TOPONYMIC PERSISTENCE: THE PROTO-INDO-EUROPEAN *KAR- ROOT IN THE PRE-LATIN LIGURIAN CONTEXT

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Summary: This paper provides a survey on the proto-Indo-European root *kar-/ *kal- ‘stone, rock’ and on the related European prehistoric toponymy following a new convergent approach. The stem *kar- is considered as a presumably pre-Indo-European root transferred (after the possible arrival of the Indo-Europeans to the European territories) into the linguistic system of proto-Indo-European through a process of re-use and re-functionalization of roots and (loan-)words due to linguistic contact. Phonetically adapted to the (proto-)Indo-European standards, the root *kar- shows, at least in the Ligurian area, a variant *kal- (not an independent stem, but an alternative form) involved in the formation of a number of words and place names linked to the notions of ‘rock’ and ‘stone’ (in particular, ‘friable, calcareous rock eroded by water’). The paper tries, moreover, to highlight a particular morphologic phenomenon of reduplication of the root *kar- (although the reduplication is not widely productive in Indo-European) in the Italian (Ligurian) place name Carcare (< Carcaris).

To my «elder brother», Francesco C.

Introduction
This paper aimed at reconstructing the etymological origins of some prehistoric Ligurian place names derived from the (Proto-)Indo-European root *kar- ‘stone’¹ and probably constituting a «toponymic system». In this specific onomastic context, it is possible to connect with the *kar- root a form *kal-², a sort of its «pseudo-rhotacistic» variant (maybe produced by a process of «lenition»). Following this kind of etymological restitution, it could be also possible to link this branch of the Ligurian hinterland toponymy to names/ nouns from the proto-Indo-European (and Ligurian) general lexicon associated to really peculiar hydro-geo-morphological phenomena of that territory (the well-known calanchi ‘badlands, gullies, ravines’).

Preliminary Information
Antonio Tovar³, discussing Hans Krahe’s work⁴, has drawn up a map of European prehistoric hydronyms derived from the well-known (proto-)Indo-

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⁴ Cf. [Krahe 1962: passim].
European root *kar- (>).kar[r]a)⁵ ‘stone, rock’. This stem occurs in the original names of many European rivers and places. In the case of bodies of water, *kar- would have the meaning of ‘stony river’ or ‘river flowing through a pebbly shore/ gravel bed’.

Francisco Villar⁶, completing the Tovar’s discourse, associates with the *kar- root the Indo-European stems *mal- ‘rock, stone’ and *lap-/ *lep- ‘rock, stone’ (Ancient Greek λέπας, Latin lapis). It could be possible to hypothesize, for these two roots, a pre-Indo-European origin with a subsequent adaptation of the same to the Indo-European phonetic system in the possible transition between pre-Indo-European and Indo-European, after linguistic contact. It seems that, sometimes, some of these roots can invert the order of the consonantal elements composing them, changing the articulation manner in the plosives. The mentioned *lap-, therefore, can appear also, with the voiced labial plosive form, as *lab- (Ancient Greek λάβρυς ‘ax’, originally a ‘stone/ stony [ritual] ax’). If the order of the consonants is inverted, the root *lap- originates the word pal-a > pala ‘tombstone, gravestone’ attested in the Lepontic inscriptions in Northern Italy.

According to Villar, in any case, the opinion on possible pre-Indo-European origins of these roots is questionable. The consonantal fluctuations seem to be not linked to intrinsic features of languages that presumably had their «births» before Indo-European (or before the possible arrival of Indo-Europeans in their European territories). They seem, conversely, connected with changes in the transmission or in the adoption of these forms by – latu sensu – Indo-European populations. These roots, possibly non-Indo-European, appear as integrated in a clearly Indo-European linguistic (and, therefore, phonetic) system and allow the scholars to think a) that they are, in reality, originally Indo-European or b) that, being pre-Indo-European in their origins, they have been transferred, integrated, re-used, re-functionalized, and assimilated as loan-words (or «loan-roots») by Indo-Europeans (and adapted to the Indo-European phonetic system in/ into the common Indo-European and, then, perceived and used as the other Indo-European original roots. This process was realized probably in the *mal- root and also with the *kar- stem (and with the *kal- form as a variant of *kar-).

Tovar⁷ finds traces of the existence of a pre-Indo-European hydronymy and toponymy connected with the root *kar- in such names as Harund (Scandina-

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⁵ It could be possible – at least at a logic level – to hypothesize for the *kar- root a pre-Indo-European origin (remaining in the field of hermeneutic possibilities). In that case, the stem could be considered as the result of an «adaptation» to the phonetic system of Indo-European from a substratum. This work will take into account this possible non-immediately Indo-European (pre-)origin, considering also this analytical key of interpretation. However, it is necessary to highlight the fact that the *kar- root in its (phonetic) form and also in its productivity in the «making» of place-names, hydronyms, and ononyms, is safely Indo-European, ascribable to the Proto-Indo-European stage, without a cogent epistemological need to attribute it to a hypothetical more ancient linguistic layer.

⁶ Cf. [Villar 1997: 102-103].

⁷ Cf. [Villar 1997, cit.: 126-127].
via), Carron, Cart Water, Cary (Great Britain), Carad (Ireland), Harste (Germany), Chiers (Belgium), Charentonne, Cher, Charante (France), Carusa (Italy), Carranzo, Carranza, Carisa, Carantó (Spain), all derived from the presumably non-Indo-European (at least in its origins) root/ proto-form *kar(r)a (< *kar-) ‘stone, rock’, probably preserved in Basque as (h)arri ‘rock, stone’8. F.Villar adds to the Tovar’s list the place name Carrara (Central Italy, Tuscany, in the province of Massa and Carrara), a town well-known for its celebrated marble stone9.

The suffixation of these names, even if based on non-Indo-European roots, coincides with the typical Old-European (Indo-European) suffixation.

The *kar- Root

The possibly pre-Indo-European root *kar- could be also at the origin of the genesis of the Indo-European stem/ proto-form *kartu- that was in its turn at the origin of the Ancient Greek adjective κρατύς ‘strong’ and verb καρτύνω (epic form)/ κρατύνω ‘to strengthen’, and of the Gothic hardus ‘hard’ (Latin ardūsus). The same root/ proto-form *kartu- and the derived forms share the same basic/ original meaning ‘hard’. The ‘hardness’ (not necessarily ‘non-breakable hardness’) implied by this «semantic cluster» is understood as a physical property (for example, ‘the hardness of the stone’)10.

The *kar- root, in its (Ligurian) «variant» *kal-11, can be also recognized – among others – in the Italian word calanco, apparently uncertain in its etymology. Giacomo Devoto and Gian Carlo Oli define calanco as a «Narrow and deep erosion’s furrow with many ramifications, limited by thin ridges, generally devoid of vegetation; it is a phenomenon from predominantly clay soils, produced by runoff and/ or washing out waters. The calanchi are widespread in the Emiliano-Romagnoli Apennines (Northern-Central Italy)» 12. It is necessary to specify that the calanchi are (hydro-)geo-morphological phenomena really common also in Liguria (North-Western Italy), especially in specific areas of the Ligurian hinterland. Devoto and Oli think that the word calanco derives from the term defined by them as «Mediterranean» (i.e. «pre-Indo-European»),

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8 Cf., for a map of place names presumably derived from *kar- (according to A.Tovar) [Villar 1997, cit.: 101, map 13].
9 Cf. [Villar 1997, cit.: 126].
10 Cf. [Benveniste 2001b: 340-346].
11 As mentioned, the stem *kal- is interpreted in this work as a «variant» of *kar- produced by a «pseudo-rhotacistic» phenomenon – dating back to remote stages in (proto-)Indo-European – that implies a «change» or a «lenition» of /r/ in /l/. In this context, *kal- seems, therefore, connected with *kar- and it could be defined as a variant from a common remote root (*kar-) possibly at the origins of a family of place names associated among themselves not only through historical phonetics, but also through (diachronic) semantic affinity. Cf., e.g., [Perono Cacciafoco 2008, cit.: 13-24].
12 Cf. [Devoto, Oli 1975: 406, s.v. calanco], «Calanco, solco d’erosione stretto e profondo, con molte ramificazioni, limitato da esili creste, genr. privo di vegetazione; è prodotto in terreni prevalentemente argillosi dalle acque di dilavamento. I c. sono frequenti nell’Appennino emiliano-romagnolo». 
calai (< *kal- ~ *kar-)^13, merged with the «Mediterranean Ligurian» (using their terminology) suffix -anco.

Using the term «Mediterranean», Devoto and Oli clearly refer to a possible pre-Indo-European substrate. When scholars thought that the Indo-European came from Northern or Central Europe, it was hypothesized that the Indo-European populations settled in the Mediterranean area (essentially Ancient Greeks and Latins) found in the three Mediterranean peninsulas non-Indo-European (pre-Indo-European) communities. From their non-Indo-European language(s) the Indo-Europeans would have had their so-called linguistic substratum. In this context, the definition «Mediterranean substratum» had its origin and its foundation. Such a «pre-Indo-European substratum» was hypothesized, of course, also in India, in Iran, and in Anatolia. The notion of «Mediterranean substratum» was extended, therefore, to all those areas. Scholars postulated, subsequently, that also Central and Northern Europe was inhabited by non-Indo-European populations before the arrival of the Indo-Europeans. For that reason, the term «Mediterranean» applied to every Indo-European substratum seems to be meaningless, since almost nothing is known (with the exception of the hypothesis of their existence) about the languages possibly spoken in the whole Neolithic Europe (and also in more ancient and remote times, starting, at least, from the Upper Paleolithic) and about their mutual relationships.

On the other hand, the nature of the possible loan-words (or loan-roots and loan-proto-forms) transmitted by those languages to Indo-European is clearer. The root *kar-/ *kal- seems to be an example of this process. It could be maybe useful to specify that, in this context, the notion of «Mediterranean» defines a word (or a root and/ or proto-form) exclusively as «pre-Indo-European», and not necessarily as belonging to a possible «pre-Indo-European substratum in the Mediterranean»^14.

The Root *kar- and Its Variant *kal-

Analyzing the word calanco, it seems evident that it shares the presumably pre-Indo-European and, then, Indo-European (proto-Indo-European) root *kar-/ *kal- with the place names and hydronyms listed by Tovar and Villar. The word, as highlighted, indicates a very particular and specific (hydro-)geomorphological phenomenon constituted by stone «washed away» and/ or carved by water. It is not the case that the geographic area called Carso in North-Eastern Italy (Eastern Alps) gets its name from this *kar- root expressed through a form *carsa ‘rock, stone’. The karstic rock, similar to the calanco’s stone, is involved in a solution process operated by water, determining particular and specific forms of surface and even subterranean erosion.

Tristano Bolelli has written about the possibly pre-Indo-European origins of the term calai^15 defining calanco as an «Originally pre-Indo-European Emilian lemma»^16. Calanco could also be considered as a «Ligurian word» due to

13 Cf. [Devoto, Oli 1975, cit.: 404, s.v. cala].
14 Cf. [Villar 1997, cit.: 104].
15 Cf. [Bolelli 1995: 74, s.v. cala].
16 Cf. [Bolelli 1995, cit.: 75, s.v. calanco], «Calanco, voce emiliana di origine preindoeuropea». 
linguistic (etymological) reasons and to the massive presence of this geological phenomenon especially in some valleys located in the Ligurian hinterland and in the areas of Southern-Piedmont bordering the Ligurian territory.

It is also possible to establish a relationship among the root *kal- and the Latin forms calx (noun) ‘lime’ and calcārius (adjective derived from calx) ‘calcareous’, connected with Ancient Greek χάλιξ ‘pebble, stone dissolving in water, gravel, lime, limestone’ (in Italian calcare)\(^{17}\). The Italian word calcare ‘limestone’, in fact, in the definition provided by Giacomo Devoto and Gian Carlo Oli, means «Sedimentary rock consisting mainly of calcium carbonate (calcite); it is used as an ornamental and building stone, as well as for the manufacture of lime and in cement industry»\(^{18}\). The stone characterizing the calanchi is, in its geological nature, friable such as limestone (calcare).

**Carcare and Cairo Montenotte**

It could be possible to add to the toponymic list drafted by Antonio Tovar and completed by Francisco Villar at least other two place names belonging to two inhabited centers located in North-Western Italy, Liguria, in the Province of Savona: Carcare and Cairo Montenotte. The two villages are surrounded by the massive presence of calanchi, (hydro-)geological phenomena characterizing this area (Ligurian hinterland) from prehistory\(^{19}\).

Carcare and Cairo Montenotte are located in the Ligurian hinterland and belong to the so-called Bormida valley that gets its name from the Bormida river. The ancient name of the Bormida river was Burmia. This hydronym is attested, in this form during the Middle Ages starting from the year 1137. Subsequent documents show the form Burmea\(^{20}\). This river name derives from a presumably pre-Indo-European (with the voiced bilabial /b/) root *borm- > *Borno- > *Burm-, then transferred, handed down, re-used, re-functionalized, and assimilated into the Indo-European «naming system» with Indo-European phonetics, meaning ‘warm waters’. It is possible to connect with the hydronym Bormida, among others, also the place name Bormio, North-Western Italy, Lombardy, in the province of Sondrio, a famous spa town characterized by «warm waters»\(^{21}\). The equivalent (to *borm-) Indo-European root/ proto-form should be *gʰermó- / *gʰormo- ‘warm’\(^{22}\). The *borm- example is an evidence of the remote (prehistoric) origins of the place names and hydronyms in this area (Ligurian hinterland), surely inhabited during the Neolithic, but probably also previously, starting, at least, from the Upper Paleolithic\(^{23}\).

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\(^{17}\) Cf. [Devoto, Oli 1975, cit.: 408, s.v. calce (2), Bolelli 1995: 75, s.v. calce (2)].

\(^{18}\) Cf. [Devoto, Oli 1975, cit.: 407, s.v. calcare (1)], «Roccia sedimentaria, costituita essenzialmente di carbonato di calcio (calcite); è impiegato come pietra ornamentale e da costruzione, oltre che per la fabbricazione della calce viva e nell’industria del cemento».

\(^{19}\) Cf. [Guidi, Piperno 2005: passim].

\(^{20}\) Cf. [DTI 1999: 92, s.v. Bormida].

\(^{21}\) Cf. [Devoto 1999: 66, Villar 1997, cit.: 469].

\(^{22}\) Cf. [Perono Cacciafoco 2009: 15-24].

\(^{23}\) Cf. [Biagi 1980: 9-18].
In this geographic 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 Tyrrenian area, the Rhaetia – North-Eastern Italy, and the Eastern Sicily) as a territory characterized by the survival of remains (and linguistic relics/ relics and/or fossils) of pre-Indo-European populations

Carcare

Carcare (geographic coordinates 44°21′28.42″N 8°17′26.25″E) was an ancient feud of the Del Carretto Marquis family. The village is located on an important junction in the Ligurian hinterland along the road connecting (in the direction of Savona) the Southern Piedmont with the Ligurian sea-coast. Historical sources witness for Carcare the (Late Latin) place name Carcaris, plural ablative attested in a document of the year 1111 and in another document of the year 1179. Carcaris was probably a widespread form of the village name. It lost the plural ablative function and obviously was systematically used in the plural nominative form *Carcarae, fixed over time in Carcare. The place name could also derive from a possible plural accusative, *Carcaras, with the fall of the final -s and a change of the second /a/ in /e/, as witnessed by the secondary variant Carcheris. The plural genitive Carcararum is attested later, in 1424.

The place name could have been fixed in the plural form. The local dialectal diction, kòrkre (with velarized /a/ and syncope of the penultimate vowel; the standard Ligurian dialectal form is kànkre), shows in its second syllable, -kre, an interesting consonantal exchange.

It seems plausible that the place name derives from the reduplication of the presumably (originally) pre-Indo-European root *kar-. This reduplication, indeed, is a very interesting and relevant feature of the Carcare toponym because the reduplication phenomenon is not widely productive in Indo-European. For this reason, the phenomenon could also be attributable to the pre-Indo-European morphology. The derivation of the village name from the root *kar- could be explained also on the basis of historical semantics (according to the evaluation of the history and prehistory of landscape and territory in relationship with the toponyms, as prescribed by the New Convergence Theory, NCT), because Carcare was surrounded by hills characterized by the widespread and constant presence of calanchi. According to this reconstruction, it could be also possible to get a new evidence about the association of *kar- and *kal- (with the exchange of the liquid consonant from *kal- to *kar-, /l/ ↔ /r/, *kal- being a «symmetric» and alternative variant of *kar-, then reduplicated in the place-name Carcare).

Etymological Reconstruction

The etymological restitutions proposed so far by scholars for the place name Carcare are a little bit simplistic.

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24 Cf. [Villar 1997, cit.: 109-110 (and map 15)].
26 Cf. [DTI 1999, cit.: 141, s.v. Carcare].
27 Cf. [Perono Cacciafoco 2014: 79-98].
A non-documented and highly questionable reconstruction is based on the secondary medieval variant of the toponym Carcheris, interpreted as derived from Latin carcar, that is in its turn possible variant of carcēr ‘jail, prison, barrier, enclosure’\(^{28}\). This explanation is surely erroneous at least for two clear reasons: 1) Carcheris is a «distorted» form (probably due to mispronunciation) of the original place name Carcaris. Speakers (the inhabitants of the village), over time, lost the original meaning (etymology) of the toponym and were unable to reconstruct it and to explain its semantics. The association of Carcaris with the common (Latin and Late/ Vulgar/ Vernacular Latin) word carcēr/ carcar (Italian carcere), due to a partial homophony, was easy and immediate. This «assonance» could be at the origins of the «distorted» form Carcheris; 2) the same form Carcheris shows -ch- (/k/) to be highly incompatible with the widespread late pronunciation of -c- (/c/) in carcēr/ carcar. This widespread pronunciation is highly compatible, instead, with the phonetics of a place name actually derived from the Latin word carcēr, i.e. Càrceri, a village located in North-Eastern Italy, Veneto, in the province of Padova (Padua), called (without changes in phonetics) already from the High Middle Ages (year 946) Carcer (even if, probably, the name was related not to the presence of prisons, but to the presence of small stables and horse barns, in Latin also carceres)\(^{29}\).

The process of toponymic resemantiza tion is widespread in Europe. It shows how it is possible to lose and to re-interpret the original meaning of a place name through a natural phenomenon of paretymology by local speakers. Just in order to exemplify this topic, it could be useful to briefly analyze, among others, the case of the Italian place name Borgomale (Borgo Male)\(^{30}\). Borgomale (geographic coordinates 44°37′00″N 8°08′00″E) is a small village located in North-Western Italy, Southern Piedmont, in the Cuneo province. Its original name derives from Latin (Indo-European language) Burgus Máli and has been transmitted to Italian (neo-Latin Romance language) as Borgomale (Borgo Male). The original Latin meaning of the toponym was ‘village of the apple tree/ trees’ (Latin burgus – Italian borgo – means ‘village, hamlet’). However, over the centuries and in the transition among Latin, Vulgar Latin, Vernacular (Vulgar) Italian, and Italian, the name has changed in meaning (at least since the year 1276) to indicate ‘bad village’ and/ or ‘village of the evil’. Why? This shift can be explained as a typical semantic ‘misunderstanding’ (generating paretymo-

\(^{28}\) Cf. [DTI 1999, cit.: 141, s.v. Carcare], for the erroneous interpretation of Carcaris as derived from carcer. For the variant Carcheris, without explanation, cf. [Ravera, Tasca, Rapetti 1997, cit.: 70].

\(^{29}\) Cf. [DTI 1999, cit.: 141, s.v. Càrceri]. Carceres also indicates ‘small wells for water collection’ or ‘small cells in an abbey’, precisely ‘small rooms with one bed and prie-dieu (faldstool) facing the cloister’. From here, probably, the popular etymology providing a derivation of Càrceri from Latin calcēus, the footwear of the Camaldolese friars of the local Abbey of Saint Mary, has its origin. In the local dialect, in fact, Càrceri is called Càlzare (almost the Italian word for this kind of footwear = calzare [singular], calzari [plural], but with different – very indicative – stress). In addition, cf. [Maurisio 1986: 40-41, paragraphs 84-85], where Leone da Carcere (Leone from Carcere) is a historical figure from Càrceri. Cf. also [Rolandino da Padova 2004: passim].

\(^{30}\) Cf. [DTI 1999, cit.: 89, s.v. Borgomale].
mology) that is proper to the natural evolution of languages and is linked to
the transition between one language and another. In Latin, the vocalic «quantity» is
very important for the metric in poetry and in order to distinguish words and
their meanings. Italian, instead, has lost the vocalic «quantity» (also, the Italian
poetry is not «quantitative»), and this linguistic fact («evolution») has been at
the origins of some «misunderstandings».

In Latin, mālum ‘bad, evil’ shows the short vowel ā. The Italian corre-
sponding forms are male (noun, ‘evil’), malo (adjective, ‘bad’). Latin mālum,
conversely, with the long vowel ā, means ‘apple, apple tree’, in Italian mela
‘apple’, melo ‘apple tree’. Taking a look at the emblem and/or coat of arms of
the Borgomale municipality (dating back to the Middle Ages), it is possible to
distinguish a row of apple trees on a hill. Also, apple orchards are proven in that
area during the Middle Ages and in Modern Age.

The original Latin name of Borgomale was, therefore, Burgus Māli ‘village
of the apple tree’ (extensive ‘village of the apple trees’), and the Italian recon-
structed correct (of course, not attested) form could be *Borgo Melo (or
*Borgomelo, exactly ‘the village of the apple tree’). However, the Italian «real»
current and attested form derived from the «quantitative misunderstanding» of
the Latin vowel /ā/ became widespread.

In order to explain this «bad» name, the speakers, having lost the original
link of the toponym with Latin mālum ‘apple, apple tree’, re-interpreted its se-
mantics and invented a legend about a horrible plague or pestilence that
would have violently decimated in the Middle Ages the population of the village that,
from that time, was called Borgomale (< Latin Burgus Māli) ‘bad village, vil-
lage of evil’. This is a very incisive example of bona fide paretymology in his-
torical toponymy.

A similar phenomenon should have involved the change of the toponymic
form Carcaris in Carcheris. This ambiguity in the name of the village and in
the explanation of its original meaning is also confirmed by another considera-
tion. Already in the X century Carcare has been also called and identified
through a parallel denomination, Canalicum31, maybe connected with a Roman
mansio located along the via Æmilia Scauri, near the village. This name, due to
analogy and topographic proximity, was inappropriately extended to Carcare.

Cairo Montenotte
A similar reasoning could be also produced about the other above mentioned
place name, Cairo Montenotte. The village (geographic coordinates
44°23′52.41″N 8°16′40.04″E) is located near Carcare in the same area of the
Ligurian hinterland (in the province of Savona). During the Middle Ages, it was
granted by Otto I to the Aleramic March, becoming, later, a feud belonging to
the Del Carretto Marquis family. The inhabited center shows the medieval «set-
tlement core» in the rectangular construction plan typical of the feudal planned

31 Another attested and «parallel» place name for Carcare – years 998-999 – has been
Bugile (later variants Bucile and Boyle) that is connected, in any case, not with
the main inhabited center, but directly with two localities (historical settlements) of the vil-
lage currently called Bugile Soprano (Upper Bugile) and Bugile Sottano (Lower
Bugile).
villages. Archaeological finds from the Roman age suggest the presence of a more ancient built-up area, maybe a Roman mansio located on the via Æmilia Scauri. Traces of a settlement dating back to the Neolithic allow the archaeologists to hypothesize, as for Carcare, that the place has been inhabited already from remote ages (probably from the Upper Paleolithic)\(^\text{32}\). The definite determinative of the toponym, Montenotte, is the name of a small hamlet of the municipality famous for the Napoleonic battle that took place there in the year 1796.

**Etymological Reconstruction**

The place name is attested already in the year 967 as Carium\(^\text{33}\) (and Carius\(^\text{34}\)), deriving, therefore, not from *Cair*- but from *Car(i)*- < *kar*- . The toponym, in the form Cario, is attested later (May the 4th of the year 991) in the Charta of the founding and donation of the Saint Quentin’s Abbey in Spigno Monferrato (place located not far from Carcare and Cairo Montenotte, in North-Western Italy, Southern Piedmont, in the Province of Alessandria on the main road for Savona)\(^\text{35}\).

According to a simplistic and wrong reconstruction\(^\text{36}\), the place name Cairo/ Cario would derive from the Roman gentilitial name Carius, rarely attested and not connectable with the village (in that case, the toponym would be an improbable praedial without suffix, quite inexplicable, lacking any historical reason for this possible denomination). The local Piedmontese dialect’s form, Kòiri, shows the velarized /a/, while the local Ligurian dialect’s form is Kàiri.

Among different reconstructions, a derivation has been also proposed from Latin quădrus\(^\text{37}\) ‘square’, an adjective used by the Gromatici writers as an attribute of termīnus ‘boundary stone, border’, a convention passed – hypothetically – to the Ligurian dialect in the form kāiru indicating a specific kind of building stone.

The notion of ‘stone’ is surely at the origins of the place name, being expressed by the root *kar-*. Carius, as well as Carcaris, should derive directly from the presumably pre-Indo-European (then transferred and re-used according to a re-functionalization process in the Indo-European – proto-Indo-European – linguistic system\(^\text{38}\)) root *kar- ‘stone’, a stem that in this case, unlike the case of Carcare, is not reduplicated.

The derivation of Carius from *kar- seems to be confirmed also by the onym of the Monte Cáiro (the Cairo Mountain)\(^\text{39}\), a massif culminating in the pick having the same name (1669 meters above sea level, geographic coordinates 41°32′30.48″N 13°45′36″E). It is a calcareous mount (always involving the root *kar- in the variant *kal- of Latin calcārius) rising North of the town of

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\(^{33}\) Cf. [DTI 1999, cit.: 114, s.v. Câiro Montenotte].

\(^{34}\) Cf. [Ravera, Tasca, Rapetti 1997, cit.: 70].

\(^{35}\) Cf. [Bosio 1972: 140-142].

\(^{36}\) Cf. [DTI 1999, cit.: 114, s.v. Câiro Montenotte, Ravera, Tasca, Rapetti 1997, cit.: 70].

\(^{37}\) Cf. [DTI 1999, cit.: 114, s.v. Câiro Montenotte].

\(^{38}\) Cf. [Perono Cacciafoco 2014, cit.: 79-98].

\(^{39}\) Cf. [DTI 1999, cit.: 113-114, s.v. Câiro, Monte].
Cassino in the Latium region (Central Italy), among the valleys of the rivers Melfa, Sacco, and Rápido. The widespread explanation for this onym resides in a sort of popular pareymology and «semantic misunderstanding» recognizable in the supposed Latin name of the place, Mons Clarius. Clarius, actually, derives from *kar- > *Carius/ *Cario > Cairo. Local speakers (having lost the original connection with *kar-), instead, have analogically and improperly interpreted Clarius as connected with the celebrated and sacred Ionian place Claros (Ancient Greek: Κλάρος, Latin: Clarus), and – indirectly – with the Latin adjective clārus ≈ Clarius. This Clarius/ Clarus, according to that popular etymology, should hypothetically derive from a temple dedicated to Apollo Clarius (‘Apollo from the Claros’ – Κλάρος –, a sanctuary located on the Ionian Greek coast of Turkey, on the territory of Colophon). Speakers misunderstood the original derivation of the onym from *kar- and assimilated the mountain name *Carius/ *Cario > Cairo to Clarius (= from Claros, Latin Clarus), thus adding another pareymological connection with the common Latin adjective clārus and linking the place not only to Apollo Clarius, but also to the notion of ‘luminosity’. The temple would have been located where now the Monte Cassino Abbey rises. As mentioned, the pareymological denomination linked to the Apollo Clarius Ionian sanctuary was associated by speakers (already in the Middle Ages) with the other pareymological denomination linked to the Latin adjective clārus, expressing the notion of ‘bright landscape’ in an involuntary «semantic overlap». Moreover, starting already from the Middle Ages – and during the Modern Age –, the mountain was also called Monti di Monte-cassino (Monte Cassino Mountains)⁴⁰, in a sort of redundant «re-naming process». As told, the onym Càiro is, instead, originally derived from the pre-Latin (proto-)form *carium ‘stone, cliff, rock’, directly derived, in its turn, from the presumably pre-Indo-European (subsequently proto-Indo-European) root *kar-.

The stem *kar- interpreted as the original root of the place name Carius/ Cario (> Cairo [Montenotte]) is, therefore, confirmed also by the onym Monte Càiro. The hydro-geo-morphology of the territory of Cairo Montenotte (as mentioned, located near Carcare, in the Ligurian hinterland) gives another confirmation, being pervasively characterized by the presence of the calanchi. Moreover, the Monte Càiro (Latium) is mainly composed by limestone (Latin adjective calcārīus, Italian noun calcare) dating back to the Jurassic and Cretaceous periods (the formation of the massif often experienced violent earthquakes and subsidence).

Carretto

In the same area, it is also possible to link to the place names Carcaris and Carius the toponym Carretto, a hamlet of Cairo Montenotte (Carius/ Cario), land of origin of the Del Carretto Marquis family ruling for a long time over those territories. The ruins of the castle of that noble lineage are located on a calcareous rocky outcrop called Carretto, giving the name to the entire locality. The place name Carretto clearly derives from the root *kar- and is associated

⁴⁰ Cf. [DTI 1999, cit.: 114, s.v. Càiro, Monte].
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with the notion of ‘stone’, ‘limestone’. However, over centuries, a parety-

mology has become widespread. That paretymology links the place name Car-

retto with the Italian word carretto ‘handcart, small cart; small chariot, trolley’. Carretto, instead, deriving from the root *kar-, belongs to the «toponymic sys-

tem» of Carcaris and Carius and to the «ononymic family» of calcare and calanco. Due to bona fide paretymology, in the «making» of the Carretto place name, starting from the stem *kar-, the toponym has been fixed – at least from the Middle Ages – in the current form (with the current widespread erroneous semantics) through a number of morphological changes and suffixation pro-

cesses.

Some places in France are called Charette, as, for example, Charette, a small village situated in the Isère Department, in South-Eastern France (Rhône-

Alpes Region, geographic coordinates 45°48′40″N 5°22′15″E), or Charette-

Varennes, another small village located in the Saône-et-Loire Department, in Eastern France (Bourgogne/Burgundy Region, geographic coordinates 46°54′45″N 5°12′00″E). The popular etymology wants these names derived by (or, at least, connected with) French charrette ‘cart, chariot’ (with the same paretymology for the Italian place name Carretto with the Italian noun car-

retto), while the remote root at the origin of these place names is always *kar-, linked to the notions of ‘stone’ and ‘rock’.

Calizzano

Calizzano (geographic coordinates 44°14′06.99″N 8°06′55.45″E) is an ancient village developed in the Middle Ages around a castle founded by Henry I, Marquis Del Carretto. The center is located in the Ligurian hinterland, in the Prov-

ince of Savona, not far from Carcare and Cairo Montenotte. The territory of Calizzano was inhabited probably already in the Upper Paleolithic, surely in the Middle Paleolithic\(^41\). A pre-Roman castellaro (a primitive fortification plausibly built by the population of the Ligures Montani) located between Calizzano and the nearby village of Bardineto should date back at least to the Iron Age, but the original settlement could have been attested, as told, already in the Middle Paleolithic. The Roman place name was Caliciana, while the toponym in the Middle Ages (High Middle Ages) was Caliciano, attested (at least) from 1077, in a notarial deed about the assignation of the village’s lands and church to the Ferran-}

nia Abbey (located in the territory of Cairo Montenotte; Ferrania is one of the hamlets of Cairo Montenotte) from the Saint Peter’s in Varatella Abbey located in the Toirano’s area (Toirano is a nearby village in the province of Savona)\(^42\). The place name in XIV century is attested as Carizano and Calizano.

The toponym derives from the presumably pre-Indo-European *kar-/

*kal- root, with the addition of a widespread and common suffix *-ano (< Latin *-anum). The two dialectal forms (local diction and standard Ligurian diction), Karitsàn and Calissan, witness this derivation and the alternation of the two variants in /r/ and /l/.

\(^{41}\) Cf. [Biagi 1980, cit.: 9-18, Guidi, Piperno 2005, cit.: passim].

\(^{42}\) Cf. [DTI 1999, cit.: 117, s.v. Calizzano].

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An imaginative and undocumented etymological reconstruction would suppose, for the place name, a derivation from a non-clearly attested and related Roman gentilitial *Canitius*, *Calizzano* being – according to this highly speculative hypothesis and proposal – a praedial in *-ano* (< Latin *-anum*) with shift /n/ - /l/ - /r/ from the late Latin speech. This is evidently a paretymology, as almost all the etymologies trying to connect place names with Roman gentilitials.

**Some Other Toponymic Evidences**

The name of the small village of *Carezzano* (geographic coordinates 44°48′29″N 8°54′06″E) located in North-Western Italy, Southern Piedmont (in the province of Alessandria), phonetically cognate with the toponym *Calizzano*, is derived from the *kar-/ *kal- root.

The place can be found on the right bank of the Scrivia stream and is divided into two different centers: *Carezzano Superiore* (Upper *Carezzano*) and *Carezzano Inferiore* (Lower *Carezzano*). The upper village, *Carezzano Superiore*, is located on a hill and is the older one, while the lower inhabited center, *Carezzano Inferiore*, is quite recent. *Carezzano Superiore* is an ancient settlement, plausibly dating back to the Upper Paleolithic and increasingly developed in Ligurian age (at least starting from the Iron Age). The local dialectal (Piedmontese) diction is *Carçōu*, derived from the agglutination of the pre-Indo-European (the proto-Indo-European) root *kar-* ‘stone, rock’ (> Ancient [archaic] Ligurian car ‘height, hill’) with the Ancient (archaic) Ligurian word *san* ‘place’. *Carçōu/ Carezzano* could be interpreted, therefore, as ‘place on the stony hill’.

In the Middle Ages, the place name is attested as *Careçanus* (year 1256), *Carezzanus* (year 1261), and *Carenzanus*, with epenthesis of /n/ (year 1341). The analogy and similarity among the different forms of the place name *Carezzano* and those of the toponym *Calizzano* are remarkable.

A place name corresponding to *Carezzano* is *Caranzano* (geographic coordinates 44°43′11″N 8°30′59″E), a hamlet of the municipality of Cassine, located in North-Western Italy, Southern Piedmont, in the province of Alessandria. The origin of the toponym is the same, from the root *kar-/ *kal-, and the place is located on a hill characterized by the presence of friable rock, tufaceous and calcareous (*kal- = ‘friable rock, limestone’*).

The toponym *Calasca*, belonging to the village of *Calasca-Castiglione* (geographic coordinates 46°04′00″N 8°07′00″E), a double mountain settlement consisting of two inhabited centers, *Calasca* and *Castiglione*, located in North-Western Italy, Northern Piedmont, in the province of Verbania, allows the strengthening of the etymological links among the place names analyzed so far in this paper and the word *calanco*. *Calasca* derives from a pre-Roman (pre-Latin) stem *cal-‘stone, rock’ derived, in its turn, from the pre-Indo-European (then proto-Indo-European) root *kar- in its variant *kal-. The «Alpine» word

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45 Cf. [DTI 1999, cit.: 114, s.v. *Calasca - Castiglione*].
kalanco/kalanca ‘steep stony descent that serves as a channel for avalanches’\(^{46}\), equivalent to the Ligurian (and Italian) form *calanco, derives from that pre-Roman (pre-Latin) stem *caλ- (see above), at the origins of the place name Calasca.

The toponym’s suffix -asco/-asca is originally Ligurian and could be an evidence of a plausible «binary tradition» of presumably pre-Indo-European roots combined with Ligurian suffixes. The municipality of Calasca-Castiglione is located in the Anzasca valley (a mountain valley spreading along the Anza stream), a place name where the Ligurian suffix -asco/-asca appears again.

Moreover, the toponym Charance, indicating the Charance domain, an Alpine locality (geographic coordinates 44° 34’ 34”N 6° 03’ 12”E) situated in France, in the municipality of Gap, capital and largest settlement of the Hautes-Alpes department (South-Eastern France, region of Provence-Alpes-Côte d’Azur, geographic coordinates 44°33’34”N 6°04’43”E), derives from the root *kar-/*kal-. Specifically, the original stem for Charance is the mentioned «Alpine» root *caλ- (< *kar-/ *kal-) ‘stone, rock’, at the origins of the above observed word kalanco/kalanca ‘steep stony descent that serves as a channel for avalanches’. The meaning of Charance can be ‘site of the avalanche of stones, place of the stony landslide’.

Another interesting example of a toponym derived from the root *kar-/*kal- is represented by Calci, name of a village (geographic coordinates 43°43’28”N 10°31’09”E) located in Central Italy, Tuscany, in the province of Pisa. Calci is an ancient place in the geological basin called Valgraziosa, surrounded by olive groves. The local dialectal (Tuscan) form for the place name is Càrci. The name Calci is attested already in the year 780 (April the 30\(^{th}\)) in the Strumento di fondazione della Badia di San Savino presso Calci (Foundation Act of the Saint Savin’s Abbey in Calci). The widespread etymological reconstruction postulates a derivation of the place name from Latin calx (calcis, Italian calce) ‘lime’\(^{47}\). An ancient furnace (oven) for lime is located in the territory of Calci, near the neighboring village of Caprona. Limestone is widely present in the stone quarries and mines located along the slopes of the mountains surrounding the village. However, the geological structure of the landscape of the Calci municipality is older and mainly siliceous. In some documents from the X and XI centuries, Calci is called locus Calcis, with a plausible derivation from Latin calcĕum, intended as ‘the foot and/or the heel of the mountain’ (the altitude of Calci is around 50 meters above sea level). Calx (with calcărĭus) and calcĕum are, in any case, strictly related as the semantic referents of the place name. They can be linked, in respect to the meaning, also to the Ancient Greek ἵλις ‘pebble, stone dissolving in water, gravel, lime, limestone’. The final /i/ of the toponym has been interpreted as a morpheme of feminine plural\(^{48}\). The connection of the place name with the notion of ‘stone’ is self-evident. It is possible, moreover, to appreciate the presence of the root *kar- and of its variant *kal- (definable also as the double root *kar-/*kal-) in the local dialect (Tuscan) name of this village, Càrci, and in its standard Italian name, Calci. The

\(^{46}\) Cf. [Olivieri 1965: 107, s.v. Calasca, and 125, s.v. Charance].

\(^{47}\) Cf. [DTI 1999, cit.: 115, s.v. Calci].

\(^{48}\) Cf. [Bianchi 1886: 386].
ancient Ligurians settled originally on the Mediterranean coast from the Rhone river to the Arno river\(^{49}\). *Calci*, therefore, is a linguistic (onomastic) witness of the «continuity» and «uniformity» in the remote (prehistoric and proto-historic) naming process of place names linked to the semantics of the ‘stone’.

**Conclusion**

Through the analysis of the presence of the *kar-/ *kal-* root in the toponomastics of Europe (as outlined by A.Tovar and F.Villar\(^{50}\) and especially Italy it is possible to highlight a toponymic system generated, starting from the original (prehistoric) naming process, by this root. This «family» of place names and onyonyms dates back surely to the Neolithic, but it is possible to infer a really ancient and more remote origin, ascribable to the Upper Paleolithic.

The *kar/- *kal-* root, in fact, could be reconstructed as a pre-Indo-European stem productive not only in the field of European toponymy, but also in the linguistic area of the general lexicon of Indo-European languages, being the original component of a number of words linked to the notions of ‘stone’ and ‘rock’. That root is widespread on a large territory and is connected with landscapes showing the presence of friable, calcareous rock/ stone (generating hydro-geo-morphological phenomena as the *calanchi* – widespread, for example, in the Ligurian hinterland – or materials useful for the production of the lime, in Latin *calx*, Italian *calce*).

The plausibly pre-Indo-European root *kar-/ *kal-* could have been assimilated, over time, by Indo-European speakers (after the possible arrival of Indo-Europeans in their European territories) in their linguistic system (and adapted to their phonetics), becoming a proto-Indo-European root, according to a convergent process of re-use and re-functionalization of stems and words among different linguistic families due to linguistic contact.

In the Central Celtic and Ligurian areas, the root *kal-* seems to be not independent, but a productive variant of the stem *kar-*, generated by a change and/or passage /r/ ~ /l/ definable as a consonantal exchange («lenition») or «pseudo-rhotacism». The root *kar-/* kal-* seems to be, therefore, a single root expressed by two equivalent and homologous variants.

In the Indo-European linguistic system (and, a fortiori, in the Indo-European toponymy) the *kar-* root shows in the place name *Carcare* an interesting reduplication process that has a significant value, being, as mentioned, the reduplication process not widely productive in Indo-European. This morphologic phenomenon can be, therefore, a linguistic «fossil» (or relic, relict) witnessing very remote stages in the proto-Indo-European naming process (at least in the field of toponymy). It can provide some valuable indications about the passage between pre-Indo-European and (proto-)Indo-European in Europe.

The root *kar-*/* kal-, widespread in the Indo-European toponymy and general lexicon, could be a significant example of the persistence, over time, of words and roots, persistence unveiled by place names and by morphological and


\(^{50}\) Cf. also [Alessio 1935: 133-151, Alessio 1936: 165-189].
phonetic phenomena occurring especially during the passage from one linguistic system (the pre-Indo-European, in this context) to another one (the Indo-European).

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