



## Linguistic statigraphy of mainland Portugal hydroponymy

### *Estratigrafia linguística da hidrotponímia de Portugal continental*

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**Resumo:** O tema do presente artigo insere-se na história da onomástica portuguesa, mais precisamente, na etimologia dos hidrotponímios de Portugal continental. Com a finalidade de contribuir criticamente para a recuperação da etimologia como disciplina mais atuante no contexto dos domínios da História da Língua e da Linguística Histórica, retoma-se uma linha de investigação que remonta aos trabalhos desenvolvidos em Portugal por José Leite de Vasconcelos, Joaquim da Silveira, Pedro Cunha Serra, Domingos Moreira, Joseph-Maria Piel, José Pedro Machado, Armando de Almeida Fernandes, entre outros. Igualmente consideradas são as propostas de Hans Krahe, Edelmiro Bascuas, Federico Corriente e Eduardo Viaro. São objectivos do artigo definir os limites do inquérito linguístico na análise etimológica dos hidrotponímios de Portugal mainland; e enquadrar na discussão da estratigrafia linguística a caracterização nacional e regional do hidrotponímios. Conclui-se que a hidrotponímia de Portugal mainland tem origem maioritária em itens do léxico comum latino-romance, embora guarde globalmente um importante património pré-latino. A sul do sistema montanhoso Montejunto-Estrela, torna-se significativa a interferência lexical, morfológica e fonológica do árabe, tal como acontece em grande parte da toponímia das regiões meridionais portuguesas.

**Palavras-chave:** toponímia; etimologia; hidrotponímio; estrato; história do português .

**Abstract:** The topic of this article concerns the diachronic aspects of Portuguese onomastics, namely those regarding the etymology of a subset of Portuguese hydroponyms. Arguing that Etymology is still relevant as a field of research to Historical Linguistics and the History of the Portuguese Language, the discussion

draws on studies carried out in Portugal by such scholars as Leite de Vasconcelos, Joaquim da Silveira, Pedro Cunha Serra, Domingos Moreira, Joseph-Maria Piel, José Pedro Machado, Armando de Almeida Fernandes, among others. The works of Hans Krahe, Edelmiro Bascuas, Federico Corriente, and Eduardo Viaro are also considered. This article pursues two goals: (1) to draw the linguistic boundaries of the etymological inquiry on a selection of mainland Portugal's hydrotoponyms and (2) to describe and discuss the national and regional distribution of each linguistic stratum in the Portuguese hydrotoponymic context. The conclusions from this study point out that most items have Latin-Romance origins, although a significant number of pre-Latin names are also preserved. In the southern regions of the Montejunto-Estrela mountain system, contact with Arabic has left many lexical, morphological, and phonological traces, as is typical of the southern regions of Portugal.

**Keywords:** toponymy; etymology; hydrotoponym; stratum; history of Portuguese.

Received on December 20, 2017

Accepted on February 19, 2018

## Introduction

This article is a synthesis of a more extensive work,<sup>1</sup> which consists of an etymological approach to a set of hydrotoponyms from mainland Portugal, focusing their geographic and historical-linguistic distribution. This includes 481 hydrotoponyms retrieved from the *Reportório Toponímico de Portugal* (RTP – *Portuguese Toponymic Repertoire*), more specifically, from two of the three hydrotoponymic categories therein defined: “Important river (more than 100 km long)” and “River (20 to 100 km long)”.<sup>2</sup> Their localization is done according

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<sup>1</sup> This is my doctoral thesis *Etimologia dos Hidrotopónimos de Portugal Continental: História Linguística de um Território*, approved in 2017, under the supervision of Professor Esperança Cardeira and Professor Ana Maria Martins, at Faculdade de Letras da Universidade de Lisboa.

<sup>2</sup> This study did not consider a third category, “Stream/Brook/Watercourse (up to 5 km)”. Regarding the CIGeoE-SIG, which encompasses the RTP electronic version, it is noteworthy that each hydrotoponym, viewed as a type, may correspond to more than one record (token). The number of records is therefore greater than the collected names:

to the *Carta Militar de Portugal (Portuguese Military Charter)* 1> 25,000 (CMP), which is available along with the RTP on the Portuguese Military Geospatial Information Centre viewer (Centro de Informação Geoespacial do Exército – CIGeoE-SIG).<sup>3</sup> This tool provides a list of onomastic items in the current administrative language, although dialectal traces may be detected which do not always meet this standard. These hydrotoponyms correspond, therefore, to contemporary forms, which means, for example, that a hydrotoponym, such as *Celadus* or *Celandus*, attested by Pomponius Mela, was given no special attention, even though it was the old name of the river known today as *Cávado* (in northern Portugal, in the district of Braga). Nevertheless, forms recorded in Antiquity or in medieval documentation may be mentioned in the context of the discussion of modern hydrotoponyms.<sup>4</sup>

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the category “Important River (more than 100 km) presents 306 records; that of “River (from 20 to 100 km)” labels 1,302 records; and that of “Stream/Brook/Watercourse” reaches 11,183 records.

<sup>3</sup> For this study, the CIGeoE-SIG (available at: <<http://www.igeoe.pt/>>), began to be consulted when it was still IGeoE-SIG. The CIGeoE “was allocated, as of August 1, 2015, to *Instituto Geográfico do Exército* (IGeoE) – based on the regulatory Decree, number 11/2015, from July 31 – thus making it the natural heir of the assets and Portuguese military cartographic traditions” (available at: <<https://www.igeoe.pt/index.php?id=5>>, retrieved on March 7, 2017).

<sup>4</sup> This study later discusses other names that are attested but in disuse or have been forgotten, dating back to pre-Roman times, the Romanization period or to the subsequent historical periods, without carrying out a detailed analysis. We also do not approach certain pseudo-correct or pseudo-etymologizing forms, which were common in Antiquity and recurrent in the Middle Ages and in subsequent era, except when they are continued through contemporary hydrotoponyms. Apropos of this type of distortion in Galician toponymy, which provides important data for the Portuguese case, Moralejo (2009, pp. 38/39) points out that “[...] la documentación medieval abunda en latinizaciones superficiales y en trapacerías macarrónicas con o sin intención etimologizante, pero métodos hay y prudencia para no entrar a ellas, que también están en lo antiguo, por ejemplo en los Ἀμφίλοχοι de Estrabón, los *Helleni* de Plinio, el mineral *minium* y el río *Minius* de Justino e Isidoro..., ya sin entrar en las actitudes negativas y de despego ante los nombres indígenas *bárbaros, impronunciables...* (cf. Estrabón, Mela, Plinio...) y en cómo esas actitudes condicionan negativamente la cantidad y la calidad de nuestra documentación.” See also Guerra (1998, p. 40-42).

Overall, there are many analytical views of hydrotoponyms. The present article seeks to highlight three aspects of the internal differentiation of this set:

- The distribution of hydrotoponyms in terms of historical linguistic strata;
- The history of their transmission, configuring routes of continuity or ruptures, which may include the transference of names that were already part of the toponymic context of each hydrotoponym, such as in the event of a commented term substituting for another more archaic term, which may have been lost or have been transposed (displaced) to another geographic entity (case of *Cáster*, which would have been *Ovar*, before this name became a toponym);
- The direct or indirect genesis of the denomination of the rivers, which defines the contrast between deonomastic toponyms and delexical toponyms, and their ontological subcategories – the former encompassing onomastic classes, toponyms in a strict sense, anthrotoponyms, and demonyms, etc., and the latter comprising phytonyms, oronyms, and zootoponyms, etc. (see MARTÍNEZ LEMA, 2010, p. 39-41).

This article comprises six sections. The first section exposes the methodological criteria adopted in this study; the second discusses the definition of the historical-linguistic strata through which the studied hydrotoponyms are distributed; the third presents the stratigraphic distribution of the hydrotoponyms in question; the fourth comments on the contrast between the macro- and micro-hydrotoponymy; and the fifth identifies the types of genesis and forms of transmission of the hydrotoponyms in discussion in the framework of the linguistic history of mainland Portugal.

## **1 The study of Portuguese hydrotoponyms: criteria for their inventory and etymological commentary**

In order to achieve the approximate stratigraphic date/attribution of the hydrotoponyms, it was necessary to collect attestations, especially in medieval documentation. Secondary sources were consulted, mainly onomastic dictionaries and toponymic repertoires. The majority of the hydrotoponyms commented herein have no specific attested forms; however, in many cases, it was possible for a current record, such as

those provided by RTP and other resources (toponymic, chorographic dictionaries), to find the form it took on in the sources from Antiquity and the Middle Ages.<sup>5</sup>

For access to the primary sources from Antiquity and the Middle Ages, it was necessary to resort to reliable editions that contained onomastic indexes or that were available in electronic version in such a way as to facilitate the research. As regards printed editions of medieval texts, especially those of non-literary texts, where the names in question are more likely to occur, the references presented below are merely examples, since they concern a more extensive list that has yet to be completely defined. However, it should be noted that, to attest each collected form in the RTP, we primarily draw on Machado (2003), at times corrected or completed by the entries of Cortesão (1912) and Fernandes (1999) or by occurrences retrieved from the *Portugaliae Monumenta Historica* (PMH), which include toponymic indexes.<sup>6</sup> Occasionally, attestations from other dictionaries and studies in toponomastics were also included.

Once the sources of attestation had been identified, we proceeded to the etymological commentary of each of the 481 collected hydrotponyms, with the aid of etymological and onomastic dictionaries, available either for Portuguese or for other linguistic areas (Galician, Castilian, Catalan, Occitan, French, Italian, Romanian, English, etc.). The etymological proposals presented herein always seek to include the attribution of the hydrotponyms to one of the historical-linguistic strata which are distinguishable in the whole of the Portuguese toponomastics, according to the discussion developed in section 3 of this article. This allowed an etymological onomastic dictionary to be made of 481 commentaries or entries which share the structure presented by Table 1.

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<sup>5</sup> A more up-to-date balance of the studies of anthroponymy and toponymy seems to be required, since what was carried out – that of Boléo (1953) – is already more than 50 years old. Nonetheless, in the publication “Fontes toponímicas” (“Toponymic Sources”), from the blog *Toponímia: Gente & Lugares*, by Manuel Carvalho, more up-to-date bibliographic information is available at: <<http://deaveiroportugal.blogspot.pt/2007/02/fontes-toponímicas.html>>, retrieved on: February 16, 2008), where a list of quite useful toponymic sources can be found. See also Serra (1968).

<sup>6</sup> The attestations included in Machado (2003) always indicate the documental edition where they occur (for example, PMH or DMP).

TABLE 1 – Structure of a commentary

Hydrotoponym	Current spelling
brief stratigraphic attribution	Identification of the stem and its stratum
attestations	Available forms and spellings in editions of medieval sources (at times supplemented with attestations from Antiquity)
localization	Region traversed by the watercourse according to CMP at 1:25,000
etymological proposal	Critical commentary of the etymology established by the literature for each name or drafting of etymological proposal if the name has not been dealt with.

Finally, to facilitate listings and the view of the set of data with national and regional dimensions, an electronic table was created in Microsoft Excel, where each hydrotoponym is classified according to different dimensions (geographic localization, etymology, transmission history) and typologies.

## 2 On the categorization of hydrotoponyms: historical-linguistic strata

Land and its geological levels have provided the metaphors for studies in both Language History and Toponomastics to build diachronic concepts concerning a chronology of linguistic forms (see also AEBISCHER, 1978, and ANDERSEN, 2003). Speaking about stratigraphy in the context of toponymy brings about the problem of the contribution of languages that, co-existing or substituting one for another within a given territory, have left their marks – often at the lexical level, but also encompassing the grammatical level – in the synchronies of a language predominantly or extensively spoken within this territory. It is from the point of view of the modern language or of the linguistic system focused by the description as a historical-linguistic reality – quintessentially, the *stratum* – that the other strata – *substrata*, *superstrata*, and *adstrata* – are classified as marks of relatively prolonged contact.<sup>7</sup> The notion of stratigraphy is particularly relevant in lexical and

<sup>7</sup> See Campbell and Mixco (2007).

onomastic studies, since the lexicon is a level that is especially exposed to the sociohistorical conditions that shape the diachrony of a language.<sup>8</sup>

This study accepts therefore that a linguistic stratigraphy can be identified within the history of the loans from a given language, since it signals stages of the history of the language in the perspective of the conveyance of units originating from other languages that conditioned the nativisation of this language, as occurs with the substrata or its ulterior formulation, as can be seen with superstrata.<sup>9</sup> In the case of Portuguese, from the point of view of the strata that simultaneously individualizes it and relates it to a linguistic family (Indo-European) and subfamily (Romance language), Silva (2008, p. 84) highlights “the ‘Latin underpinnings’ (PIEL, 1989, p. 11) which would give form to its lexicon, reformatting it, that is, giving its morphology to pre-Latin loans and those after the ‘fall’ of the Roman Empire, in the fifth century C.E., at least in the region formerly known as Western Romania”.<sup>10</sup>

It should be highlighted that the historical strata of mainland Portugal’s toponymy are not uniformly distributed within the territory. While in the North one can speak of the historical-linguistic continuity with no clear ruptures since the onset of Romanization, there are regions in the South in which the dialects of the Galician-Portuguese system overlapped upon either Romance dialects or Arabic dialects, or

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<sup>8</sup> Dworkin (2012, p. 5) underscores the following characteristic: “The lexicon of a language is open-ended and is the least stable, the least systematic segment of the language’s structure, and thus more open to novelties introduced from the outside. For this reason, lexical borrowing as a process does not lend itself to neat or rigid classification.” About common vocabulary, Viaro (2011, p. 267) observes, in fact, that this “[...] cannot be assessed in the same manner as the grammatical elements, since only the latter can, in fact, characterize the filiation to a specific linguistic group”; which is the case of Romanian, whose lexicon of vulgar Latin origin, nevertheless, is negligible when compared to the other Roman languages (VIARO, 2011, p. 267).

<sup>9</sup> The question of the loans, however, introduces an additional distinction to the contrast between substrata and superstrata. Noonan (2010, p. 57) distinguishes loans from influences of the substratum: “The reason for separating substratic influence from other instances of borrowing is that with substratic influence we have situations in which generational transmission of linguistic traditions is disrupted; we may also have speciation [i. e., the creation of new languages], though this is not necessarily the norm.”

<sup>10</sup> Regarding the change in the Latin heritage lexicon in the context of the history of Portuguese, see also Brocardo (2014, p. 83-89).

even a context of Arabic-Romance bilingualism. The introduction of Galician-Portuguese, especially in the regions south of the Tagus River, can therefore be seen as a reinsertion in the Latin-Romance language stratum of a population that has been deeply Arabized, which transmitted a toponymic patrimony consisting of Arabic features, by means of its lexical resources in the naming process and through interferences in the configuration of the names inherited from the Latin-Romance language stages. It is noteworthy that morphological units corresponding to languages that have never been effectively spoken in the Portuguese territory are often accepted as elements to identify certain strata, which is probably the case with the dialects of the Suevian population or of the Gothic one, which are so clearly present in the anthroponomy and its derived toponymy. Moreover, one stratum can many times correspond to an unknown set of linguistic layers, as are the cases of the traces left behind by the speakers of pre-Indo-European languages and Indo-European ones (more specifically Celtic and Lusitanian) in most of the territory in question. In addition, the problem of the temporality of each linguistic stratum arises, that is, the problem of its differentiation in periods and historical stages. This is the case of the Latin-Romance language strata, characterized by its relatively long duration, to such an extent that, in contemporary Portuguese, there are still transparent toponyms that correspond, nonetheless, to longstanding linguistic forms, already found in the Early Middle Ages. In other words, such forms can be dated from any time period throughout Romanization, given that its history and metamorphosis is also that of the Portuguese language, at least in the northern regions of Portugal, where any rupture with the Latin linguistic past is highly unlikely to have taken place.

There are many conditioning factors of the localization and stratigraphic classification of a hydrotoponym, which are:

- The names of rivers that run through different districts are attributed to the districts where the respective headwaters meet. This criterion is certainly debatable, as cases of polyonymy along the course of a river are not uncommon, in addition to the fact that the name associated with the river can result from the inversion of a pre-existing toponym likely to be found in the upper, middle, or lower courses. Nevertheless, this problem is irrelevant in practice, because most of the rivers mentioned here run through regions that have a common linguistic history, at least since the period of the Roman Empire. The analysis of cases of hydrotoponyms,

such as *Minho*, *Douro*, *Tejo* (the Tagus), or *Guadiana*, associated with large rivers, can even benefit from this criterion, since, as regards the mainland Portuguese regions, little is known about its local use before or after the Roman Empire. As it does not seem that such names have their origins in the coastal areas, it is possible they have arisen in the Hispanic hinterland, up to the lower course of these large rivers, where they may have been generalized by the Roman rule.

– The attribution of a hydrotoponym to a stratum is seldom undebatable, as it depends on the available documentation and results from a judgement which is subject to a scale of degrees of certainty and even values of prototypicality not exempt of subjectivity. For this reason, we chose to consider many names that are commonly related to more archaic strata to be of obscure origin, without needing to find a documental basis or relevant linguistic-comparative grounding. The etymologies commented and proposed herein are, therefore, always subject to reviews and corrections depending on documentation that is either found in an unedited form or was impossible to collect for this investigation. Even so, it is reasonable to accept that the consulted sources for this work are representative of the information available about the discussed hydrotoponyms.

– It is necessary to once again emphasize that speaking of linguistic strata, in terms of hydroponymy or toponymy in general, is not the same as distinguishing the stratigraphy of common lexicon. In other words, the attribution of the hydrotoponyms to a stratum does not coincide with that which is done with lexical items that are found in the genesis of many of the analyzed names. For instance, the root of *vidoeiro* falls into the pre-Latin stratum, but that does not mean that the *Rio Vidoeiro* (Viseu) is registered in this stratum, its place having been previously found in the Latin-Romance stratum. The names *azenha* and *açude* are Arabisms, but neither the *rio das Azenhas* (Leiria) nor the *rio do Açude* (Lisboa) are ascribable to naming process verified in the Arabic linguistic period in the Centre-South and South of mainland Portugal. Such cases are registered in the Latin-Romance stratum – or even in the later modalities of the Galician-Portuguese or Portuguese periods, at times with Mozarab features – as they bear witness to the productivity of common lexical items from a certain stratum in the naming process.

– One geographic contrast that is imposed upon the observation is that which exists between the density of the river network of the territory to the north of the Tagus River and that of the territory to the south of this

river, or rather, directly south of the *Montejunto-Estrela* system.<sup>11</sup> The climate and soil conditions (more prolonged droughts) clearly contrast with that which are found to the north of this/these geographic limit(s). The meridional hydrography, therefore, appears less dense and the rivers shorter, which explains the lower or even very low absolute frequencies of the hydrotonyms corresponding to each southern district, a situation that can cause distortions when comparing the regional distributions.

Despite these constraints, it is possible to extract relevant data concerning hydrotonymic profiles within the national or regional contexts. In this sense, criteria have been defined regarding the identification of the pre-Latin, Latin-Romance language (encompassing both the Galician-Portuguese and the Andalusian Romance), Germanic, and Arabic strata. Such criteria are formulated in generic and flexible terms that make them compatible with the historical-geographic framework, without removing their critical power in the revision of the etymological proposals provided by the literature.

### 2.1 Pre-Latin Substata (non-Indo-European and Indo-European)

Opaque hydrotonyms<sup>12</sup> considered to be pre-Latin are those documented by the sources of Antiquity or whose configuration has

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<sup>11</sup> The geomorphological limit between the North and the South may be identified with the so-called *Montejunto-Estrela* system, which runs to the north of the Tagus River but can include the Serra da Arrábida (Arrábida ridge), more to the south. This was the perspective of Hermann Lautensach (RIBEIRO; LAUTENSACH; DAVEAU, 1987, p. 135): “[As for] The dividing line between these two parts of the country [north and south of Portugal], we do not place it in the Tagus River, as did Ferraz de Carvalho (CARVALHO, 1930), because the right and left riverbanks always belong to the same morpho-structural unit. We place this line before the southern foothills of the Cordilheira Central (Central Mountain Range), that is, from the Serra das Mesas (Mesas Ridge) and the Serra das Gardunha (Gardunha Ridge), until the limestone ridges of the Mesozoic triangle. Since the Serra da Arrábida (Arrábida ridge), whose altitude reaches nearly 500 m, presents once again geomorphological characteristics similar to these limestone ridges, it seems to be advisable for the dividing line to cross the Tagus River and include even the peninsula of Setúbal in the geomorphological unit of the North of Portugal.”

<sup>12</sup> The metaphors of transparence and opacity are the basis of the definition of two semantic categories reported by PIEL (1979, p. 181-182; the original spelling is maintained, correcting minor typos): “[...] 2. It is important to remember that any proper name, be it a personal or place name, is, in a variable historical perspective, part of a

no recurrent toponymic use in either the past or the present, even if in their appearance they seem related phonologically and semantically to lexical items commonly recorded since the Middle Ages. For example, the hydrotoponym *Sul* (name of an affluent of Vouga, in the district of Viseu) is included in the pre-Latin stratum, because there are no records of similar toponymic uses that can be explained by the common Latin-Romance or Portuguese lexicon. In other words, this is not connected to the cardinal point *sul*, nor is it related to the Galician *sur*, ‘moisture of the land’ (see also DEE), items that, in fact, do not seem to participate in the genesis of toponyms. This assessment draws on the etymological proposals made in the context of philological and linguistic studies, which does not mean that they are uncritically accepted and are exempt from review and correction.

As regards the pre-Latin stratum, this work chooses to join the pre-Indo-European or non-Indo-European strata to the Indo-European stratum. This choice is certainly debatable, but, given the lack of documentation, more ancient names rarely exclude the possibility of loans or transferences of non-Indo-European elements having been assimilated into the Indo-Europeanization process of the territory known today as Portugal in a time period prior to the Roman conquests (the opposite situation should also not be discarded). In any case, the selected pre-Latin names are analyzed from the point of view of their relation to the

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common name, hence the study of toponymic elements is inseparable from the study of the general lexicon, whether ancient or contemporary. This is a truth that appears even today in numerous instances, in which a specific toponym is distinguished from a common homophone name only by the capital letter, adding, of course, an alienation in the primitive sense in favor of the local one. People who visit *Pontevedra* remind the province and its capital, and not the the old bridge that gave it its name, a completely obliterated concept, or, at most, relegated to the subconscious. 3. Having been said that, it is also important to emphasize that, obviously, a place name is not always evident by means of its mere association with a common term found in general or regional dictionaries [...] 4. One first temporary classification of the tens of thousands of Galician place names may be drawn on the aforementioned two aspects, “broadly” distinguishing two categories: 1<sup>st</sup>: names of “transparent” significance, such as *Bouza* or *Chá(n)*, on the one hand, and 2<sup>nd</sup>: names of “opaque” significance, such as *Graña* or *Nendos*, on the other. We could also say “talking” names, as compared to “mute” names. Opaque or mute toponyms are therefore considered those in which we are unable to immediately relate to any element of the general-common Galician lexicon, regardless of its origin. [...]”

Indo-European roots established by the literature, primarily by Pokorny (1959-1969), Delamarre (1984), and Buck (1949), as well as Krahe's repertoire (1964), and Bascuas' studies and inventories (2002, 2006, 2014). The lists of suffixes reported by Guerra (1998) are also considered, which have the advantage of relying on sources from Antiquity and their critical approach by classical and Indo-European philology.

## 2.2 Latin-Romance strata

This is a longstanding stratum, which defines the common Portuguese lexicon (see also PIEL, 1989, p. 9-16). It is based on the Latin-Romance language tradition of Galician origin (in a broad, Galician-Portuguese sense) and includes elements of a meridional branch, identified with the so-called Mozarab romance language or the Andalusian romance spoken in southwest Iberia. The Galician stratum, to which the majority of the common Portuguese lexicon gives continuity, include names that relate, by conversion or prefix/suffix derivation, with items from the common Latin heritage lexicon, as well as names resulting, by conversion or prefix-suffix derivation, of items from the common pre-Latin or non-Latin lexicon that was absorbed within the Latin-Romance language lexicon of the Hispanic northwest.<sup>13</sup> As regards the meridional romance language (the so-called Mozarabic romance language or the Andalusian romance language), descriptors are similar to those of the Galician origin stratum, although they do not share certain innovations and show interferences of the Arabic (and possibly Berber) dialects. Among the traits that the literature most commonly highlights as typical of the meridional Romance dialects, the conservation of Latin intervocalic *-n-* and *-l-* should be mentioned.<sup>14</sup> It is apparent, however,

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<sup>13</sup> In this stratum, the common items and the deanthroponymic toponymy of Germanic etymology could also be integrated, since, in the peninsular northwest, the weight of the Germanic linguistic communities would have been scarce or practically non-existent, assuming that they were capable of communicating in Latin (in a broad sense, but at least in the vulgar modality). Nonetheless, we chose to highlight the Germanic toponyms within their own stratum.

<sup>14</sup> The literature mentions as one of the characteristic traits the conservation of intervocalic Latin *-n-* e *-l-* (see also CARVALHO, 1959; TEYSSIER, 1982, p. 15-16; CARDEIRA, 2006, p. 34-35; CASTRO, 2006, p. 62-64; BROCARDO, 2014, p. 100-101). For an inventory of the phonomorphological traits of the Romance dialects from the old county of Coimbra, see also Azevedo (2005).

that a Latin-Mozarab stratum that can be separated from the Galician-Portuguese can hardly be defined here, since the specific traits of the Romance dialects of the *Gharb Al-Andalus* cannot always be clearly identified. It seems to be preferable to include the traces of such dialects in the dialectal *continuum* of the late Hispanic Latin, which interacted constantly either with the Romance forms of the Galician-Portuguese system, or with the Arabic system in all its variations.

The stratigraphy proposed here also does not consider the Portuguese stratum – «the Portuguese names themselves», as Vasconcelos (1931, p. 139-148) put it – as compared to the others. As occurs with French hydronyms (see also LEBEL, 1956, p. 8), a Portuguese stratum could also be broken down into medieval and modern stages. Moreover, the task of distinguishing such secondary strata is an operation that should take into account the dialectal breakdown of Portuguese, from its Galician beginnings to the territorial consolidation of the kingdom of Portugal, coupled with the question of the historical periodization of Portuguese. However, the underlying reason not to do so can be found primarily in the lack of a clear differentiation between the common Latin-Romance lexicon and the common lexicon of a possible exclusively Portuguese stratum. In fact, from the diatopic point of view, the archaisms of medieval, classic, and contemporary Portuguese, taken individually or in subgroups, continue those of Galician or Hispanic Latin-Romance, as many studies from Piel have shown (for example, PIEL, 1989, p. 11-12). If a line can be drawn between the Latin Romance layer and the Portuguese “layer”, it seems to be more operative in the perspective of a periodization of Portuguese than in the stratigraphic allocation of certain lexical items, which, though they have been anchored in a toponymy seemingly opaque to many contemporary speakers, still exist dialectally and are more transparent in such dialectal contexts.

### 2.3 Germanic Superstratum

This superstratum corresponds to a stratum of diffuse characteristics whose items show some degree of temporal dispersion: it comprises a Suevian-Visigothic first stage, documented by more specifically Galician items, such as *lobio* and *laberca*, or more generalized to the Peninsula, as in the case of *espeto* or *roupa* (FERREIRO, 2001); a second stage, that of the *Reconquista* (Reconquest) (eighth to eleventh centuries), marked by the expansion of the Visigothic deanthroponymic

toponymy in the peninsular northwest; and a third stage, with a very indirect impact, coinciding with the increase in the linguistic influence of the Gallo-Romance languages (see also PIEL; KREMER 1977; PIEL, 1989; BOULLÓN AGRELO, 1999).

It can be observed that the data concerning a Germanic impact on anthroponymy, and later on on toponymy, do not suggest a true situation of linguistic contact, in the context of a hypothetic expansion of Germanic dialects in the Portuguese territory. This study lacks sources as regards the possibility of their continued uses, since they had no conditions whatsoever for an interference as far-reaching as that of Arabic. In the examination of the hydrotponyms, we were only able to focus the second stage, that of the toponymy of Visigothic origin.<sup>15</sup>

#### 2.4 Arabic superstratum

This superstratum is documented both in the onomastic (anthroponymy and toponymy) and in the common lexicon, and encompasses hybrid forms that make it difficult to identify Arabic elements, which show a challenging diatopic variation in the Iberian Peninsula (see CORRIENTE, 2003). In order to identify Arabic and Arabized hydronyms and their geographic distribution, we must first define the criteria for their selection. It is important to note that the identification of an Arabic or Arabized name is equally safer if one relies on the attestations available in existing medieval sources, whether Arabic or Romance, a requirement that is not always possible to satisfy. Nevertheless, it is important to meet some linguistic aspects, which are listed below (see AZEVEDO, 2005):

– Names beginning with *al-* are generally of Arabic origin, though there are a few items without this etymology, as pointed out by Asin Palacios (1940, p. 24).<sup>16</sup> It should be noted that the form *al-*, representative of the

<sup>15</sup> Regarding the Gothic origin of early medieval anthroponymy and topoanthroponymy in Iberian Northwest, Piel (1989, p. 151) declared: “[...] there is nothing in the form of the respective toponyms [from the NW of the Peninsula] that makes one assume an origin that is not Gothic, and most of them date back not to the period of Germanic settlement on Hispanic soil, but to the Asturian-Leonese era of the *Presurias* and Christian reconquest [...]”

<sup>16</sup> For example, *albergue* is a word of Germanic origin, passed down to Portuguese through archaic Provençal (MACHADO, 1987); *Alvão* (Vila Real) harkens back to the anthrotoponym *Albanus* (MACHADO, 2003).

Arabic definite article, can be reduced to the allomorph *a-* as a result of assimilation of the lateral consonant [l] in the article to certain consonants at the beginning of the following word (the so-called solar consonants in Arabic grammatical terminology).<sup>17</sup> In the common vocabulary and in the proper names, one can find illustrative cases of this assimilation (see also MACHADO, 1987, 1991, 2003, and DHLP): *adarve* (Hispanic Arabic *ad-dar* ‘path, gorge, alley’), *Açacaias* (Santarém; *as-saqāiā* ‘runoff, stream, water trickling in the bottom of a ravine’), *anadel* (archaism ‘chief, commander of a company of crossbowmen or gunmen’; from *an-naZir* ‘who sees, who contemplates; inspector, intendant, vigilant, vineyard guard; administrator’); *Arrábida* (Setúbal, Porto; *ar-rabiTā* ‘convent fortified to safeguard the border’); *atalaia/Atalaia* (*aT-Talā’a* ‘sentinel’), *Azóia* (*az-zauīā* ‘chant, hermitage, chapel where a saint or a marabout is buried’).<sup>18</sup>

– The element *ode-* is the Portuguese form of *wadi-* ‘river’, ‘valley’ (FERNANDES *et al.*, 2006, p. 69). Nowadays, the toponyms *Odesseixe* and *Odemira* illustrate the morphological autonomy of *ode-*, when contrasted with the hydronyms *Seixe* and *Mira*.<sup>19</sup> It should be noted that the form *Guadiana*, which substituted for the older form, *Odiana*, presents the variant *guadi-*, due to Castilian transmission.<sup>20</sup>

– Arabic anthroponymy is also retained in Portuguese toponymy, which is recognizable in southern names beginning with *bem-/ben-* or *bu-* (respectively, of *ibn*, ‘son’ and *ab-*, ‘father’) and followed or not by an etymologically Arabic element: *Beniça* (Sines), *Benafátema* (Silves), *Benamola* (Loulé), *Bensafrim* (Lagos), *Buçalfão* (Évora). These elements may undergo distortions, as occurs in the case of *Bela Mandil*, in Olhão (MACHADO, 1991). Other names contain configurations that are not as easily recognized, ex.: *Ceide* (Vila Nova de Famalicão), probably of *sāid*, ‘chief, sir, prince’ (MACHADO, 2003). These names reveal a variation stemming from their morphological and phonological adaptation to the dialects of mainland Portugal.

<sup>17</sup> Corriente (2002, p. 60) explains that assimilation takes place with dental consonants /t/, /d/, /t̪/, /d̪/, /n/, /l/, /r/; the alveolars /t̪/, [d̪], and /z/; the pre-dorsal alveolar /s/, /z/, /ʃ/; and the devoiced pre-palatal /s̺/ (classification and annotation of the author herein referred to).

<sup>18</sup> The Arabic etyma follow here the “transcription method” proposed by Machado (1987).

<sup>19</sup> Sobre *wadi-*, see also Terés (1986, p. 31).

<sup>20</sup> *Guad-* is the predominant form in Castilian-speaking regions, but in Spanish western regions one can also come across *ode-*, like in *Odiel*, in the province of Huelva.

– There are also names of rivers that ultimately have an Arabic etymology, but reveal Arabic phonological interference, as is the case of *Tejo* (MACHADO, 2003) and possibly *Erges*, in Beira Baixa (idem) which are evidence of Latin *g* being systematically replaced by Arabic pre-palatal affricate /ǧ/ (see CORRIENTE, 2002, p. 23). *Tejo* is also evidence of *imala* phenomenon, which consists of the raising of /a/ to /e/ or /i/ (idem; cf. *Tajo*, in Castilian, without *imala*). One should also mention *Cacela*, probably from *Castellum*, with the substitution of *-um* for *-a* and the simplification of the Latin *-st-* to [s] (LOPES, 1968, p. 23).

– It is crucial for Portuguese toponyms formed in the Arab occupation period not to be confused with the toponymy that results from the use of the common vocabulary of Arabic origin in naming rural and urban areas as well as geographic features.<sup>21</sup>

– There is also the possibility of finding names that are translations from previous Arabic names, as is the case with many rivers *Mel* that have to do with *wadi al-‘asal*, which describes the water as fresh, as compared to *Rio Salado* (*Salado River*) (see also ASÍN PALACIOS, 1944, p. 24).

– Some hydronyms may derive their names from adjectives which are prone to being converted into anthroponyms. The case of *Almançor* shows how a non-agentive participle, in this case used with an article, may appear as a proper name (TERÉS, 1992, p. 29).

### 3 Stratigraphic and regional distribution of hydrotoponyms by strata and regions

The interpretation and classification of hydrotoponyms allows their regional and stratigraphic distribution to be defined as shown in Table 2, which quantifies stratigraphic categorization and crosses it with hydrotoponymic regional distribution (by districts). It should note that the regional distribution repeats the contrasts that the literature has pointed out, namely the growing Arabic or Arabized mark from the north to the south, which can, in the more meridional districts, equal the frequency of cases of Latin-Romance origin, as occurs in the districts of Beja and Faro.

<sup>21</sup> Already in 1918, Leite de Vasconcelos had warned (VASCONCELOS, 1918, p. 63): “[...] We must not illude ourselves with words such as *Alcaide*, *Aldeia*, *Atalaia*, *Azenha* that come or came from the day-to-day lexicon of the entire country, and that may have been applied as geographic designations after having been introduced into the language [...]. Words such as *Albufeira* and *Almargem* share the same circumstances and come from the southern language, or simultaneously from the South and Beira.”

TABLE 2 – Distribution of the hydrotoponyms by district and by strata

		obscure		pre-Latin		Germanic		Arabic		Latin-Romance/ Portuguese		total
		n	%	n	%	n	%	n	%	n	%	
Viana do Castelo		10	16.13%	6	9.68%	2	3.23%	0	0.00%	44	70.97%	62
Braga		7	16.28%	6	13.95%	3	6.98%	0	0.00%	27	62.79%	43
Oporto		3	10.00%	3	10.00%	1	3.33%	0	0.00%	23	76.67%	30
Vila Real		15	33.33%	1	2.22%	0	0.00%	0	0.00%	29	64.44%	45
Bragança		1	4.76%	5	23.81%	0	0.00%	0	0.00%	15	71.43%	21
	<b>North</b>	<b>36</b>	<b>17.91%</b>	<b>21</b>	<b>10.45%</b>	<b>6</b>	<b>2.99%</b>	<b>0</b>	<b>0.00%</b>	<b>138</b>	<b>68.66%</b>	<b>201</b>
Aveiro		3	6.25%	10	20.83%	2	4.17%	1	2.08%	32	66.67%	48
Viseu		9	16.98%	8	15.09%	1	1.89%	1	1.89%	34	64.15%	53
Guarda		4	21.05%	8	42.11%	0	0.00%	1	5.26%	6	31.58%	19
Coimbra		5	26.31%	0	0.00%	0	0.00%	0	0.00%	14	73.68%	19
	<b>Centre-North</b>	<b>21</b>	<b>15.11%</b>	<b>26</b>	<b>18.71%</b>	<b>3</b>	<b>2.16%</b>	<b>3</b>	<b>2.16%</b>	<b>86</b>	<b>61.87%</b>	<b>139</b>
Leiria		5	6.98%	3	11.63%	0	0.00%	4	9.30%	31	7.09%	43
Castelo Branco		4	44.44%	1	11.11%	0	0.00%	2	22.22%	2	22.22%	9
Lisbon		9	24.32%	0	0.00%	0	0.00%	4	10.81%	24	64.86%	37
Santarém		2	14.29%	1	7.14%	0	0.00%	3	21.43%	8	57.14%	14
	<b>Centre</b>	<b>20</b>	<b>19.42%</b>	<b>5</b>	<b>4.85%</b>	<b>0</b>	<b>0.00%</b>	<b>13</b>	<b>12.62%</b>	<b>65</b>	<b>63.11%</b>	<b>103</b>
Setúbal		0	0.00%	1	25.00%	0	0.00%	0	0.00%	3	75.00%	4
Portalegre		3	60.00%	2	40.00%	0	0.00%	0	0.00%	0	0.00%	5
Évora		4	44.44%	0	0.00%	0	0.00%	4	44.44%	1	11.11%	9
	<b>Centre-South</b>	<b>7</b>	<b>38.89%</b>	<b>3</b>	<b>16.67%</b>	<b>0</b>	<b>0.00%</b>	<b>4</b>	<b>22.22%</b>	<b>4</b>	<b>22.22%</b>	<b>18</b>
Beja		4	36.36%	1	9.09%	0	0.00%	2	18.18%	4	36.36%	11
Faro		4	44.44%	1	11.11%	0	0.00%	2	22.22%	2	22.22%	9
	<b>South</b>	<b>8</b>	<b>40.00%</b>	<b>2</b>	<b>10.00%</b>	<b>0</b>	<b>0.00%</b>	<b>4</b>	<b>20.00%</b>	<b>6</b>	<b>30.00%</b>	<b>20</b>
National Profile		92	19.13	57	11.85	9	1.87	24	4.99	299	62.16	481

As regards the hydrotoponyms of Germanic origin, which are quite abundant in deanthroponymic toponymy and typical of the northern third of Portugal (see also PIEL, 1937; 1944; PIEL; KREMER, 1977; PIEL, 1989), they amount to a rather small contribution for the set of hydrotoponyms analyzed in the present study. In fact, only nine cases (1.82%) were registered, practically limited to the districts of Aveiro, Viseu, Porto, Braga, and Viana do Castelo, that is, they are especially concentrated in the northwestern corner of the Portuguese mainland. In addition, this impact appears to translate only into secondary hydrotoponyms, that is, in river names most likely resulting from the pre-existing deanthroponymic toponyms. Examples, such as those of *Eiriz* (Porto), *Froufe* (Viana do Castelo), or *Guisande* (Braga), which are also place names, correspond historically to situations in which villages and their respective toponyms played the role of locating and referencing the watercourses that we identify today by the aforementioned hydrotoponyms.

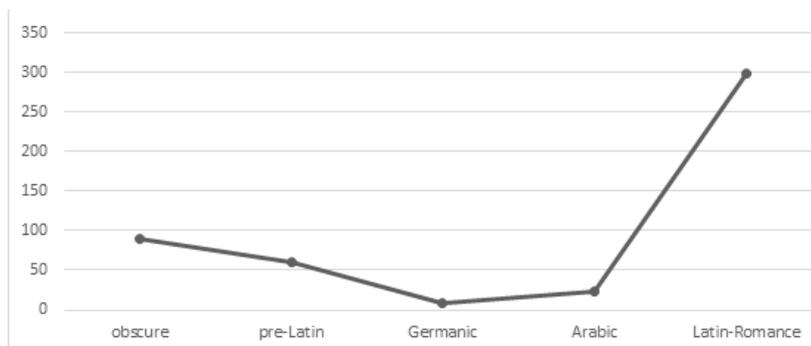
It is equally revealing that, among the 481 hydrotoponyms under study here, only 38 (7.88%) refer to watercourses to the south of the Tagus River. And even if this calculation includes the districts to the north of the river Tagus that can be found immediately to the south of the Montejunto-Estrela system – Lisboa, Santarém, and Castelo Branco, contributing with more than 60 names –, the total of 98 hydrotoponyms (38+60) does not reach one fourth (20.33%) of the selected nomenclature.<sup>22</sup> This discrepancy has, as previously mentioned, a clearly climatological explanation, based on the fact that, the farther to the south, in a relatively low terrain and where the precipitation is less significant and constant, there are fewer rivers with an undisturbed watercourse.

Graph 1 represents the distribution of the hydrotoponyms studied here by means of linguistic strata.

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<sup>22</sup> It should be noted, however, that the district of Lisbon aligns with Leiria and the districts to the north, since it counts 37 hydrotoponyms, thus reflecting geographic conditions of significant Atlantic influence. This observation, therefore, is congruent with the geomorphological perspective of H. Lautensach, who would suggest the inclusion of the peninsula of Lisbon and the majority of the Setúbal region in the northern part of Portugal (see also RIBEIRO; LAUTENSACH; DAVEAU, 1987, p. 135).

GRAPH 1 – Distribution of mainland Portugal’s hydrotoponyms by linguistics strata (absolute frequencies)



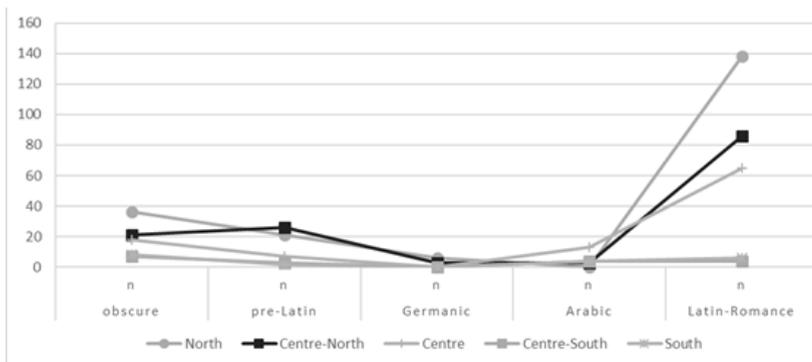
Graph 1<sup>23</sup> shows that the Latin-Romance stratum (including the more recent Portuguese periods) is heavily present (299 hydrotoponyms, that is 62.16%), followed distantly by the pre-Latin strata (59 hydrotoponyms that correspond to 12.27%) and the Arabic one (24, or 4.99%), while the Germanic stratum has a lesser representation (9 names, making up 1.87%). It should be noted that Table 2 and Graph 1 also refer to the hydrotoponyms of obscure origin – that is, to a set of hydrotoponyms of a non-identifiable stratum, completely absent from the consulted sources and unable to be contextualized even by comparison with toponyms of extra-Portuguese regions –, which reach a significant frequency (90 names, or 18.71% of the group).

Regionally, the distribution of hydrotoponyms is not far from the national tendency represented in Graph 1, except for the Arabic stratum, which is absent north of the Douro, represented by some cases until the Mondego, but clearly frequent to the south of this last river. Graph 2 highlights this difference, distinguishing five regions: North, Centre-North, Centre, Centre-South, and South. The disadvantage of this

<sup>23</sup> In Table 2 and in Graph 1, the values of the Latin-Romance stratum appear after the values corresponding to the Germanic and Arabic superstrata. This form of presentation is certainly debatable, since the Latin-Romance stratum is conceivable as an intermediate layer of the foundation, on which the Germanic and Arabic elements are deposited (superstrata). However, this representation is not inappropriate if one considers that the Latin-Romance stratum, due to its broader temporality, overlaps with these superstrata, lasting through later periods until reaching the Portuguese contemporary period.

distinction is that the more meridional regions present fewer occurrences, thus causing a distortion in the percentages. In any event, the distribution clearly points to a greater frequency of Arabic or Arabized names in the Centre, Centre-South, and South regions of mainland Portugal, although in these regions it is worth emphasizing the large number of hydrotoponyms whose origin is obscure, not clearly related to identifiable or typical linguistic units or traits of the strata in question.

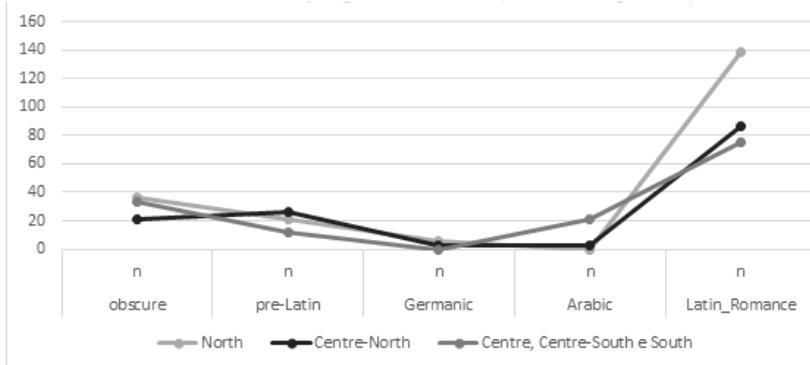
GRAPH 2 – Distribution of mainland Portugal’s hydrotoponyms by regions and strata (absolute frequencies)



In order to balance the samples, the hydrotoponyms of the Centre, Centre-South, and South regions were joined together, as shown in Graph 3. The association of the groups corresponding to these regions does not substantially change the results presented in Graph 2. In other words, in the group formed by the districts of Leiria, Castelo Branco, Lisboa, Santarém, Setúbal, Portalegre, Évora, Beja, and Faro, the Arabic stratum is represented by more hydrotoponyms than in the other districts (21 hydrotoponyms, or 14.89%). Even so, the number of hydrotoponyms without a clear filiation remained high and was therefore classified as obscure. It should be noted, however, that the joining of the hydrotoponyms of the more meridional districts of mainland Portugal in a single class allows one to approximate the frequency of the names of the Latin-Romance stratum to that of the North and Centre-North districts. This observation can be explained by the fact that joining the Leiria and Lisbon river groups corresponds to a significant quantitative status, with the particularity of having associated hydrotoponyms created

in the Latin-Romance stratum, during the Galician-Portuguese period or later in the fully Portuguese linguistic periods.

GRAPH 3 – Distribution of mainland Portugal's hydrotoponyms by regions and linguistic strata



The significant frequency of the names of obscure origin in the Centre, Centre-South, and South regions, as presented in Graphs 2 and 3, may well be due to a difficulty in assigning the constituents of the more meridional hydrotoponyms, on the one hand, to a family or linguistic sub-branch and, on the other hand, to the variation of the Andalusian Romance and Arabic may possibly have caused to cognate or related morphemes of those which form the names of the Centre-North and North.

It can, therefore, be verified that, from the stratigraphic and quantitative points of view, the hydrotoponyms in question are hierarchically available in the following manner:

- 1.º – Hydrotoponyms of Latin-Romance origin, common in all of mainland Portugal.
- 2.º – Less common pre-Latin hydrotoponyms, dispersed throughout the territory.
- 3.º – Arabic or probably Arabized names with a less generalized distribution: from the left margin of the river Douro southwards, they occur sporadically in the Centre-North region (for example, *Alfusqueiro*, in Aveiro, or *Múceres*, in Viseu), and become numerous in the Centre, Centre-South, and South regions, where it is typical to find hydrotoponyms prefixed by *ode-* or *odi-* (*Odeleite*, *Odivelas*).

Excluded from this classification are the hydrotponyms related to the Germanic stratum, as these occur only secondarily, as names with a former determinative function and allusive to pre-existing toponyms based on Germanic (Visigothic) anthroponyms.

It is noteworthy that the group without a clear stratigraphic attribution amounts to 92 hydrotponyms (19.13%), a significant number which, in some way, reflects how proper names, namely toponyms, are subject to irregular changes that make them opaque, a result that may not be likely to indicate a remote pre-Latin origin. This category includes names whose etymology cannot be determined, because their constituents involve phonological and analogical processes that obscure their filiation and prevent their clear identification, making them ascribable to any time period. The diatopic variation can, in fact, illustrate cases of substitution of segments that the standard language did not include: for example, the substitution of liquids in *Filvida* (district of Aveiro) – most probably *Fírveda*, in the municipalities of Amarante and Peso da Régua, or *Fírvida*, in the municipality of Marco de Canaveses (see also MACHADO, 2003 s. v. *Fírveda*) – a case that should be considered as a regional tendency that does not seem to have affected other linguistic modalities. Some hydrotponyms can be totally or partially identified with morphic elements of Indo-European origin (pre-Latin or non-Latin – ex. *Beça*, *Pele*, *Xarrama*, *Tera*); others can fit into lesser known, pre-Indo-European or non-Indo-European strata (ex. *Sizandro*), including even Arabic or Berber elements that are not easily identifiable (ex., *Séqua*); finally, there are cases in which a morphic configuration has an Latin-Romance “air of family”, but resists a strict filiation (ex., *Arado*, in Braga, or *Vigues*, in Aveiro). However, it is possible to join most of this group into the pre-Latin stratigraphic group, if the identification criteria of the pre-Latin elements becomes more flexible, for example, accepting proposals such as those from Bascuas (2002, 2006, 2014) especially as regards the current Galician territory. If one proceeds in this manner, the pre-Latin group could reach nearly 30% of the hydrotponymic nomenclature in question here.

In any event, within the strict context of hydrotponymy, outside of its intrinsic solidarity with all toponymy, according to Table 2 and in Graphs 1, 2, and 3, it can be observed that an attempt of etymological classification tends to reduce its number of classes, as compared to that of Vasconcelos (1931, p. 139-148), especially due to the relatively low

impact of Germanic names, coupled with the adoption of criteria inspired by Lebel (1956), which lead to the concept of a Latin-Romance stratum that is chronologically longer and therefore more inclusive. One can, therefore, propose a stratigraphy of the names of Portuguese rivers that is alternative to that of Vasconcelos (1931), as presented on the right side of Table 3.

TABLE 3 – Comparison of Vasconcelos’ (1931) typology with a proposal of stratigraphic characterization of mainland Portugal’s hydroponymy

Etymological typology of Vasconcelos (1931, p. 139-148)	Proposal of stratigraphic characterization of mainland Portugal’s hydroponymy
Pre-Roman names	Pre-Latin strata
Roman names	Latin-Romance stratum
Germanic names	
Arabic names <sup>24</sup>	Arabic stratum
Names of varied origin	
Portuguese names proper	

In this table, the term *pre-Latin* applies to the plural *strata*, since multilingualism or multidialectalism in the same linguistic family (or subfamily) constituted the linguistic situation prior to or contemporary with Romanization. In the same table, the Latin-Romance stratum on the right column corresponds to different etymological types of names, except for those created by Arabophone communities. Elements and morphemes from the common lexicon are therefore grouped together with the Latin basis; they have been identified separately by the literature, as is the case with those of Germanic origin, which the studies in onomastics and toponymy identify mainly in northwestern Portugal, as well as those of the so-called Mozarabic Romance (or, as CORRIENTE, 2003) propose, the Romandalusian), which for centuries was the privileged medium for

<sup>24</sup> Leite de Vasconcelos defines three zones due to the degree of Arabization (VASCONCELOS, 1931, p. 143-147): to the north of Douro, with little Arabic influence; between Douro and Mondego and the south of this river (county of Beira), zone that belonged “to centuries VIII and XII, at times to the Arabs, at times to the Christians”; Estremadura and the region to the south of the Tagus.”

conveying the set of items that Piel (1989, p. 12-13) called the “Arabic lexical alluvium”. This does not contradict what Table 3 presents, a highly individualized Arabic layer, from the onomastic and toponymic point of view, representative of the interference or of the actual use of the Arabic language by the populations of the southwest Iberian Peninsula. This stratum is strongly marked either by deanthroponymic toponyms, with an impact even to the north of the Douro (see also SERRA, 2967), or by items of the common lexicon that were not absorbed by the fundamentally Latin stratum.

#### **4 Homogeneity of macro-hydroponymy vs. heterogeneity of microponymy**

One relevant dimension to understanding the structure of mainland Portugal’s hydroponymy is the extension of the named rivers. This may well be pertinent for the etymological interpretation of each name, allowing for the identification of two subgroups in the set of hydroponyms commented in this study. Thus, when addressing the names of the longer rivers (type I), studies and commentaries assess part of them as an archaic onomastic heritage,<sup>25</sup> with a greater presence especially in the political-governmental tradition; the names of shorter rivers (type II) and with less historical-governmental relevance would have been more exposed to changes. Such tendencies are pointed out by Moralejo (2007), when, in the Galician context, places macro-hydroponymy against micro-hydroponymy:

§ 5. Para el inventario de hidronimos prerromanos es básica la macrohidronimia, es decir, Duero, Limia, Mino, Lerez, Ulla, Tambre, Mandeo, Mero, Eume, Sor, Eo, Navia... y algunos de sus afluentes mayores -Avia, Arnoia, Deva, Pambre, Sil, Tea...- mientras en la microhidronimia abunda lo románico, tal como puede confirmarse en una primera ojeada al mapa e índice antes citados; pero sin que falte material prelatino notable, incluso

<sup>25</sup> Read, for example, the following observation in Silveira (1940, p. 383) regarding the hydroponym *Dão*: “Almost all of the names of our rivers in some way, except for those of Arabic origin, from the south, belong to the pre-Roman indigenous languages; and, as its use was previously unknown to us, everything that can be said about their sense is very uncertain.”

como léxico común. En esa ojeada se hace también patente el escasísimo número de hidrónimos de origen germánico, que además pueden ser hidrónimos secundarios (tipo río de Saa, del germánico *sala* común y toponímico). A fin de cuentas, la primera impresión que se obtiene de una lista hidronímica galaica parece la misma y axiomática que en otras áreas: mayor profundidad temporal y estabilidad de la macrohidronimia, mayor renovación y modernidad de la microhidronimia. (MORALEJO, 2007, p. 103)

Due to its old association with Portuguese rivers or other geographic features, the type I hydrotoponyms collected here, therefore, are in accordance with that which Moralejo calls *macro-hydronymy*. In this sense, the predominance of the names of pre-Latin origin is clear in this group, confirming a tendency that can be found in the majority of the Iberian Peninsula and other regions where Romance languages took root. With greater rivers, however, there is greater stratigraphic diversity and the names may be much more recent.

Thus, 18 type I hydronyms are attested, directly or indirectly, either in sources of Antiquity (*Ave, Douro, Lima, Minho, Mondego, Tâmega, Tejo, Vouga* and, partially, *Guadiana*<sup>26</sup>) or in medieval documents (*Alva, Cávado, Coa, Dão, Sabor*). This group can be found in the pre-Latin strata, given the difficulty in interpreting it, through items of the common lexicon or of onomastics from Latin in general and, in particular, from Hispanic Latin. Moreover, the cases of solely medieval attestations do not fit into either the Germanic anthroponymy or among the units of Arabic origin. Four hydronyms – *Mira, Sado, Sorraia*,<sup>27</sup> *Zêzere* – remain, of which three are of obscure origin, even though they can most likely be classified among pre-Latin names. Only *Sado* seems to stand outside this group, within a highly unlikely relationship either with the pre-Latin strata or with the Latin root. It is also important to highlight that three of the four cases that raise the most doubts about their origin – *Sorraia, Sado*, and *Mira* – constitute, with *Tejo* and *Guadiana*,

<sup>26</sup> In fact, *Guadiana* is a compound, and therefore the element *-ana* is to be grouped with the other hydrotoponyms mentioned herein, given that the forms *Ana* or *Anas* can be found in the sources from Antiquity (see also GUERRA, 1998, p. 278-280).

<sup>27</sup> *Sorraia* is a case of agglutination of two names, *Sor* and *Raia*, the latter, apparently more recent, may well be an item belonging to Latin-Romance stratum, while the former is possibly pre-Latin.

the reduced type I hydrotponymic list in the southern half of Portugal, which is a reflection of the aforementioned conditionalism of climate and terrain, which make the fluvial network less dense. These physical-geographic factors are aligned with the prolonged interference of Arabic, which, faced with the lack of documentation that allows continuity of transmission to be recognized or assumed, obscured the relationship with the characteristic toponymic series of the pre-Latin and Latin-Romance strata, while, in other cases, they have broken with them completely.

By contrast, hydrotponyms that apply to shorter rivers (from 20 to 100 km) are recorded by heterogeneity. In this sense, this group – type II – includes names that both revert to Antiquity and can be attributed to historical periods of the Portuguese language. Increasing the number of names under analysis also increases the stratigraphic diversity of their distribution, as presented in the following sections.

## 5 Typologies of the genesis and transmission of hydrotponyms

As explained in section 3, Table 2 suggests the predominance of names of a configuration accepted as Indo-European (pre-Latin or already Latin) in the North and Centre-North, a tendency which appears to fade away in the Centre, Centre-South, and South, either due to the number of names of obscure origin or by the names of Arabic origin or interference (see Graph 3). With the more archaic southern hydrotponyms – for example, *Tejo*, *Guadiana*, or *Arade* – the analysis would be more appropriate if each name were considered as a result of interactions between two forms of transmission that shaped the current form. On the other hand, it deals with Latin influence and later on with Romance influence, in its diatopic varieties, which can be grouped in two large systems, the Galician-Portuguese one, and the Southern one, generally called Mozarabic. On the other hand, it tells the story of Arabic interference, in its Andalusian varieties, acting as a stratum that took advantage of forms possibly modified by southern Romance dialects, and transmitted them into Portuguese. The distinction of various linguistic strata through which the hydrotponyms passed south of the Mondego basin should, therefore, correspond strictly to a temporal sequence constituted by four stages of transmission: Latin, including the Germanic period; Mozarabic or southern Romance – which might reflect the contact with Arabic –; Arabic itself, which interfered in the forms processed

or not by Mozarabic dialects; and finally, as of 11<sup>th</sup> to 12<sup>th</sup> centuries, Galician-Portuguese or already Medieval Portuguese, which introduced their successive characteristic phonological processes. The scheme in (1) represents this chain of stages in relation to the hydronym *Tejo*:

(1)	Pre-Latin stage	Latin stage	Arabic stage	Portuguese stage
	* <i>tag-</i>	<i>Tagus</i>	<i>Taġu</i> (with <i>imela</i> )	<i>Tejo</i>

The sequence represented in (1) is the typical transmission chain of a hydrotoponym of most of the region to the south of Tagus, where Arabization must have been complete at the beginning of the 13<sup>th</sup> century (VICENTE, 2006, p. 32), followed by a re-Romanization resulting from the Reconquest in the middle of the same century. It should be underscored, however, that the four stages referred to in (1) only seem to be globally valid for the territory to the south of Douro, since, in certain areas to the north, the toponymy, in general, and the hydrotoponyms, in particular, may contain Arabic or Arabized elements, but mainly through Arabic anthroponymy (see also Serra, 1966). Thus, in the region between Minho and Douro (or a little further south, until Vouga) and, possibly including the district of Vila Real, two stages can be seen – Latin and medieval Portuguese (or Galician-Portuguese) – with no solution of continuity, given that the transmission process was not permeated by Arabization. In these regions, the transmission chain of the names is simpler than that represented before in (1), according to that illustrated in (2), as follows:

(2)	Pre-Latin stage	Latin stage	Galician-Portuguese stage
	* <i>Limia</i>	<i>Limia</i>	<i>Limia, Lima</i>

Each stage is defined by morphological adaptations and specific phonetic phenomena, which can also be organized according to Table 4:

TABLE 4 – Examples of the etymological transmission chain with identification of phonological traits and intervening morphemes

	Pre-Latin roots and prefix/suffix	Latin-Romance Language Stratum		
		Latin-Romance stage	Arabic stratum	Galician-Portuguese/Portuguese stage
		Phonomorphologic Adaptation	- <i>imala</i> ; -substitution /dʒ/ or /ʒ/ for /g/	Phonomorphologic adaptation
<i>Tejo</i>	* <i>tag-</i>	Tagus	<i>Tağuh</i> (LOPES 1968: 115), <i>Tāyô</i> (TERÉS 1986: 158/159)	Tejo
<i>Lima</i>	* <i>lim-</i>	Limia		Limia/Lima

### 5.1 Lexicon and onomastics in the genesis of mainland Portugal's hydroponymy

The genesis or creation of the hydroponyms commented upon here involve a distinction applied by Martínez Lema (2010, p. 39-41) in the context of Galician toponymy, which also appears to be functional within the scope of this work, though with certain adaptations. It treats the contrast between the delexical toponymy, whose base is formed by the common lexicon, and deonomastic toponymy, resulting from pre-existing proper nouns, including toponyms that secondarily give rise to new toponyms.<sup>28</sup>

This last case is especially relevant for the study of mainland Portugal's hydroponymy, given the importance of the conversion of pre-existing toponyms into hydroponyms. It can be observed, in fact, that delexical hydroponymy is always likely to be distinguished from the deonomastic one, because phytonyms or even hydronyms are susceptible to first being set as place names, to later be converted into hydroponyms.

<sup>28</sup> As observed above, hydroponymy can take on a secondary character, by allusion or transference of the existing toponymy. See also Moralejo (2007: 103) on the case of Galicia.

It can be seen, for example, that the hydrotoponym *Teixeira*, which is found in the districts of Braga, Porto, Aveiro, and Viseu, is attributable to place names that were also later used to identify the watercourses that run through them; and both the *Rio Fervença* (*Fervença River* – Bragança) and *Rio Marnel* (*Marnel River* – Aveiro), although made up of items corresponding to hydronyms (*fervença*, *marnel*) that are even today a part of the Portuguese common lexicon,<sup>29</sup> appear to be associated with prior toponymic uses. In the group of mainland Portugal's hydrotoponymy, the deonomastic toponymy, therefore, stands out, especially as regards the origin of toponyms, which justifies that here, the term *detoponymic* is used in such a way as to point out this type of genesis. The classification of the hydrotoponyms studied according to two genetic categories – delexical and detoponymic – allows their distribution to be defined as presented in Table 5:

TABLE 5 – Delexical hydrotoponymy and detoponymic hydrotoponymy in mainland Portugal (absolute frequencies)

Delexical	167
Detoponymic	241
Typologically ambiguous	73
Total	481

In the above table, the hydrotoponyms of secondary nature (detoponymic) stand out in the group of river names in question here. Following these are the hydrotoponyms resulting from direct denomination, which can correspond to adjectival items (in the Latin-Romance stratum, typically, *Frio*, *Grande*, *Mau*, *Resmungão*, *Sordo* or *Torto*, among other adjectival items) or determinative expressions that do not seem to have had prior toponymic uses (*Farbança*, *Horta*, *Ínsua*, among others). However, the number of typologically undefined hydrotoponyms is noteworthy: these are names of obscure origin, which means that they do not contain elements that clarify their genesis; and, while assuming that these are delexical items, one cannot discard the possibility of corresponding to secondary hydrotoponyms. But what

<sup>29</sup> See also Figueiredo (1913).

the significance of the detoponymic category illustrates above all is that hydrotoponymy does not form an autonomous domain in the context of the toponymy of a region or country. In fact, the sample of mainland Portugal's hydrotoponyms discussed in this study is an integral part of a majority of names that do not point to a hydrotoponymic system or, at least a homogeneous, autonomous group as regards the remaining toponymy, not even in regions where one could imagine the Paleo-European or Ancient European toponymy to be more deeply rooted (see also BASCUAS, 2002, 2006, 2014).

A final, brief observation about the relationship between the two categories in question and the stratigraphic proposal here discussed. Nearly all the strata are represented by hydrotoponyms that date back to a time when the corresponding languages were active, but, as mentioned above, it can be observed that those related to the Germanic stratum do not point to the actual use of dialects from this linguistic subfamily. The existence of a Germanic hydrotoponym can only be verified as a secondary upshot, subsidiary to other toponyms, primarily of a land-based nature, which finds its genesis in the conditions of the power expansion of the Asturian and, later Leonese, kings.<sup>30</sup> The hydrotoponyms that present Germanic roots stem, therefore, from the displacement of a toponym or from the widening of its use as a determinative, which explains the more recent cases of duplication, that is, of cases in which place names are also used to name rivers: for example, the place name, *Zonho*, in the district of Viseu, which seems to explain the hydrotoponym *Rio do Zonho* (*Zonho River*). In this connection, concerning the scope of pre-Latin and Latin-Romance strata, the relationship between *Vouzela* and *Zela*, in the district of Viseu, is also worth mentioning, as the second name is most likely an apheretic form of the first, even though *Vouzela* had most likely begun as a hydronym derived from *Vouga*, that is to say, under the form *\*Vauca*.

It is important here to return to Lebel's (1956) typology, according to which hydronymy might have an appellative, descriptive, or determinative character. The interpretation of the different stratigraphic classes of the Portuguese hydrotoponymy shows that the motivation of

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<sup>30</sup> We do not enter here into the controversial question of the name of the Christian kingdom from the Iberian Northwest, in which ancient Lucense Galicia (more than two thirds of present-day Galicia) played a relevant political role.

the hydrotoponyms is quite diversified in the Latin-Romance stratum, an observation which does not appear to be valid concerning the heterogeneous stratum of the pre-Latin. In this sense, since urban life had not been developed in protohistory, it is doubtful that there are pre-Latin hydrotoponyms that are constructed by allusion to urban settlements, in contrast to Latin-Romance hydroponymy, in which the cases of determinative type toponymy are quite abundant in the fully Portuguese later stages. In this light, the archaic or proto-historical hydrotoponyms (those that could be included in the discussion of ancient Europe, according to that proposed by KRAHE, 1964, and findings from BASCUAS, 2002, 2006, 2014), would all be decipherable in the lexical context, harkening back to hydronymic vocabulary from ancient languages. In other words, the pre-Latin hydroponymy would lack the cases of deonomastic motivation, as compared to medieval hydroponymy. Nonetheless, the picture is not so linear, especially when either the ethnonymy or the pre-Roman or indigenous theonymy coeval to Romanization are placed under scrutiny. What lacks here is a deeper investigation of the relationship between the pre-Latin or obscure hydrotoponyms and the group of western Iberian theonymy and ethnonymy.

Taking into consideration Martínez Lema's (2010) typology, one can observe that only a small part – 90 (18.52%) – of the hydrotoponyms discussed in this study correspond to cases of toponymic continuity either since Antiquity or since the Middle Ages. Rare are the cases in which the current hydrotoponym was set by substitution of another (5 hydrotoponyms, or 1%). But a highly significant number (233 names, corresponding to 48% of the studied repertoire) consists of cases of displacement or of transference of a toponym as a determination of the hydrotoponym. In other words, it is common for names that result from the use of a pre-existing toponym to be used to identify a watercourse. It should be noted that a significant number (157, that is, 32.3%) have characteristics that hinder their clear inclusion within one of these types, as they have no clear elements about their history, which could be either remote or recent.

## Final considerations

Despite the stability that many authors assume as the defining characteristic of hydrotponyms, the present study revealed that the collected nomenclature is vulnerable to History and is thus susceptible to changes stemming from the demographic and cultural history of a given territory. If it is true that the denomination of the large rivers maintains roots that come from protohistory, hydrotponymy proves to be diachronically dynamic, encompassing today names whose attribution either dates from the Middle Ages, in Latin-Romance context or Arabic context (the latter in a situation of diglossia with Romance speech for a long time), or can only be set in the later periods of the Portuguese language. It is therefore noteworthy that various cases of substitution, such as that of *Celadus* (GUERRA, 1998, p. 387-388) for *Cávado*, in the early Middle Ages (v. *Cávado*); or those of extension (considering it as a type of displacement, according to the conceptualization adopted by MARTÍNEZ LEMA, 2010), as seems to have occurred with *Sado*, which, from place name or name of a stretch of the river thereby named, was generalized to the entire watercourse; or even that of *Alcoa* and *Baça*, which most likely corresponds to a pseudo-erudite reanalysis of *Alcobaça*. It is certain that the names commented upon in this study are already the result of a selection with administrative purposes, which must be submitted to a confrontation with the contemporary or past regional uses, a comparison which was unable to be performed in this work.

Another discussion point takes into consideration that it is exactly through the contribution of the Latin-Romance stratum to the Portuguese hydrotponymy as a whole that this investigation is required to scrutinize the toponymy of other regions in the Iberian Peninsula, among which are those that have had more direct political and linguistic contact with Portuguese populations. In the western regions of the peninsula, the Galician presence is the demographic and linguistic correlate of the advance of the Reconquest. It is therefore never too much to highlight the contribution of the studies on Galician toponymy, which are of utmost importance and essential to understand the history of the northern Portuguese toponymy and of the associated naming processes.

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