

PRE-INDO-EUROPEAN RELICS: THE **BORM-* ROOT IN THE EUROPEAN PRE-LATIN CONTEXT^{*}

Francesco Perono Cacciafoco

Nanyang Technological University, Singapore

Summary: This paper provides an innovative hermeneutic interpretation of the possible pre-Indo-European origins of the root **borm-* (> **bormo*) ‘warm water, hot water’ according to a new convergent approach. The stem **borm-* (> **bormo*) is considered in this study as not directly related to the (proto-)Indo-European root **g^whermó-/ *g^whormo-* ‘warm, hot’. It could be, rather, a trace of the pre-Indo-European linguistic substrate, with the voiced bilabial (/b/) phonetic treatment of the voiced aspirate labiovelar consonant **G^wH*. The presumably pre-Indo-European root **borm-* (> **bormo*) would have been, over time, transferred (after the possible «arrival» of the Indo-Europeans in their European territories) in the linguistic system of (proto-)Indo-European through a process of reuse and refunctionalization of roots and (loan-)words due to linguistic contact. Phonetically adapted to the (proto-)Indo-European standards and equated with the stem **g^whermó-/ *g^whormo-*, the root **borm-* (> **bormo*) could have been preserved in the hydronymy and toponymy of North-Western Italy, for instance in the river name *Bòrmida* (water course flowing between Liguria and Southern Piedmont) and in the place name *Bòrmio* (small town located in Lombardy).

Keywords: **borm-* (> **bormo*) root; pre-Indo-European and proto-Indo-European; reuse and refunctionalization of roots and (loan-)words; (proto-)Indo-European stem **g^whermó-/ *g^whormo-*; European hydronymy and toponymy

To Guido B., my friend and master

Introduction

The aim of this paper is the restitution of the remote (prehistoric) etymological origins of the root **borm-* (> **bormo*), here analyzed as possibly pre-Indo-European. As an evidence of the antiquity of this stem, belonging to stages diachronically more ancient than the proto-Indo-European, this work will analytically study the hydronym *Bormida* (*Bòrmida*, in the current Ligurian and Piedmontese dialects *Bormia*, IPA [ˈbormja]) with other related place names.

According to the reconstruction proposed here, following the criteria of the New Convergence Theory (NCT) [Perono Cacciafoco 2014: 79-98], the **borm-* (> **bormo*) root is considered as a presumably pre-Indo-European root transferred (after the possible «arrival» of the Indo-Europeans in their European territories) into the linguistic and onomastic system of proto-Indo-European

^{*} E-mail of the Author (Dr. Francesco PERONO CACCIAFOCO, PhD, Nanyang Technological University [NTU], College of Humanities, Arts, and Social Sciences [COHASS], School of Humanities and Social Sciences [HSS], Division of Linguistics and Multilingual Studies [LMS], Singapore): fcacciafoco@ntu.edu.sg.

through a process of reuse and refunctionalization of roots and (loan-)words due to linguistic contact. The stem **borm-* (> **bormo*), originally pre-Indo-European, could have been phonetically adapted to the (proto-)Indo-European standards, allowing the inclusion of all the derived place names and hydronyms into the (proto-)Indo-European linguistic and onomastic system.

Preliminary Information

The presumably pre-Indo-European root **borm-* (> **bormo*) has been studied, among others, by Giacomo Devoto [1999: 66] and Francisco Villar [1997: 469]. The two scholars have highlighted the presence of this stem in several European place names and hydronyms¹.

If the root is considered as pre-Indo-European, **borm-* (> **bormo*) could be at the origins of the (proto-)Indo-European proto-forms **g^whermó-/ *g^whormo-* meaning ‘warm, hot’ [Pokorny 1959-1969: 479].

The **borm-* (> **bormo*) root shows to be very ancient (maybe connectable with the first European human settlements from the Upper Paleolithic) and is the stem of the name of the *Bormida* river [DTI 1999: 92, s.v. *Bòrmida (1)*]. The hydronymy and toponymy derived from this root are sometimes called «Neolithic» [Pellegrini 1981: 38, Petracco Sicardi 1981: 41], but it is highly possible that place names and river names derived from this stem existed already in the Upper Paleolithic, being plausibly pre-Indo-European. The «Indo-Europeanization» of the root, indeed, could have been produced in the Neolithic and not later, in the Bronze Age. The area of the *Bormida* river, for example, was already inhabited in the Paleolithic, as witnessed by the paleo-anthropological and archaeological findings along the bed of the watercourse [Perono Cacciafoco 2011: 3-20].

Bormida is an Italian river (geographic coordinates at the mouth 44°56'02.53"N 8°40'26.3"E) flowing in North-Western Italy, between the regions Liguria and Piemonte (Piedmont). The river name is derived from the plausibly pre-Indo-European root **borm-* (> **bormo*) ‘warm, hot’, with a specific reference to the water of the river, ‘warm water, hot water’ (the same is extended also to ‘hot spring[s]’).

The hydronym is linked with the names of the Celtic and Lusitanian springs’ gods *Bormō* and *Bormānus*, then Romanized and identified with Apollo. The ononymic variants *Borūs* ~ *Borvō* ~ *Bormō* ~ *Bormānus* are based on the **borm-* (> **bormo*) root and on a connected stem **boru-*. Starting from the presumably pre-Indo-European **borm-* root, mainly indicating ‘warm water, hot water, hot spring’, the stem **boru-* is considered as a variant of the proto-Celtic root **beru-* ‘to boil’ [Pokorny 1959-1969: 143-145, 98-102; 113; 132-133; 137; 155; 159-160; 171-172]. That stem may have meant also ‘to bubble.’ Cognate with the names of the springs’ gods are the Welsh *berw* ‘boiling’ and the Goidelic *bruich* ‘to boil, to cook’. These words seem to be derived from proto-Indo-European roots, **bhreue-* and/ or *bh(e)reu-/ bh(e)rū-* ‘to bubble, to boil, to effervesce, to surge’ [Pokorny 1959-1969: 143-145, 171-172], Sanskrit

¹ About the possible pre-Indo-European origins of the **borm-* (> **bormo*) root, cf. [Perono Cacciafoco 2009: 15-24, 2014: 89, 2015: 39-40].

Bhurnih (भूर्निह) ‘violent, passionate,’ Ancient Greek *φρέαρ* ‘well, spring’, Latin *fervēre* ‘to boil, to foam’, Thracian *brytos* ‘fermented liquor made from barley’, Old English *beorma* ‘yeast’, Old High German *brato* ‘roasted meat’, from which also the English word *brew* derives. The proto-Celtic forms of the variants of the gods’ names could have been **Borū-s*, **Borwōn(-)*, **Borumāno-s*, and **Borumān-iko-s*. All the denominations could mean ‘The Bubbler’ or ‘The (Water) Warmer’. The just highlighted stem, moreover, should be at the origins of the name of the *Barrow*, the second-longest water-course in Ireland. In Irish, the river is called *An Bearú* ‘the boiling (water), the bubbling’. According to the Irish mythology, *Dian Cecht*, a great healer of the *Tuatha Dé Danann* (the fifth among the six prehistoric populations invading Ireland before the Gaels), has been the first causing the «boiling» of the river. **Borvō-* can be connected with the Irish *borbhan* ‘a purling sound’, probably also linked to the Welsh *berw* ‘to seethe’, to the French *Bourbon*, and to the Latin *fervo* ‘I boil’.

Also, the name *Bormani*, related to a Ligurian tribe (*Ligures Bormani*), derives from this series of roots and/ or proto-forms, as well as the place name *Lucus Bormani*, a denomination given to a way station situated in the current Liguria (North-Western Italy), on the Roman *via Iulia Augusta* along the Ligurian Riviera between *Albingaunum* (now Albenga, North-Western Italy, Liguria, currently in the province of Savona) and *Albintimilium* (now Ventimiglia, North-Western Italy, Liguria, currently in the province of Imperia), both «water-places» characterized, in their names, by the **alb-* root, meaning ‘clear water, white water’². The *Lucus Bormani* was located in proximity of the current Diano Marina town (North-Western Italy, Liguria, now in the province of Imperia). That territory has been inhabited already from the Upper Paleolithic and was sacred to the prehistoric (Celtic) god *Bormānus*³. In particular the woods (*lucus*) of that place were linked to the *Bormānus*’ worship. From the *Ligures Bormani*, moreover, the place name *Bormes* (Provençal *Bòrmas*, Mistralian *Bouarmo*, currently *Bormes-les-Mimosas*) had its origins. The village is located in the Var department, Provence-Alpes-Côte d’Azur region, South-Eastern France (geographic coordinates 43°09’09”N 6°20’38”E).

The *Bormida* river is the most important tributary (length: 276 kilometers) – on the right bank – of the *Tanaro* river (that comes from the Mount Saccarello, Ligurian Alps, altitude: 2201 meters above sea level) into which it flows near *Alessandria* (North-Western Italy, Piedmont)⁴.

The *Bormida* river is constituted by two ramifications [DTI 1999: 92, s.v. *Bòrmida* (1), Bosio 1972: 138-140]. The first one is called *Millesimo’s Bor-*

² About the «water-places» and the **alb-* root considered according to the criteria of the New Convergence Theory (NCT), cf. [Perono Cacciafoco 2013a: 70-86, with bibliography, 2013b: 7-25, with bibliography].

³ It is believed that, over time, the Romans tried to eradicate his worship, converting it into the devotion of the Roman goddess of hunting *Diana* (the Greek *Artemis*). It is possible that the place name *Diano* (Diano Marina) derives from the name of the goddess.

⁴ It is *Bormida al Tanaro sposa* (‘the Bormida river, spouse of the *Tanaro* river’) mentioned (v. 18) in the ode *Marzo 1821* ‘March 1821’ by the Italian poet and writer *Alessandro Manzoni* (1785-1873).

mida, having its name from the village of Millesimo (located in North-Western Italy, Liguria, currently in the province of Savona), and comes from the slopes of the Mount Scraivaion (altitude: 820 meters above sea level), in the Ligurian Alps, near Bardineto (North-Western Italy, Liguria, currently in the province of Savona). At its right bank, this branch of the *Bormida* river receives the waters coming from the Mount Settepani (altitude: 1365 meters above sea level). Near Millesimo, the waters of the *Bormida* river are conveyed to form the artificial Lake of Osiglia (North-Western Italy, Liguria, currently in the province of Savona). The second ramification is called *Spigno's Bormida*, having its name from the village of Spigno Monferrato (North-Western Italy, Piedmont, currently in the Province of Alessandria)⁵. This ramification is constituted by other two minor branches: 1) the *Màllare's Bormida* (from the village of Màllare, North-Western Italy, Liguria, currently in the province of Savona), running through the city of Altare (North-Western Italy, Liguria, currently in the province of Savona, town renowned, already from the XI century, for the traditional glass production); 2) the *Pàllare's Bormida* (from the village of Pàllare, North-Western Italy, Liguria, currently in the province of Savona), running through the city of Càrcare (North-Western Italy, Liguria, currently in the province of Savona)⁶. These two minor branches are reunited near the village of San Giuseppe di Càiro (North-Western Italy, Liguria, currently in the province of Savona).

The two main ramifications of the *Bormida* river are, at their turn, reunited west of the Bistagno village (North-Western Italy, Piedmont, currently in the province of Alessandria), near the locality of Sessame (North-Western Italy, Piedmont, currently in the province of Asti). The conjunction occurs exactly under the hill of the village. Then, the watercourse runs through the city of Acqui Terme (the Roman *Aquae Statiellae*, North-Western Italy, Piedmont, currently in the province of Alessandria), along a number of ferruginous and sulphureous hot waters springs.

After the junction, important tributaries on the right bank of *Bormida* are the Erro stream (coming from the small valley called *Le Mogge* and receiving the waters from the brook named *Rio del Colle del Giovo* – altitude: 516 meters above sea level –, on the mounts of the Sassello village, North-Western Italy, Liguria, currently in the province of Savona) and the Orba stream⁷, coming from the Mount Ermetta (altitude: 1267 meters above sea level) and from the Mount Bèigua (altitude: 1287 meters above sea level), joining, near the town of Ovada (North-Western Italy, Piedmont, currently in the province of Alessandria), the Stura stream. *Bormida* receives waters also from the Visone stream (running through, among others, the villages of Visone and Grogardo, both located in North-Western Italy, Piedmont, currently in the province of Alessan-

⁵ About the etymology of the place name *Spigno (Monferrato)*, cf. [Perono Cacciafoco 2014: 93-94].

⁶ About the etymology of the place name *Càrcare*, cf. [Perono Cacciafoco 2015: 39-42].

⁷ About the etymology of the hydronym *Orba*, cf. [Perono Cacciafoco 2013a: 70-86, 2013b: 7-25].

dria) and from the Caramagna stream (coming from the Bandita, hamlet of the Cassinelle village, North-Western Italy, Piedmont, currently in the province of Alessandria).

Between the two different ramifications of the *Bormida* river and along its unified flow the Aleramic Marquis Del Carretto, Ceva, Clavesana, and Ponzzone established their feuds during the Middle Ages, building, over time, their castles and their mansions, providing the local abbeys with goods and territories.

The **borm-* (>**bormo*) Root and the *Bormida* Hydronym

Giacomo Devoto, among others, has highlighted the association of the root **borm-* (>**bormo*) not only with the hydronym *Bormida*, but also with the place name *Bormio* (*Bòrmio*, Valtellina dialect/ Lombard *Bormi*, German *Worms in Veltlin*, Romansh *Buorm*), denomination of an important touristic spa town of Lombardy (North-Western Italy, currently in the province of Sondrio) located on the Alps (altitude: 1225 meters above sea level, geographic coordinates: 46°28'00"N 10°22'00"E), in a large flat land in which the Frodolfo stream flows into the Adda river, at the crossroads of important communication routes. The small city is composed by the ancient village plus a modern center. It is renowned for its thermal springs and as a summer resort. It is also a privileged place for winter sports.

According to Devoto [1999: 66], the root **borm-* (>**bormo*) is unrelated, in its historical phonetics, to the Indo-European (Italic and Celtic) traditions. The stem **bormo* is comparable with the roots of Irish *gorm* ('blue' or 'black skin' < PIE **wrmi-*) and Latin *formus* ('warm' < PIE **g^whermos*), but the voiced bilabial (/b/) phonetic treatment of the voiced aspirate labiovelar consonant **GwH* is different from both the Celtic and Italic attestations. Cognates of *formus* are Sanskrit *घर्म* (*gharma*), Old Armenian *ջերմ* (*ǰerm*), Ancient Greek *θερμός* (*thermós*), proto-Slavic **gorěti*, and Old English *wearm* (English *warm*). Old Irish *gorm* 'blue' should derive from the proto-Celtic **gorsmo-*, from **gor-* 'warm, warm color', from the proto-Indo-European **wrmi-* ('warm') root, related to the proto-Indo-European **wer-* ('to turn, to bend') stem. As it appears evident, the historical phonetics of the voiced aspirate labiovelar consonant **GwH* of/ in **bormo* shows to be incompatible with Celtic and Italic.

It is plausible to hypothesize, therefore, that, despite a late assimilation of the **borm-* (> **bormo*) root to Indo-European, the stem is originally pre-Indo-European. The root would have been transferred, in remote times, into the (proto-)Indo-European linguistic system, having been reused and refunctionalized, following, phonetically, the widespread forms **g^whermó-/ *g^whormo-*, with the generic meaning of 'warm, hot'.

Probably the root **borm-* was originally (in the pre-Indo-European linguistic system) connected with the specific notion of 'water' ('warm/ hot water, hot spring', and there could be a very interesting analogy with the root **alb-* 'clear water' [Perono Cacciafoco 2013a: 70-86, 2013b: 7-25], completed by the comparison with the above mentioned Old Irish *gorm*, related, instead, to a color), while the Indo-European **g^whermó-/ *g^whormo-* had a more generic and extensive meaning: 'warm, hot'.

Francisco Villar [1997: 469] does not differentiate the two roots **borm-* (>**bormo*) and **g^whermó-/ *g^whormo-*, thinking about a derivation of the hydronym *Bormida* (and of a Latin form [*Aquae*] *Bormiae*) from the Indo-European root **g^whermó-/ *g^whormo-*, always with the meaning of ‘warm, hot’.

The remark by Giacomo Devoto on the **borm-* (>**bormo*) historical phonetics, however, is very interesting and can be substantiated by the epistemological principles of the New Convergence Theory (NCT) about linguistic contact in prehistoric times (in this case in the dichotomy pre-Indo-European vs Indo-European) and about the close relationship between hydronyms and toponyms and the hydro-geo-morphology of territories.

An ancient name of the *Bormida* river was *Burmia*. This hydronym is attested, in this form, during the Middle Ages, starting from the years 991 and 1137. Subsequent documents show the form *Burmea* [DTI 1999: 92, s.v. *Bòrmida* (1)]. The root **borm-* (>**bormo*), with the voiced bilabial /b/ as the phonetic treatment of the voiced aspirate labiovelar consonant **GwH*, appears as incompatible with Indo-European **g^whermó-/ *g^whormo-*. Exactly the phonetic treatment through the voiced bilabial /b/ of the voiced aspirate labiovelar could be the trace of the pre-Indo-European nature of this root, then (after the «arrival» of the Indo-Europeans in the European territories) transferred, handed down, reused, refunctionalized, and assimilated in/ into the Indo-European «naming system» with Indo-European phonetics (**g^whermó-/ *g^whormo-*), meaning ‘warm/ hot waters’. The Ligurian hinterland and the Southern Piedmont (North-Western Italy), where the *Bormida* river flows, have been continuously inhabited during the Neolithic, but probably also previously, starting, at least, from the Upper Paleolithic [Biagi 1980: 9-18].

In that geographical context, toponymy and hydronymy seem to be linked precisely to the so-called «pre-Indo-European substratum». Liguria, indeed, has been considered (with, in Italy, the current Southern Piedmont – in ancient times *Liguria* –, the Tyrrhenian area, the Rhaetia – North-Eastern Italy – and the Eastern Sicily) as a territory characterized by the survival of «remains» (and «linguistic relics/ relicts and/ or fossils») of pre-Indo-European populations [Villar 1997: 109-110 (and map 15)].

History and Historical Semantics of the **borm-* (>bormo*) Root**

The hydronym *Bormida*, in medieval documents, appears as a form in **burm-*. The river name *Burmia* is attested in the *Founding and Donation Charta of the Saint Quentin's Abbey in Spigno Monferrato* (May the 4th, 991) [Bosio 1972: 18, 30, 138-140], at the line 12 of the Latin text. *Burmia* is also witnessed in 1137 [BSSS 1899-: LI 31, 32] and, with disappearing dental occlusive, *Burmea* dates back to 1182 [Olivieri 1965: 97, s.v. *Bòrmida*]. One among the most ancient attestations of the *Bormio* place name is *Burmis* (analogous to the just mentioned *Bormida* names). It is attested for the year 822 [DTI 1999: 92, s.v. *Bòrmio*].

Cassiodorus (*ante* 490 – *post* 580), in his *Variae* (published in the year 538) [Cassiodorus 1583: X 20, 29], mentions a hypothetically double toponym (possibly connected with two different places), *Aquae Bormiae/ Aqu(a)e Bor-*

midae, difficult to be located, but probably connected with the place name *Bormio* and/ or with the hydronym *Bormida*.

The same Cassiodorus links the toponym *Aquae Bormiae* to a hot waters spring, healthy against the gout. As mentioned, the place is difficult to be located. The fact, however, that the small town of *Bormio* is characterized by the presence of thermal springs is a significant clue. The name can be associated, moreover, also with the *Bormida* river, since the watercourse flows through the city of Acqui Terme (North-Western Italy, Piedmont, currently in the province of Alessandria), small town renowned for its thermal waters (and for the hot spring called *La Bollente* ‘The Boiling’).

The persistence of the voiced bilabial /b/ of **borm-* (> **bormo*) (against the [proto-]Indo-European **g^whermó-/ *g^whormo-*) in the medieval forms in **burm-* is very significant, because it could be interpreted as the witness of a relic of the pre-Indo-European linguistic substrate in very ancient and conservative paleonyms (toponyms and hydronyms) as *Bormida* and *Bormio*. The meaning of the root, always connected with the notion of ‘warm, hot’, could be, as mentioned, linked to the seme of ‘warm water(s), hot water(s)’. *Aquae Bormiae/ Aqu(a)e Bormida* would mean, therefore, precisely ‘warm waters, hot waters’.

As highlighted above, these place names and hydronyms have been connected also with the proto-Indo-European root **bhreue-* (**bhĕr-/ *bhōr-*) [Pokorny 1959-1969: 171-172] ‘to bubble, to boil’ (from which, for example, the Gaulish *boruo* ‘bubbling spring, hot spring’ should be derived). Also, this stem, in its historical semantics, is connectable with the notion of ‘water’.

Both (proto-)Indo-European roots, **g^whermó-/ *g^whormo-* and **bhreue-* (**bhĕr-/ *bhōr-*), could have been linked to *Bormida* and *Bormio* through Lepontic, an epigraphic Indo-European language, variety of Celtic, also called «Celtic-Ligurian». Lepontic is an ancient Alpine language that was spoken in parts of Rhaetia and Cisalpine Gaul (what is now Northern Italy) between 550 and 100 BC. Lepontic is attested in inscriptions found in an area centered on Lugano, Switzerland, and including the Lake of Como and the Lake Maggiore Italian territories. Lepontic could have inherited the two stems from the pre-Indo-European root **borm-* (> **bormo*) [DTI 1999: 92, s.v. *Bòrmio*, Pellegrini 1981: 38]. This reconstruction would allow a better understanding of the dichotomy pre-Indo-European vs Indo-European in Northern Italy and a more precise diachrony of the remote stages of linguistic change in prehistoric Europe.

The semantic interpretations of the root **borm-* (> **bormo*) have been different. Dante Olivieri [1965: 97, s.v. *Bòrmida*] mentions the form *Bormita* (appearing also in some attestations of the German place name *Worms*), indicating the *Bormida* river in Roman times. According to the same Olivieri (and to Devoto), the hydronym would derive, in its forms *Burmia* and *Burmea*, exactly from the pre-Indo-European root **borm-* (> **bormo*) that, in the opinion of the scholar, could be paleo-Ligurian.

Giovanni Alessio [1962: 109] interpreted the seme of **borm-* (> **bormo*) not as ‘warm, hot’ (and/ or ‘warm/ hot water, hot spring’), but as ‘humid place’ and, especially, ‘muddy place, mud’, hypothesizing the derivation of the hydronym *Bormida* from the proto-form **bōrma* with the meaning, indeed, of ‘mud,

clay', possibly linked to the Provençal word *bourmo* 'slime, silt' [Alessio 1955: 476]. According to Alessio, moreover, **bormo* would be a variant of another proto-form, **borbo*, possible stem of the hydronym *Borbèra*, name of a stream flowing in the homonymous *Borbèra valley*, in the Alessandria territory (North-Western Italy, Piedmont), in the areas of Novi Ligure (North-Western Italy, Piedmont, currently in the province of Alessandria) and Serravalle Scrivia (North-Western Italy, Piedmont, currently in the province of Alessandria). Also **borbo*, according to the scholar, would mean 'mud'.

Olivieri, in his turn, compares the root **borm-* (> **bormo*) with a stem **borb-* (linked to the hydronym *Borbèra*) alluding to the 'noise of the waters', as an onomatopoeic expression (standard Italian *borbottare*, Sienese dialect *borbonare*) connected with the typical gurgling of a water spring or of a water-course [Olivieri 1965: 95, s.v. *Borbèra*]. According to this semantic interpretation, the root **borb-* could be linked to the above mentioned root **bhreue-* (**bhër-/ *bhör-*) 'to bubble, to boil'.

Giulia Petracco Sicardi [1962: 63], writing about a place located in the territory of Pigna (North-Western Italy, Liguria, currently in the province of Imperia), called *Burmu*, where there is a homonymous 'big spring', hypothesizes that the original meaning of the root **borm-* could be generically 'spring'.

Giacomo Devoto [1962: 199], as mentioned above, «translates» the hydronym *Bormida* as 'the hot waters river', linking to his interpretation of the stem **borm-* the meaning of the place name *Aquae Bormiae* (from the Cassiodorus' *Variae*) and of the Latin *formus*.

***Bormida* as a Hydronym and Place Name**

It is interesting to highlight the peculiar productivity of the hydronym *Bormida*, directly generating a place name. The hydronym does not only become, as it happens generally, a definite part of a toponym (as, for example, in the place name *Monastero Bormida*, village located in North-Western Italy, Piedmont, currently in the province of Asti), but, in this case, it also gives the complete name, through its standard form, to a locality. The place is called, indeed, *Bormida* (*Bòrmida*, North-Western Italy, Liguria, currently in the province of Savona, geographic coordinates 44°16'43.77"N 8°14'00.1"E) [DTI 1999: 92, s.v. *Bòrmida* (2)], rural village of the Savona Oltregiogo's territory located in the valley of the *Pàllare's Bormida*.

The area of *Bormida* was inhabited in prehistoric times, probably already during the Upper Paleolithic, with evidences of settlements in the Bronze Age [Perono Cacciafoco 2011: 3-20]. The four centers constituting the village have been developed in dependence of the Saint Mary and Saint Lazarus Abbey-Hospital of Fornelli (a hamlet of the Mállare municipality), founded by Henry I, Marquis of Savona, in the year 1179.

The place name, in the current Ligurian dialect, is *Búrmia* and *Bormia*. *Búrmia* is a semi-scholarly form witnessing, for the toponym, the derivation from the hydronym *Bormida* (much more ancient and direct in the naming process tradition ↔ *búrnia*).

Again on the Historical Semantics of *borm- (> *bormo)

On the interpretation of the presumably pre-Indo-European root *borm- (> *bormo) as ‘hot/ warm water’ and of its parallel with the (proto-)Indo-European stem *g^whermó-/ *g^whormo- ‘warm/ hot’, in which the pre-Indo-European root *borm- (> *bormo) would have been translated and identified over time, according to a process of reuse and refunctionalization of words and roots, it is possible to mention also a historical document.

It is a Latin passage from the *Historia Langobardorum* (published around the year 798) by Paul the Deacon (Paulus Diaconus, ca. 710/ 720-799). This passage is also connectable with the Cassiodorus’ mention of the place name *Aquae Bormiae* with the meaning of ‘hot waters’. The author is talking about the Cottian Alps’ territory. In this area (*In hac*) – Paul writes – there is *Aquis, ubi aquae calidae sunt* ‘Acqui [Terme], where there are hot waters’ [Paul the Deacon 1998: 254-255 = *Historia Langobardorum* II 16]. Acqui Terme (the ancient *Aquae Statiellae*, North-Western Italy, Piedmont, currently in the province of Alessandria), as mentioned above, is one of the most important towns located on the flow of the *Bormida*, ‘the hot waters river’.

Hydro-Geo-Morphology of the Territory

Acqui Terme, pre-Roman settlement and, later, Roman *castrum* (then city, *Aquae Statiellae*, place name from the *Ligures Statielli*, the first attested inhabitants of the town during the Age of Bronze), is well-known for its ancient thermal installations located around three kilometers west of the Visone village (North-Western Italy, Piedmont, currently in the province of Alessandria), on the right bank of the *Bormida* river, and for the hot sulphurous water spring called *La Bollente* ‘The Boiling’. This spring spurts (560 liters per minute) in a typical monument (a marmoreal octagonal aedicule, architecturally classic, built in 1870 and inaugurated on May the 11th, 1879) located at the center of the city, with a temperature of 75 centigrade degrees [Bosio 1972: 125-126]. The Acqui Terme baths (spa) derive from a number of springs providing around 500 liters of water per minute with a variable temperature, between 40 and 57 centigrade degrees. This kind of thermal water is definable as sulphureous, saline, bromine, and iodic [Martinis 2003: 137].

Water springs traditionally considered curative are located also near Acqui Terme, for example in the already mentioned village of Visone, situated at the borders of the town. To the east of the Acqui Terme spa installations sulphureous springs flow out along the stream called *Rio dei Chiodi*, around 400 meters before the Visone inhabited settlement. One ferruginous spring gushes near the center of the commune. Another important spring, in Visone, is the so-called *Quarello* sulphureous spring. The most renowned spring flows out in the center of the village and is called *La Caldana* or *La Caldara* ‘The Hot Spring’, although the water is characterized by a temperature of only 21 centigrade degrees. The rate of flow is variable, but quite small, around 8 liters per minute.

Another sulphureous spring in the area is the so called *Acqua Puzzolente* ‘Smelly Water’ of Ravanasca, sprouting south of the Acqui Terme spa installations [Bosio 1972: 217].

The village of Grogcardo (North-Western Italy, Piedmont, currently in the province of Alessandria) is very close to Acqui Terme and Visone. In its territory, it is possible to identify another ferruginous spring, called *Sorgente di San Felice* ‘The Saint Felix Spring’, from the name of the nearby homonymous church, once owned by the Beccaro family.

Beneath the hill called *Bricco Carpione*, between Grogcardo and Morbello (North-Western Italy, Piedmont, currently in the province of Alessandria), another small village of the Acqui Terme territory, the two branches of the brook called *Rio* (or *Ritano*) *Fossato* (that will become the *Visone* stream) merge. They come from Cimaferle-Toleto (hamlets of Ponzzone, North-Western Italy, Piedmont, currently in the province of Alessandria), on the right bank, and from Cassinacce-Ciglione (hamlets of Ponzzone), on the left bank. They produce, in the area named *Maglietto* (local dialect *Maièt*), the so-called *Laghetto* ‘Small Lake’, *Lago Nero* ‘Black Lake’, and *Lago Rotondo* ‘Round Lake’. After about 20 kilometers, the stream *Visone* (generated by the union of the two branches of the *Rio Fossato*) flows into the *Bormida* river, under the medieval tower of the Visone (village) castle. There, the *Visone* stream, in the past, fed a dam (in the local dialect *pisa*) producing the so-called *Lago del Torrione* ‘Lake of the Big Tower, once crossed by a boat, as a public service, starting from the XVI century [Bosio 1972: 161].

The hydro-geological survey just offered highlights the widespread presence, in the analyzed territories, of warm waters and hot springs well-known, over time, by the different populations occupying those territories already from remote ages (probably from the Upper Paleolithic). This should have influenced the naming process of hydronyms and place names in the examined areas, in a close relationship with the landscape along the flow of the *Bormida* river (or with the territory dotted with hot thermal springs of the *Bormio* town).

Worms

Another historical European city can be connected with the toponymic and hydronymic system of the **borm-* (> **bormo*) root.

Worms (archaic Italian *Vermazia*, derived from Latin *Vormatia*) is an important German city (geographic coordinates 49°36'N 8°22'E) located in the Rhineland-Palatinate area, Germany, on the Upper Rhine, around 60 kilometers south-southwest of Frankfurt-am-Main. The settlement had its origins in prehistoric times. It has been a pre-Roman foundation, inhabited by the Germanic tribe of the *Vangiones*, then conquered and fortified in the year 14 BC by the Romans headed by Drusus. The town had the name of *Augusta Vangionum* (from its Germanic inhabitants). The original attested Celtic name of *Worms* was *Borbetomagus* or *Bormetomagus*. *Worms* was, then, the capital of the kingdom of the Burgundians in the early V century and the venue of the medieval legends narrated in the first part of the *Nibelungenlied* (‘The Song of the Nibelungs’, first half of the XIII century).

As told, the original attested *Worms*’ name was Celtic, *Borbetomagus* or *Bormetomagus* ‘town located in a territory rich in water’. In this double toponym, it is possible to find the root at the origins of the (presumably pre-Indo-European) naming process involving the hydronym *Bormida* and the

toponym *Bormio* (**borm-* [\rightarrow **bormo*]), plus that of the stream *Borbera* (**borbo*) ‘hot/ warm waters/ springs’ and/ or ‘bubbling/ boiling waters’. The Latinized final part of the double name *Borbetomagus/ Bormetomagus*, *-magus*, means ‘field, meadow, tableland, plain’. The place name, in this double form, could be also interpreted as ‘the field of *Bormo*’ or ‘the field at *Bormita*’ [Rasch 2005: 140, Maier 2003: 122]. *Bormita* is also attested as a Romanized name of the *Bormida* river [Olivieri 1965: 97, s.v. *Bòrmida*].

The origins of the place name *Worms*, with the voiced bilabial phonetic treatment (/b/) of the initial consonant, seem to be more ancient than Indo-European and, therefore, connected with the root **borm-* (\rightarrow **bormo*) and/ or **borbo*, before the establishment of the (proto-)Indo-European stem **g^whermó-/ *g^whormo-*. The Celtic toponym was possibly transformed into the Latin place name *Vormatia* (\rightarrow *Wormatia/ Wormazia*), in use since the VI century. This form has been preserved in the Medieval Hebrew *Vermayza* (וּרְמַיזָא) and in the contemporary Polish *Wormacja*. The name, in Celtic times, as mentioned above, could have been connected also with the worship of the Celtic and Lusitanian gods *Bormō* and *Bormānus*.

According to a paretymological tradition, the toponym derives from the moment when the legendary hero Siegfried slew a lindworm (a dragon) near the city, as told in the *Nibelungenlied*.

The direct and evident link of the place name *Worms* with the roots **borm-* (\rightarrow **bormo*) and/ or **borbo* could be indicative in the hypothesis of the existence of a possible pre-Indo-European hydronymic and toponymic system in prehistoric Europe, developed before the presumed «arrival» of the Indo-Europeans in their European territories and then incorporated into the Indo-European naming system, reused and refunctionalized in/ through the «mediation» of the analogous stem **g^whermó-/ *g^whormo-*.

Conclusion

As just highlighted through the analysis of the place name *Worms* and, before, trying to reconstruct the relationships of the hydronym *Bormida* and the place name *Bormio* with the root **borm-* (\rightarrow **bormo*), it could be possible to hypothesize and reconstruct a hydronymic and toponymic system, in prehistoric Europe, derived from a possibly pre-Indo-European root.

The stem **borm-* (\rightarrow **bormo*) could have been widespread in Europe before the possible «arrival» of the Indo-Europeans, from very remote times, since its phonetics does not seem immediately attributable to the (proto-)Indo-European. Over time, the root **borm-* (\rightarrow **bormo*), meaning, specifically, ‘warm water, hot spring’, would have been incorporated, by the Indo-Europeans, into their linguistic system, reused and refunctionalized, becoming Indo-Europeanized in/ through the analogous stem **g^whermó-/ *g^whormo-*, meaning, generically, ‘warm, hot’.

In the light of the findings of this paper, it is possible to hypothesize, in prehistoric Europe (pre-Indo-European times), a hydronymic and toponymic system linked to water names, in particular the water names derived from the presence, in landscape, of warm (thermal and/ or sulphureous) waters and/ or hot springs.

The water names are maybe the most ancient and conservative forms in European hydronymy and toponymy, authentic relics dating back to the origins of the naming process in many areas of prehistoric Europe. The study of the «*borm- system» could contribute to shed light on their (pre-)history.

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