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Mapping And Visualizing Linguistic And Territorial Convergent Data:
Imola And Its Environment as a Case Study

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Abstract

This paper presents the innovative outcome of a convergent approach applied to research results coming from historical linguistics and etymology, medieval history, palaeography and diplomatics, historical geography and topography, historical cartography, and historical semantics. All data converge upon a new interpretation of the remote origins of the place name *Imola* (Emilia-Romagna, Italy) and of the name of its river *Santerno*, in relation to their environment and territory. It comes out as a toponymic alignment in a linguistic border area between Indo-European and Etruscan, which defines—through an interdisciplinary set of direct and internal 'auto-confirmations'—a settlement 'on the bend of a river', the 'river which turns'. This etymological reconstruction meets the identification that originally puts this inhabited center on the top of the low hill currently known as *Castellaccio* (aka *Castrum Imolas*), which preserves evidence of population dynamics from Prehistory till 1222, and is located beside the natural ford used by the Etruscan piedmont path to cross the river *Santerno*. The toponym, during the Middle Ages, expanded from this original settlement to the Roman *Forum Cornelii* one, replacing its name into nowadays Imola.

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Imola as a Case Study

Imola (geographic coordinates 44°21'12"N 11°42'51"E) is an Italian town in the Province of Bologna (region Emilia-Romagna), situated along the ancient *Via Æmilia*, at the point where the Apennine valley of the Santerno river joins the Po valley (Nanetti 2008, *passim*; Nanetti and Giberti 2014, *passim*).

This paper is part of an interdisciplinary series of works published by Andrea Nanetti in collaboration with other authors using Imola and its territory as a laboratory to test new methodologies for historical research, with the constant support of the Foundation of the Savings Bank of Imola by statute responsible for the cultural heritage of the territory of Imola. Among these authors, the architect Mario Giberti has always been the principal inspirer of new interpretations and a constant provider of previously unknown evidence—not only because of the depth and breadth of his experience of the territory of Imola, its historical memories and traditions, but also through his private collection of maps, books, paintings, art objects, and other documents concerning the history of Imola and its territory. This new specific research on linguistic and territorial convergent data is the result of the meeting with Francesco Perono Cacciafoco at the Nanyang Technological University Division of Linguistics in late 2013 and early 2014.

All of the published research projects in this series have used Imola's historical memory as a laboratory for experimenting with new approaches, in order to better understand historical processes. They have provided ontological solutions to be used in the migration of historical data sets to web-based visual platforms, in particular, for 1) historical maps of the city, investigated as gateways for understanding urban development at the scale of a single building (Giberti *et al.* 2005);[1] 2) early modern chronicles as pre-digital historical narratives (Nanetti 2008);[2] 3) archival documents as surviving molecular components of institutions at work (Nanetti and Mazzanti 2010);[3] and 4) historical data mapping and visualization of all available historical data about the relationship between roads and settlements during the Middle Ages (Nanetti and Giberti 2014).[4]In all these research endeavours, the interdisciplinary factor came out from the intention to answer questions and provide solutions to problems, for which history alone was not yet able to fulfil the expectations and the needs of the scholarly community, and get traditional historical data sets prepared for the semantic web: (digital) maps are seen as knowledge aggregators and navigators, and (digital) mapping has been the epistemological tool used to pioneer experimental narrative and non-narrative operations. These operations associate each element of given sets of data coming from traditional disciplines (history, archaeology, art history, etc.) with one or more elements of a range of automatically generated sets of different things of the same general type (places, people, buildings, events, dates, ideas, etc.).

The area where the present-day city is located was already inhabited in Prehistoric and Proto-historic times (between 8000 and 3000 years ago, during the Neolithic and the Metal Ages, but the origins of the settlement of the area can be traced back to the Upper Paleolithic). A Villanovan village is attested in the Pontesanto locality, on the *Via Æmilia*, after the archaeological excavations that date back to the 1999-2000 biennium. Umbrian populations settled in Romagna and Umbria between the 6th and 5th centuries BC, also in the territory of Imola. The area of Monte Castellaccio (d'Imola) is a testimony of these settlements (perhaps chronologically dating back, at least in part, to the most remote ages), while the seventy-seven graves of the Montericco necropolis represent the most extreme advancing point of Umbrian people towards the West (Montanari 2000: 35-52).

It can be traced back at least to the Etruscans, dating it between the 5th and 4th centuries BC, the use of a road that, for unavoidable or traditional functional reasons, connected Rimini (*Arimna*) with Bologna (*Velzna/Felzna*) at the foothills of the Apennine Mountains at the intersection of the rivers and paths of Apennine valleys with the waterways of the Po valley. However, one can not speak of origins, when it is increasingly accepted by

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[1] This book on *The Cartography of Imola, 15th-19th c.* has a sole author CD-Rom designed by Andrea Nanetti, which pioneered the scientific organization of cartographical data in the digital era in its first edition (2000).

[2] In this book on *The Early Modern Chronicles of Imola*, written in 2007 during a research stay at Princeton University, Andrea Nanetti first theorised his 'Engineering Historical Memory' method, which led to the development of http://www.engineeringhistoricalmemory.com (© Meduproject Pte Ltd., a spin-off company of the University of Bologna based in Imola), and the creation of the collaborative Nanyang Technological University and Microsoft Research project started in September 2014.

[3] This book is the second volume of a work on *The Benedictine Abbey of St Mary at Imola* edited by Mario Giberti and Andrea Ferri for the Foundation of the Savings Bank of Imola.

[4] This book on *Roads and Settlements in the Territory of Medieval Imola* has an archaeological excursus by Laura Mazzini and a linguistic excursus by Francesco Perono Cacciafoco, that provide consistent convergent data following a theoretical discourse developed by Perono Cacciafoco (2014a).

the data cross of historical linguistics and palaeoanthropology that the piedmont, foothills, and other paths along waterways are a characteristic feature of the human movements in the Indo-European area, and furthermore archaeology confirms that humans usually established settlements at the confluence of two or more of them (Facchini 1993, Layton and Ucko 2004). During the same 5th and 4th centuries BC, among other things, Celtic populations (perhaps moving from Central Europe) settled along the whole Cispadane Italy, extending their presence to the borders of Picenian and Umbrian territories.

The consolidation of this path as a road acquires historical visibility only in the framework of the Roman interregional road infrastructure. In 220 BC the construction of the military road *Flaminia* from Rome to Fano was completed and allowed faster access to the Po Valley. Its continuation to *Placentia* (Piacenza), for reasons related to the Second Punic War, was suspended and resumed only after the 189 BC when *Bona* (Bologna) was founded after having won the last stands of the Gauls, the *Boii*, in 191 BC. The viability of the new road was provided in a very short time, just two years later, in 187 BC, when the consul Marcus Æmilius Lepidus received credit of it by its new given name of *Via Æmilia*, which the road still carries today (Marini Calvani 2000, *passim*).

The *Via Æmilia* was linked to the re-establishment or foundation of Roman settlements like *Caesena* (Cesena), *Forum Popili* (Forlimpopoli), *Forum Livii* (Forlì), *Faventia* (Faenza), *Forum Cornelii* (Imola), *Claterna* (†), *Bononia* (Bologna), *Mutina* (Modena), *Regium Lepidi* (Reggio Emilia), *Tannetum* (Taneto di Gattatico), *Fidentia* (Fidenza), *Placentia* (Piacenza), and the structure of the relevant municipal districts (Pliny the Elder, *Naturalis Historia*, III, 115 ff.)

Thus, in Roman times the town was denominated as *Forum Cornelii* or, less commonly, *Forum Cornelium*. In ca. 403, Prudentius linked the toponym to Lucius Cornelius Sulla («Sylla Forum statuit Cornelius; hoc Itali urbem/ voc{it}ant ab ipso conditoris nomine»: *Peristefanon* IX. *Passio Cassiani Forocorneliensis*, vv. 1-2). But this is commonly believed as an incorrect attribution, because of the very 'late' age, around 82 BC, to which the foundation of the forum should be accordingly referred, even if the most ancient mention of *Forum Cornelii* dates back only to the *Epistulæ ad familiares* (XII, V) by Marcus Tullius Cicero (1st century BC) and the archaeological findings do not preserve evidence that can be dated earlier than the 1st century BC (Nanetti 2008: 90-97; Nanetti and Giberti 2014, Ch. 1 and Ch. 4, Doc. 1). Nevertheless, *Forum Cornelii* is commonly believed to have been founded by Publius Cornelius Scipio Nasica (who defeated the *Boii* in 191 BC), or, with relatively less confidence, by Gaius Cornelius Cethegus (consul in 197 BC, who fought against the *Boii*, the *Cenomani*, and the *Insubres*), or by Publius Cornelius Cethegus (consul in 181 BC, who managed the land division in the territory of Imola in 173 BC). The decline of the Roman town of *Forum Cornelii* seems to start in the 3rd century, since after 255 AD historical sources no longer indicate the name of the *Curator Viæ Æmiliæ* (Nanetti 2008: 92).

In any case, the Roman foundation of *Forum Cornelii* did not cause the disappearance of the pre-Roman settlement in the area of present-day *Castellaccio*, which was possibly called *Imola* since pre-Roman times. In fact, the existence of human settlements in the area where the city of Imola now stands is the result of one single factor: it is the place where the ancient foothills east-west road crosses the river Santerno that flows from south to north. To facilitate the passage of the river it was used seamless a natural ford, known as *Le Lastre*

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(The Slabs), which attracted two more streets, one coming from the neighbouring valley of the river Senio and the other coming from the valley of the river Santerno. The role played by this natural ford in pre-Roman times was re-established during Late Antiquity and the Early Middle Ages, when the stretch of the Roman road towards Faenza close to *Forum Cornelii* became mire, unenforceable, and was finally deleted by the river Santerno (Nanetti and Giberti 2014: *passim*). This meeting place was the aggregator of the human settlement; as it is demonstrated also by the following etymological reconstruction of the origins of the place name Imola.
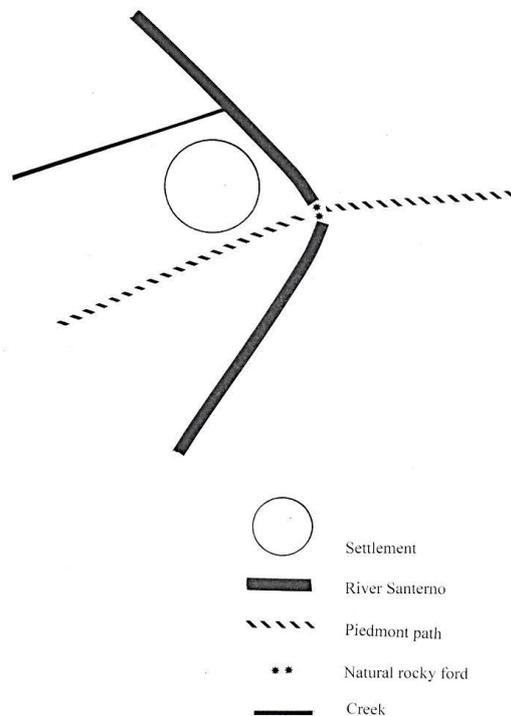

◯	Settlement
▬	River Santerno
＼＼＼＼	Piedmont path
＊ ＊	Natural rocky ford
▬	Creek

Fig. 1. Diagram by Arch. Mario Giberti

The Methodology

In the work by Andrea Nanetti and Mario Giberti (2014), on roads and settlements in the territory of medieval Imola, in order to support the work of re-discovery, reading, and reviewing of the different sources used for the research—archival, archaeological, cartographic, chronicle, art historical—and of the historiographical narratives based on them, the authors decided to explore a specific new approach to the organization and presentation of historical data sets. This approach is at the same time analytic (the mapping of the sources by

Andrea Nanetti) and synthetic (the visualisation of the results by Mario Giberti). To understand the emphasis on the unity of this method, the rhetorical and conceptual linking of 'mapping and visualization' should be seen as a hendiadys in the approach to historical data. Thus the term 'mapping' is understood, in its basic meaning, as the localization and description of elements, facts or phenomena that relate to a circumscribed area, historically understood at the intersection of precise space and time coordinates. The aim is to provide and test an example of an innovative epistemological process in order to visually distil historical data. The 'visualization' process is seen not as a reductive representation to epitomise and/or illustrate written narratives, but as an investigative tool that the historian (especially one who intends to enter fully into the digital era) can use for discovering and organising new relationships between objects, in an innovative historical landscape where past, present, and future can merge in a democratised whole (Nanetti *et al.* 2013).

This 'mapping and visualization' method is intended to be a first step towards experimentation with less narrative (if not non-narrative) ways to make history in the digital era. It does not reflect a positivistic revival; rather, it is a consequence of the belief that 'narrative is not just a set of materials, but it is a quite specific method of organizing those materials';[5] and the famous statement by the Italian theorist and philosopher Benedetto Croce (1951: 26) can also be discussed in this context: 'Where there is no narrative, there is no history'. Rick Altman (2008: 339-340) ironically and futuristically framed the case in the conclusions to his famous book on narrative:

> If medieval physics clearly grows out of dual-focus assumptions, and its Newtonian successor develops a fundamentally single-focus cause-and-effect model, then we may perhaps recognize in Einstein's famous equation $e=mc^2$ the ultimate multiple-focus hem-naming process, recognizing for the first time that energy and matter can be treated as equals. When energy and matter, action and character, are reduced to the same entity, can the end of narrative be far behind?[6]

In fact, as Altman also highlighted in the first pages of his book (2008: 1-3), few human endeavors are more widespread or more generally endowed with cultural importance than narrative. Stories are the major vehicles of personal memory, a mainstay of law, entertainment, and history (2008: 1). Historically, definitions of narrative have been tied tightly to a particular type of plot. This tendency began with Book VI of Aristotle's *Poetics* (Bywater 1909: 13), which informed us that a tragedy is impossible without action, but may

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[5] For the citation see Altman (2008: 5), where the author rephrases a definition given at the height of structuralist activity by Stierle (1972: 178) referring to the 'basic structure of all narrative texts' by Danto (1965):

    x is f at t1
    g happens to x at t2
    x is h at t3

[6] The theory presented in Altman's book, which is applicable wherever humans tell stories or implicitly refer to previously told tales, offers powerful potential for describing human activities. In the final conclusion, Altman (2008: 338) suggests how the theory might be used to image and explain such varied phenomena as individual texts, literary and film history, social organization, religion, and political life. Many other domains could have been evoked. Whether the topic is literature, art, or epistemology, we regularly find a historical series that may usefully be described as developing from dual-focus, through single-focus, to multiple-focus.

exist without characters (Altman 2008: 2). Adopted from Aristotle, the notion of unity of action involves the need to build a play around a single, unbroken plot thread, eschewing competing story lines, unnecessary characters, and unrelated episodes. Stories must be coherent; they must have a distinct beginning, middle, and end; they must connect their parts through clearly motivated causes; and they must expunge any material unrelated to this unity of action (Altman 2008: 3). Altman notes, towards the end of his work (2008: 291-292), that 'We circulate among characters and places, not according to our own interests but according to an itinerary fixed by the narrator'. If it is inaugurated by the process of 'following', the act of reading also involves a tendency toward 'mapping': calling on our memory of the text at hand, as well as on our prior experience of other texts, the process of mapping involves the reader in a perpetual return to the past, and in a constant attempt to define the present in terms of that past, permitting eventual understanding of the present.

The Place Name Imola and the Hydronym Santerno

For the systematic refutation of previous theories and the new etymological reconstructions of the place name *Imola* and the hydronym *Santerno*, see Perono Cacciafoco (2014c) and Nanetti and Cacciafoco (2015).

The current (highly questionable and, in a way, 'volatile') etymology (DTI: 328; Galassi 1999: *passim*) of the place name *Imola* (*Jômla* in the *Emiliano-Romagnolo* dialect) derives the denomination from an unspecified Germanic anthroponym *Immilo*, crossed (without a valid historical-linguistic explanation in support of this hypothesis) with the name of *Via Æmilia* (Violi 1982: 252-69; Gamillscheg 1934-36: II, *passim*).

The ancient form of the *Santerno* river name, *Vatreno*, Latin *Vatrenus* / *Vaternus*, is a pre-Latin (Italic or, more likely, Celtic) hydronym, derived from the root **uat-* (Pokorny 1959-69: 1113, 2), 'to bend', 'curve' + **(s)reu-* (from which, for example, the ancient Greek verb ῥέω), 'to stream', 'to flow' (Pokorny 1959-69: 1003), and, in fact, it bends in the vicinity of a sandstone massif of prehistoric origins – between 5 and 2 million years ago – just outside the town of Imola in the area called *Le Lastre* / The Slabs (Nanetti and Giberti 2014: Abstract in English). The hydronym's etymological reconstruction sequence, therefore, could be the following, *Vatreno < *Uat-reu(-o) → *Uat-re(u)(-o) → *Uat-re(u)-o → *Uat-re(u)-n-o* (euphonic 'n') = **Uat-re-n-o > *Uatreno > Vatreno*, Lat. *Vatrenus* / *Vaternus* (with change *-tre-* → *-ter-*), meaning '(flowing) bending river'. The later transformation *Vatrenus → Vaternus → Santernus* / *Saternus* (*Santerno*)[7] could be explained on the basis of the assimilation of the river name to a Roman (but, in origin, Etruscan) gentilitial family name attested in that area, *Santernius* (CIL XI 6689), when speakers had already lost the original meaning of the same river name. Etymology, historical semantics, and hydro-geo-morphological analysis of the territory converge in the explanation of this hydronym and we can safely assume that – if we do not follow the unscientific and undocumented widespread reconstruction – the place name *Imola* is also pre-Roman.

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[7] *Vaternus* in Martial, *Epigrammata*, III, 67, 2; *Vatrenus* / *Saternus* in Pliny the Elder, *Naturalis Historia*, III, 120; *Santernus* in Frontin, *Stratagemata*, 3, 14, 3.

The local language immediately preceding Latin (and, therefore, pre-Latin) in the area was the Gaulish of the *Boii*, *Senones*, and *Lingones*. This was a language that, at its turn, was conceivably preceded by an Italic – specifically Umbrian – substratum. Anyway, the first official (written) attestation of the place name is *Castrum Imolas* (maybe a regular plural or, rather, an archaic / Celtic genitive also due to the form *Castrum Imolæ*), reported by Paul the Deacon (*Historia Langobardorum*, II, 18) at the end of the 8th century AD, but referring to the territory before the Lombard conquest (Thomsen 1947: 253-256; Nanetti and Giberti 2014: Ch. 4, Doc. 7). As demonstrated by Andrea Nanetti and Mario Giberti (2014: Ch. 3.2) the toponym *Imola* is linked to the settlement that was in the area of the present-day *Monte Castellaccio* (to be considered as the pre-Roman Imola), on the right bank of the Santerno (*Vatreno*) river near the above-mentioned natural ford called *Le Lastre /* The Slabs, used by the path coming from the right side of the valley of the river Santerno (*Vatrenus*), as well as by the tracks coming from the valley of the river Senio and by the pre-Roman foothills path. This track remained in use until the end of the medieval period (even after the demolition of *Castrum Imolae* in 1222), and is still visible in the local historical maps of the modern times beginning with the map of Imola possibly drawn by Danesio Maineri in 1473 and used with some updates by Leonardo da Vinci in 1502 in proposals for strengthening the fortifications of Imola.

The subsequent spellings / writings *Immola*, *Imula*, *Emola* can be explained respectively as vulgarism 4, cultism, and dialect form (in the *Emiliano-Romagnolo* dialect the Latin long stressed /i:/ becomes /e:/). The Dissimilatory Lateralization of Nasal Sequences, a Romance phonetic law, provides a simple passage /n/ → /l/ between Latin and Italian, for example *uenēnum > veleno*, 'poison', *Bŏnōnĭa > Bologna*, *Hieronymus > Gerolamo (Geronimo)*, 'Jerome'. It is, however, subject to debate whether this is also true for /n/ when this comes after a /m/, because it is difficult to exactly understand if *Gemolo* (Saint's name) may be derived from *Gĕmĭnus* (as stated in some Biographies, *Gĕmŭlus* is also attested as an alternative form, not in the meaning of 'plaintive', but as a variant of *Gĕmĭnus*, 'twin', 'geminous') or from *Hiemulus* or *Gemmulus* (forms attested for the same Saint's name) or from other (Polloni 1966: 157).

It is necessary to consider that in Cisalpine Gaulish the initial word sequence /#je-/ becomes /i-/, assumed in (Vulgar) Latin as [i] (not a rounded high front vowel) and then equalized to the Latin phoneme /i:/ (long). If the just-mentioned Romance phonetic law is valid, the only possible source – in this position (beginning of a word not followed by palatal consonants) – of the Italian accented /i/ would correspond to /e/ in the *Emiliano-Romagnolo* dialect. Therefore, a Celtic etymon of <Imola> would be very likely **Jemonā*, 'twin' (> Cisalpine Gaulish **Imonā*), female of **jemono-s* > Irish *emon* (the female of which, *emuin*, has an antecedent with a different theme that is always Indo-European, **jemonī*). Unless this is not the equally regular corresponding form of ablauting / apophonic reduced radical degree, **imono-s* (in this case **jemono-s* would be 'equable' of *emon*, rather than its 'equate', therefore partially corresponding – but still regular – rather than totally corresponding). The *sema* linked to the meaning of 'twin' may derive from the presence of more than one settlement (at least two), homologous and connected to each other in Prehistoric and Proto-historic ages in the territory of Imola, where archaeological excavations provided

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evidence of human settlements in the areas of Montericco, Pontesanto, and Monte Castellaccio (Montanari 2000: 35-52; Nanetti 2008: 87-89).

Jemonā is a secondary derivative of the Indo-European stem *yemo-* (*yem-* / *jem-*), 'twin'. If the Dissimilatory Lateralization of Nasal Sequences law was not working in the context of the nasal /m/ - /n/ , the Indo-European *yemo-* would remain valid to explain the first part of the name, while the final part of the same name could be interpreted as the second element of the compound, always Celtic, *olā*, 'curve', 'turn', 'twist', 'bend', 'fold', 'loop', 'spiral' (> Irish ⁷ol), from Indo-European *$h_3$olah$_a$* ← √*$h_3$el-*, 'to bend', or *$h_1$olh$_a$ah$_a$* ← ⁶√*$h_1$elh$_a$-*, 'to push in one direction', 'to move', 'to go'. It is a possible reference – as it appears self-evident – to the river Santerno (*Vatreno*) flowing in the territory of Imola and 'bending' just in front of the Monte Castellaccio settlement, which was called *Imola* (Nanetti and Giberti 2014: Ch. 3.2).

It should be noted that this Indo-European compound *yemo-$h_3$olah$_a$*, or *yemo-$h_1$olh$_a$ah$_a$*, 'twin curve' (both forms become in late Indo-European *yemolā*), would have produced even in the Italic *Jemolā* that the Cisalpine Gauls adopted, regularly transformed in *Imolā*, and that, at its turn, became, in Vulgar Latin, *Imola*.

We have already described the substance of Adolfo Zavaroni's proposal (Nanetti and Perono Cacciafoco 2015). In order to try to analyze this position, without taking into account the 'extreme' interpretations of the same (the 'non-existence' of *yem-* / *jem-*), thoroughly considering the two roots, Indo-European *yem-* / *jem-* and Etruscan *am-*, and interpreting the second through the meaning proposed by Zavaroni, we can attempt to link the two stems in a 'convergent' way, without one excluding the other. Inherently in the root *yem-* / *jem-* it could be possible to talk, in fact, about an Indo-European hereditary linguistic 'coinage' shared by Italic and Celtic. Even if the Etruscan *am-* was connected to *yem-* / *jem-*, the naming process of the place name *Imola* would concern only *yem-* / *jem-* and the derivation would be only from Italic and/or Celtic, without the intervention of Etruscan (for chronological reasons). Etruscan, in fact, would not be involved in the naming process in any case, because it would be too 'recent' for this kind of 'coinage' and 'obsolete', at this point, for a transmission to Latin. The right sequence of the onomastic composition of *Imola* should be 1) Indo-European 'coinage' → 2) Italic evolution → 3) passage through the Celtic, starting from Italic (if the 'coinage' is not only and directly Celtic) → 4) passage in Latin, from Celtic.

At the basis of – and before – Italic and Celtic we have to consider their common ancestor, the Italo-Celtic (Late Western Indo-European), which was a regional Western Late Indo-European assuming the form of a singular collective linguistic 'collector'. Before the Etruscan, on the other hand, in the area, the substratum was constituted by Italic and Celtic, from the already differentiated Italo-Celtic.

In any case, the Celtic 'mark' for *Imola*'s etymology, the Indo-European root *yem-* / *jem-* (*iem-*), may have been associated, in the 'sensitivity' and perception of speakers of that time, to the Etruscan *am-*, if we accept the semantics of *am-* proposed by Zavaroni. The naming process would have been Indo-European – Italic and Celtic or only and directly Celtic –, but, through the semantic relevancy and similarity, the place name could have been 'clear' and 'understandable' also in Etruscan.

The territory of Imola, in Emilia-Romagna, was occupied by the Celts and the Indo-European 'mark', in local Toponymy, seems really strong. It is possible, however, to hypothesize, also in the naming process of the places of that area, an Etruscan influence (and/or sharing, and/or participation), due to the proximity of Etruscan towns and centers and to the mutual cultural, social, political, and economic relationships between Celts and Etruscans in that territory.

It seems plausible, therefore, if not to assume a sort of 'double naming process' of Imola (Indo-European and Etruscan) or the possibility of the presence of two names (Celtic and Etruscan) for the town, to postulate, at least, a natural common participation in the final fixing of the place name (and in the perception of its meaning starting from different roots – pertaining to different languages – similar and aligned in their semantics). This Indo-European reconstruction of *Imola* takes into account also the analysis of the hydro-geo-morphology and historical topography of the territory (Nanetti and Giberti 2014) with the semantic developments linked to the root(s) involved in the naming of the place.

In Zavaroni's proposal the discretion (or arbitrariness) moments in the *iūdicium* are two, the lexical interpretation of the texts and the recognition of inter-linguistic segments (synonymous words in different languages) on which to reconstruct (and to build) the historical phonetics.

The difficulties connected to the 'Etruscan hypothesis' (certainly open to new developments) about (*)*am-* = 'to pair', that could imply relationships between Indo-European and Etruscan in a possible 'common' origin (naming process) of the place name *Imola* (**yem-* / **jem-* & **am-* [**me-*]), reside also in two facts: 1) the pre-nasalization, in Indo-European, is a highly hypothetical phenomenon, quite uncertain, so it is very difficult to base the 'rewriting' and the reinterpretation of a root on this linguistic postulate; 2) the interpretation of Etruscan texts and documentation is strongly debatable and absolutely not confirmed (Etruscan is still an undeciphered language, although some scholars could disagree) and this is, with the current available philological bibliography, really an unbridgeable gap.

If Zavaroni's semantic interpretation of the Etruscan (*)*am-* was confirmed, without the elimination of the root **yem-* / **jem-*, it would be possible, in any case, to compare this stem with the same root **yem-* / **jem-* and this fact, as discussed earlier, would be an enormous breakthrough in the study of the naming process of *Imola* by considering it as the product of a natural common 'participation' or 'perception' (by Celts and Etruscans) in the final fixing of the place name.

If we would accept Zavaroni's *sema* '*cum*', 'with', for *am-*, moreover, the same Etruscan *am-* might be connected to the Indo-European root **am-* (**me-*), in the meaning of 'grab', 'seize' $< \sqrt{*h_2amh_3}$-, 'to proceed with vigor', 'to front', 'to catch', 'to grab', 'to seize', 'to firmly insist on something', 'to establish', 'to confirm by oath', 'to suffer', from which the Latin *amō* (Pokorny 1959-69: 35).

The possibility of mutual linguistic contacts and interexchange in that specific area of the Emilia-Romagna region is, in any case, really high, and the probability of a double influence (and/or sharing, and/or participation) in the naming process of places appears plausible. The linguistic link between Celts and Etruscans in that territory seems to be

reasonable also according to the evidence of cultural, social, political, and economic contacts between the two populations.

Conclusions

In conclusion, the analysis presented in this article points to a natural reuse and refunctionalization (by speakers in the area) of roots and/or (loan)words between the different linguistic systems involved in this process. This 'convergent' dialectics demonstrate how to elaborate and provide a pattern finalized to return the right etymology of Prehistoric and Proto-historic place names.

The existence of human settlements in the area where the city of Imola now stands is the result of one single factor: it is the place where the ancient east-west foothills road crosses the Santerno river, which flows from south to north. To facilitate the passage of the river, it was used seamlessly a natural ford, known as *Le Lastre* (The Slabs), which attracted two more streets, one coming from the neighbouring valley of the Senio river and the other coming from the valley of the Santerno river. This meeting-place was the aggregator of the human settlement, as is demonstrated also by the linguistic reconstruction of the origins of the place name 'Imola' —'[the settlement] at the bend of the river'—and of the hydronym 'Santerno' (the river that curves/turns). In different epochs, at least one or two ferries were associated with this ford a little further downstream, and the Romans built a bridge on the way to and from Faenza.

Comment [DI2]: See above

See my comment above

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PERONO CACCIAFOCO is the first author of the paper. Please, amend.