, T. 2000. *The Etruscans*. Blackwell.
- Benelli, E. 2024. Slaves, Freedpeople and Non-Citizens in the Etruscan World: Evidence from Epigraphy. In M. Bentz and P Zeidler (eds.), *Dependency and Social Inequality in Pre-Roman Italy* (49-66). De Gruyter.
- Benelli 2017. Alphabets and Language. In Alessandro Naso (ed.), *Etruscology* (245-274). De Gruyter.
- Colonna, G & Gatti, S. 1990. Graffiti arcaici dai santuari degli Ernici. In S. Quilici Gigli (ed.), *Archeologia Laziale X* (241-247). Consiglio Nazionale delle Ricerche.
- Crawford, M. H., et al. 2011. *Imagines Italicae: A Corpus of Italic Inscriptions*. Institute of Classical Studies, School of Advanced Study, University of London.
- Daveloose, A. 2025. The Etruscan Woman and “Romanization”: An Onomastic Case Study. *Etruscan and italic Studies*.
- Meiser, G. 2014. *Etruskische Texte: Editio minor* (Neu Bearbeit). Baar.
- Perkins, P. 2016. Bucchero in Context. In S. bell & A. A. Carpino (eds.), *A Companion to the Etruscans* (224-236). Wiley.
- Wallace, R. E. 2016. Language, Alphabet, and Linguistic Affiliation. In S. Bell & A. A. Carpino (eds), *A Companion to the Etruscans* (203-223). Wiley.
- Wallace, R. E. 2008. *Zikh Rasna: A manual of the Etruscan language and inscriptions*. Beech Stave Press.

Appendix: R Packages

- tidyverse
- rnaturalearth
- rnaturalearthdata
- sf
- cowplot
- polychrome
- igraph
- cluster
- geosphere

Appendix: Contextualizing the Ager Tarquiniensis Inscription

- Pauli and Pandolfini (*CIE* 10417) argue that this oinochoe (ca. 625-575 BCE) from Sutri has two X-shaped thetas, although they note earlier disagreement from Pallottino and Vetter
- If theta is the correct reading here, independent epigraphic innovation may explain this network anamoly
- The inscription is centered so that it is not covered by the handle (or a hand) and features elongated and narrow letters
- Perhaps the artisan elected to remove the circle around the theta to produce a narrower letter in order to properly fit the inscription on the oinochoe



Top Image: *REE* 20 Tav. XVII

Bottom Image: *CIE* 10417

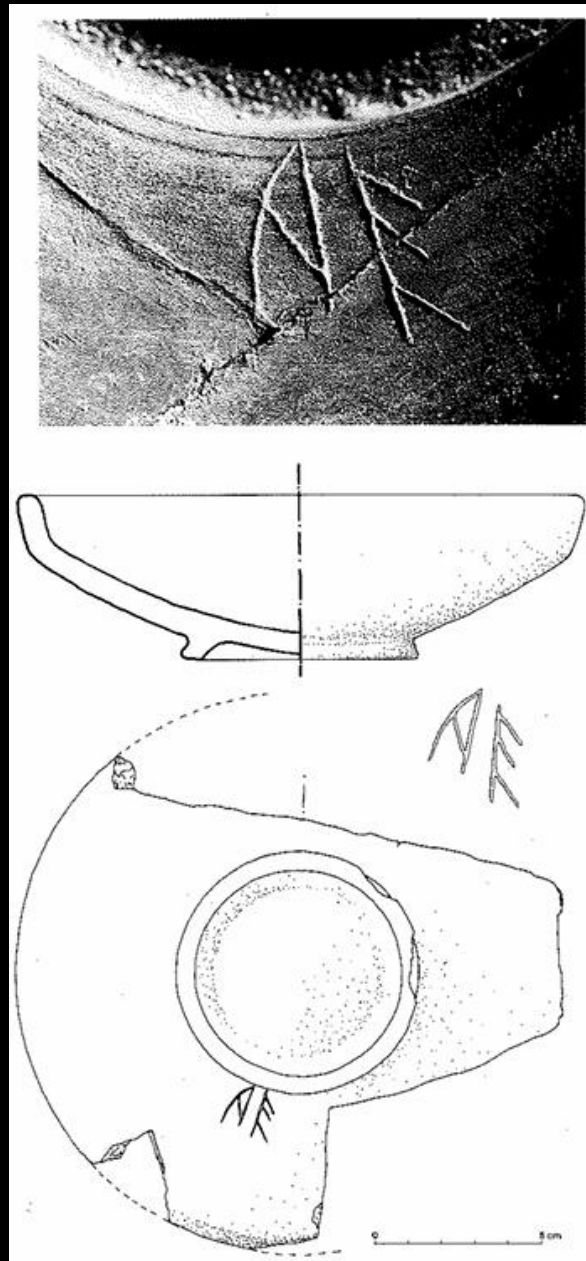
Appendix: Distribution of Left-to-Right (= Dextroverse) Inscriptions

Dextroverse Inscriptions (147x)



Appendix: *AE* Inscription

- Colonna reads this as the beginning of a North Etruscan abecedarium (characterized by the lack of C); cf. South Etruscan sequence *ACEV...* vs. *AEV...*
- Meiser (*ET*) elects not to include this inscription in his corpus even though he includes other from this publication
- Crawford et al. (2011) follow Colonna's interpretation
- I have included this inscription in my data



Appendix: Meiser's Transcription System for Sibilants

Phonem	Schriftgebiet: Graphem / Transkription		
	Südetrurien	Nordetrurien	Caere
/s/	ʃ >s<	M >ś<	ξ >ṣ<
	X >ŝ<	--	X >ŝ<
/ʃ/	M >š<	ʃ >ʒ<	ξ >ḡ<

Transkription	Graphem	Lautwert
s	ʃ	/s/ („südetr.“)
ś	M	/s/ („nordetr.“)
ʒ	ʃ	/ʃ/ („nordetr.“)
ŝ	X	/s/ (Caere, Veii)
s ⁺	Ξ	—
š	M	/ʃ/ („südetr.“)
ṣ ḡ	ξ	/s/ /ʃ/ (Caere)

Appendix: Caere S Degree Scores for Latium

Inscription	In Degree	Out Degree	Delta
La 0.2 (Rome)	5	54	-49
La 2.2 (Rome)	13	42	-29
La 2.7 (Rome)	28	30	-2
La 3.1 (Satricum)	12	40	-28

Appendix: 87km Distance Constraint on Regional Network

