Toponymy in Brazilian Sign Language: analysis of signs naming leisure spaces in the city of Rio Branco (AC), Brazil

Toponímia em Libras: análise de sinais que nomeiam espaços de lazer de Rio Branco (AC), Brasil

RESUMO

Palavras-Chave: Toponímia, Língua Brasileira de Sinais (Libras), Espaços de lazer, Rio Branco.

ABSTRACT
Toponymy is the field of Linguistics dedicated to the study of proper names of places (toponyms). This is one of the areas of Onomastics, which studies proper names in general. This study analyzes toponymic signs in Libras that name urban spaces (squares, parks, and leisure spaces) in the City of Rio Branco, State of Acre, Brazil. It taps into the morphological structure and the semantic-motivational aspects of 12 toponymic signs. The study methodology is built on Sousa (2018, 2019b, 2022a, 2022b), who drew on Dick’s (1990, 1992) theoretical and methodological framework. The results pointed to a hybrid compound formation in 42% of the signs and material culture references as motivation for 42% of them (ergotoponyms). The results are part of the Project “Toponymy in Libras”, developed at Universidade Federal do Acre.

Keywords: Toponymy, Brazilian Sign Language (Libras), Leisure spaces, Rio Branco.

1. Introduction

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Onomastics is the field of Linguistics dedicated to the study of proper names. Its subareas include, among others, Anthroponymy, which studies the proper names of people, and Toponymy, which studies the proper names of places (Dick, 1990; Sousa, 2019a). Onomastic studies have been around for a long time, generally focusing on oral languages (Portuguese language, Indigenous languages, etc.). However, interest is incipient when it comes to visual-spatial languages. Aiming to fill in this gap, the present study addresses Toponymy in Libras (Brazilian Sign Language).

In Brazil the first toponymic studies were historically and etymologically oriented, especially directed to toponyms of indigenous origin: Sampaio (1901), Cardoso (1961), and Drumond (1965). In the 1980s, Maria Vicentina do Amaral Dick provided a theoretical and methodological framework that has been the basis for most Brazilian toponymic studies up to the present day. This framework can be found in two Portuguese-language works by Dick: *A motivação toponímica e a realidade brasileira* [Toponymic motivation and the Brazilian reality] (1990) and *Toponímia e antroponímia no Brasil* [Toponymy and Anthroponymy in Brazil] (1992). These works are especially important because of their development of and guidance to toponymic research on geographic spaces in the Brazilian territory. However, they address toponyms in oral languages, including Brazilian Portuguese and the various indigenous languages in Brazil.


This article is an excerpt of a broader study that has been coordinated by Professor Alexandre Melo de Sousa at Universidade Federal do Acre since 2015, namely: “Toponymy in Libras”. It provides a description and analysis of the Libras toponyms that name 12 public leisure spaces in the city of Rio Branco (capital of the State of Acre), located in the Brazilian Amazon.

### 2. Toponymy and Toponymy in Libras

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3 Before becoming an independent study in 2015, the research was part of a Project called *Toponymic Atlas of Western Brazilian Amazon – Oral Languages and Sign Languages.*
The lexicon is the set of all language words accumulated by humanity in the most diverse linguistic historical periods, including their variations and the cultural attributions by a people (Sousa; Dargel, 2017: 10). Words are the basis for naming and identifying entities of reality (Biderman, 2001: 88). Naming realities, including people and geographic spaces, creates a significant universe as revealed by language (Biberman, 2001: 88).

The process of meaning in the world, as explained by Biderman (1998: 92) is dependent on culture, thus producing varied linguistic semantic systems. Consequently, the act of naming (people and places) in Libras, drawing on the visual perception of the Deaf and how they cognitively construe concepts and position themselves in interaction with others and the world, entail that the anthroponymic and toponymic signs bear specific cultural and identity qualities.

Reality is construed and re-signified through different bodies of knowledge and information that reach Deaf individuals visually. Even though Onomastics is a field of study in linguistics, it has an interdisciplinary nature, as it is influenced by other disciplines such as psychology, literature, and religion (Sousa; Dargel, 2017: 11).

In fact, Onomastics (and, consequently, its subfields) seems to have evolved, and evolve, truly interdisciplinarily, much more than being influenced by other disciplines. Figure 1 shows Onomastics from an interdisciplinary perspective.

**Figure 1.** Onomastics and interdisciplinarity.
This convergence of disciplines and their intercommunication (as illustrated by the dotted lines) make the science dedicated to the analysis of proper names fundamentally interconnected with other branches of knowledge. These disciplines interface and feedback into each other building on different bodies of knowledge and individuals. As Fazenda (2008: 21-23) points out, interdisciplinarity entails the "interpenetration" of sciences and requires combining and interacting bodies of knowledge without linearity or hierarchy.

Sousa (2021b) explains that Onomastics is divided into subareas, such as: Toponymy is the study of the proper names of places; Anthroponymy is the study of people's first names; Zoonimy is the study of the proper names of animals; Metereonimy is the study of the proper names of phenomena of nature; Astronimy is the study of the proper names of celestial stars; and Onionimy is the study of the proper names of trading marks and commercial and financial establishments. In Libras, according to Sousa (2022b), onomastic studies should always consider the linguistic specificities of sign languages (visuality, iconicity, etc.), deaf experiences, deaf culture, the social contexts of deaf groups (contacts with oral languages, for example) and the interdisciplinary issues typical of onomastic studies.

Toponymy, as highlighted by Sousa and Dargel (2017; 2020), is also an interdisciplinary field. Historical, geographic, anthropological, geological knowledge, among others, contributes to understanding a toponym, especially in its semantic-motivational constitution. Dick (1990, 1992) addressed this aspect of place naming, stating that, albeit essentially linguistic, the investigation of toponyms entails an interface with other disciplines.

Sousa (2019b), also drawing on Dick (1990, 1992), describes the structural aspects of Libras toponyms building on sign formation. He says that toponyms can be initially formed by generic and specific terms, as shown in Figure 2.

**Figure 2.** Toponymic sign in Libras: generic term and specific term.
Sousa (2019b) points four ways of forming toponymic signs in Libras: simple formation, hybrid simple formation, compound formation and hybrid compound formation, as illustrated in Figure 3.

**Figure 3.** Morphological classification of toponyms in Libras.

Sousa (2019b) proposes that the classification of Libras toponym formation follows the morphological formation characteristics that are inherent to forming signs in visual-spatial languages.
This contribution to toponymic studies in Libras, followed in this article, draws on Dick's initial framework (1990, 1992), but it also includes category “hybrid simple formation”. This is a common morphological process of sign languages when an oral language influences sign articulation.

Sousa (2019b) also partially follows Dick’s framework (1990, 1992) for the motivational aspects of Libras toponyms, while also observing the specific characteristics of visual-spatial languages. Sousa (2019b) explains that the motivational pattern of toponymic signs follows two distinct principles: 1) the sign formation is exclusively based on the native language (of a visual-spatial nature) and, therefore, the reference is direct, 2) the sign is conceived through hybridism, following loan processes based on lexicalized transliteration or initial letter transliteration (for transliteration, see Faria-Nascimento, 2009).

In addition, results of project “Toponymy in Libras” have shown other symbols or graphic representations as influencing the creation of certain signs and, therefore, contributing to the formation of toponyms in Libras (e.g. numbers). Thus, Sousa (2019b) proposes the term transemiotization, as an expansion of the term transliteration proposed by Faria-Nascimento (2009).

3. Methods

The corpus is formed by 12 toponymic signs of the Brazilian Sign Language (Libras) used by the Deaf community of the City of Rio Branco (State of Acre, AC). Four of them refer to squares (PRAÇA POVS DA FLORESTA, PRAÇA DA REVOLUÇÃO, CALÇADÃO DA GAMELEIRA, LAGO DO AMOR, as named in Brazilian Portuguese), 4 signs refer to parks (PARQUE DO TUCUMÁ, PARQUE DA MATERNIDADE, PARQUE AMBIENTAL CHICO MENDES, PARQUE CAPITÃO CIRÍACO, as named in Brazilian Portuguese), and 4 signs refer to leisure spaces (CONCHA ACÚSTICA, USINA DE ARTE JOÃO DONATO, HORTO FLORESTAL, ARENA ACREANA, as named in Brazilian Portuguese). This article reports on part of the analyses in Sousa (2022a).

The signs were reported by Deaf researchers participating in the project. They were students or trainers from the undergraduate program in Libras Language and Literature at Universidade Federal do Acre. The signs were filmed and stored on Youtube, on a private channel used to store project data. Table 1 provides links to retrieve the signs.
Table 1. Links to Toponymic Signs.

<table>
<thead>
<tr>
<th>SIGN</th>
<th>LINK</th>
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<tbody>
<tr>
<td>SQUARES</td>
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<tr>
<td>CALÇADÃO DA GAMELEIRA [FIG PROMENADE]</td>
<td><a href="https://youtu.be/rJvCgf0TRQ">https://youtu.be/rJvCgf0TRQ</a></td>
</tr>
<tr>
<td>LAGO DO AMOR [LOVE LAKE]</td>
<td><a href="https://youtu.be/jK0_0Cc0rz0">https://youtu.be/jK0_0Cc0rz0</a></td>
</tr>
<tr>
<td>PRAÇA DA REVOLUÇÃO [REVOLUTION SQUARE]</td>
<td><a href="https://youtu.be/JC2TD-1rz2U">https://youtu.be/JC2TD-1rz2U</a></td>
</tr>
<tr>
<td>PRAÇA POVOS DA FLORESTA [FOREST PEOPLE SQUARE]</td>
<td><a href="https://youtu.be/ZH7aJrCE-M4">https://youtu.be/ZH7aJrCE-M4</a></td>
</tr>
<tr>
<td>PARKS</td>
<td></td>
</tr>
<tr>
<td>PARQUE CHICO MENDES [CHICO MENDES PARK]</td>
<td><a href="https://youtu.be/tz_yriNeONk">https://youtu.be/tz_yriNeONk</a></td>
</tr>
<tr>
<td>PARQUE CAPITÃO CIRIÁCO [CAPITAIN CIRIÁCO PARK]</td>
<td><a href="https://youtu.be/-TtohjXNk20">https://youtu.be/-TtohjXNk20</a></td>
</tr>
<tr>
<td>PARQUE DA MATERNIDADE [MATERNITY PARK]</td>
<td><a href="https://youtu.be/IxXa_TN-e_lc">https://youtu.be/IxXa_TN-e_lc</a></td>
</tr>
<tr>
<td>PARQUE DO TUCUMÃ [TUCUMA PARK]</td>
<td><a href="https://youtu.be/9V9p0IwhO9I">https://youtu.be/9V9p0IwhO9I</a></td>
</tr>
<tr>
<td>LEISURE SPACES</td>
<td></td>
</tr>
<tr>
<td>ARENA ACREANA [ACRE ARENA]</td>
<td><a href="https://youtu.be/33GrUrqPxzI">https://youtu.be/33GrUrqPxzI</a></td>
</tr>
<tr>
<td>CONCHA ACÚSTICA [ACOUSTIC SHELL]</td>
<td><a href="https://youtu.be/54vXhiC2GRs">https://youtu.be/54vXhiC2GRs</a></td>
</tr>
<tr>
<td>HORTO FLORESTAL [FOREST GARDEN]</td>
<td><a href="https://youtu.be/v6kCH6aWLIY">https://youtu.be/v6kCH6aWLIY</a></td>
</tr>
<tr>
<td>USINA DE ARTES JOÃO DONATO [ART PLANT JOÃO DONATO]</td>
<td><a href="https://youtu.be/BEh2rznwUVM">https://youtu.be/BEh2rznwUVM</a></td>
</tr>
</tbody>
</table>

Source: Carmo (2021: 23).

Note: Literal translations provided in English for the understanding of individual words.

The signs and their respective information were stored in digital lexicographic-toponymic records as proposed by Sousa and Quadros (2019b). Each record contained the following information:

a) Toponym Location (Google Maps toponym location link),

b) Type of Landform (physical or human landform),

c) Toponym in Libras (sign used by the Deaf to name the space on video),

d) Taxonomic Classification of Libras Toponym (classification of the motivational aspects underlying toponym creation. Dick’s taxonomies were used),

e) Signing Description (structure of the toponymic sign in image),

f) Toponym in Sign Writing (Sign Writing),

g) Phonological Structure of Toponymic Sign (phonological description of the sign in its formative parameters),

h) Morphological Structure of Toponymic Sign (indication of the sign formation structure: simple, hybrid simple, compound, or hybrid compound),

i) Motivational Context for Sign Creation (videos of Deaf informants),

j) Historical and Geographic Information of the Researched Space (video in Libras containing historical and geographic information about the researched space),

k) Source (works, videos, maps, websites, or other sources used to collect data and complete the records),

l) Researchers (Deaf and hearing people who collected data, complete the records, and/or reviewed information).
Following Sousa’s (2019b) guidelines, the analyses follow this order: phonetic-phonological description of each sign, analysis of morphological formation and semantic-motivational aspects of the toponymic signs.

4. Data Analysis

The signs selected for this study were analyzed as to their morphological formation, and then as to their underlying semantic-motivational factors. Before that, they were analyzed as to their phonetical and phonological structure.

To classify morphological formation, each sign was described as to its formation parameters, i.e., a phonological description was performed: hand configuration, articulation point, movement, palm orientation and non-manual expressions (or face/body expression) as exemplified below for the sign PARQUE CHICO MENDES.

Figure 4. Sign for park PARQUE CHICO MENDES in sign writing.

![Diagram of sign PARQUE CHICO MENDES]

Source: Carmo (2021: 32).

The sign PARQUE CHICO MENDES is produced in two moments. Initially, with the hand configuration in “C” and only one hand at a point of articulation by the head, the active hand makes a semicircular movement starting on the side of the forehead and ending behind the ear. In the second moment, both hands are in “V” hand configuration in a neutral space, and fingers are crossed.

As to sign orientation, the passive hand is with the palm diagonally to the right side and the active hand with the palm diagonally to the left side. The sign does not include any non-manual expression.
Based on the description of each sign, the morphological formants were counted and classified following Sousa (2019b).

4.1. Morphological analysis

In a study on Libras toponyms that name cities in the Brazilian State of Acre, Sousa (2019b) provides four types of formation as reported above: simple, hybrid simple, compound, and hybrid compound. This article divides the classification by type of morphological formation as provided below.

**Simple Formation:** Sousa (2019b) explains that simple formation occurs when there is a single formant in sign language (native language). In the present data, only the sign LAGO DO AMOR presents Simple Formation, structured by a sign (formant) in the native language (Libras).

**Hybrid Simple Formation:** according to Sousa (2019b), hybrid simple formation occurs when the toponymic sign has a single formant in the sign language, but it also incorporates an articulatory trait (in hand configuration) influenced by the oral language – in this case, Brazilian Portuguese. Four signs have hybrid compound formation: PARQUE DO TUCUMÃ, USINA DE ARTE, HORTO FLORESTAL, and ARENA ACREANA.

The sign PARQUE DO TUCUMÃ is structured by a sign that presents, in its formation, the configuration P and T (initial letters of the toponym in the oral language – PARQUE [PARK] and TUCUMÃ [TUCUMA, a palm tree]).

The sign USINA DE ARTE is structured by a sign (or formant) that incorporates the U and A configuration (initial letters of the toponym in the oral language: USINA [PLANT] and ARTE [ART]).

The sign HORTO FLORESTAL is structured by a single sign that presents, in its formation, the configuration H (initial letter of the toponym in the oral language – HORTO [GARDEN]).

The sign ARENA ACREANA is structured by a single morphological formant that presents, in its formation, the A configuration (initial letter of the toponym in Portuguese – ARENA).

**Compound Formation:** compound formation occurs, according to Sousa (2019b), when the toponymic sign has more than one formant and they are all from the same sign language (native language). Two signs have compound formation: PRAÇA DA REVOLUÇÃO and CALÇADÃO DA GAMELEIRA.

The sign PRAÇA DA REVOLUÇÃO is structured by two signs, both in the native language (Libras): sign SQUARE + sign SWORD. The sign CALÇADÃO DA GAMELEIRA is structured by two signs, both in Libras (native language): sign FLAG + sign RAVINE.

**Hybrid Compound Formation:** hybrid compound formation, as explained by Sousa (2019b), occurs when the sign in Libras has more than one formant and is influenced by the oral language (letters in Portuguese, for example) in its articulatory formation. Five signs have hybrid compound formation.
PARQUE CHICO MENDES, PARQUE DA MATERNIDADE, PARQUE CAPITÃO CIRÍACO, PRAÇA POVOS DA FLORESTA, and CONCHA ACÚSTICA.

The sign PARQUE CHICO MENDES is structured by two signs: one with a configuration in C (initial letter of the toponym in the oral language) followed by another one in the native language (sign FOOTBRIDGE).

The sign PARQUE DA MATERNIDADE is structured by two signs: one with a configuration in P (initial letter of the toponym in the oral language) followed by another one in the native language (sign STAIRCASE).

The sign PARQUE CAPITÃO CIRÍACO is structured by two signs: one with a configuration in P (initial letter of the toponym in the oral language) followed by another one in the native language (sign TREES).

The sign PARQUE CAPITÃO CIRÍACO is structured by two signs: one with a configuration in P (initial letter of the toponym in the oral language) followed by another one in the native language (sign TREES).

The sign CONCHA ACÚSTICA is structured by two signs: one with a configuration in C (initial letter of the toponym in the oral language) followed by another one in the native language (sign BLEACHERS).

Graph 1 shows the quantitative distribution of the types of morphological formation of the data in this study.

**Graph 1.** Quantitative distribution of morphological formation.

![Graph showing distribution](image)

*Source:* adapted from Carmo (2021: 45).
The most productive type of morphological formation was hybrid compound formation (with 42%), followed by hybrid simple formation (with 33%). This reveals the influence of oral language on the formation of the selected signs. Summing both data lead to 75% of toponymic signs that have some influence of the oral language on their formation.

Probably, the fact that both languages (Libras and Portuguese Language) coexist socially favors this type of influence. Further data and study are needed to corroborate this preliminary insight.

4.2 Semantic and motivational analysis

As mentioned above, the motivational and semantic analysis was based on Dick’s (1990, 1992) taxonomic categories and Sousa’s (2019b) observations about classification specificities for sign languages. In Sousa (2022b), each of Dick’s taxonomies (1990, 1992) and the classification contributions of other researchers are exemplified in sign languages, considering all the characteristics of libras’ visual-spatial modality which are articulatory, morphological and iconic ones.

The data showed a double motivation for sign creation in some cases, while the influence was opaque in other cases – i.e., it was not possible to find what influenced the name-giver in the act of naming the geographic space. Table 2 provides the classifications.

Table 2. Taxonomic classifications.

<table>
<thead>
<tr>
<th>SIGN</th>
<th>TAXONY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALÇADÃO DA GAMELEIRA [FIG PROMENADE]</td>
<td>Ergotoponym (FLAG and LADDER)</td>
</tr>
<tr>
<td>LAGO DO AMOR [LOVE LAKE]</td>
<td>Ergotoponym (Heart-shaped sculpture) + hydrotoponym (LAKE)</td>
</tr>
<tr>
<td>PRAÇA DA REVOLUÇÃO [REVOLUTION SQUARE]</td>
<td>Ergotoponym (Statue of Plácido de Castro)</td>
</tr>
<tr>
<td>PRAÇA POVOS DA FLORESTA [FOREST PEOPLE SQUARE]</td>
<td>Ergotoponym (KIOSK)</td>
</tr>
<tr>
<td>PARQUE CHICO MENDES [CHICO MENDES PARK]</td>
<td>Anthropotoponym (Sign-name CHICO MENDES) + Hodotoponym (FOOTBRIDGE)</td>
</tr>
<tr>
<td>PARQUE CAPITÃO CIRÍACO [CAPITAIN CIRÍACO PARK]</td>
<td>Phytotoponyms (TREES)</td>
</tr>
<tr>
<td>PARQUE DA MATERNIDADE [MATERNITY PARK]</td>
<td>Ergotoponym (STAIRCASE)</td>
</tr>
<tr>
<td>PARQUE DO TUCUMÂ [TUCUMA PARK]</td>
<td>Acronymtoponym (Letters)</td>
</tr>
<tr>
<td>ARENA ACREANA [ACRE ARENA]</td>
<td>Ergotoponym (ARENA)</td>
</tr>
<tr>
<td>CONCHA ACÚSTICA [ACOUSTIC SHELL]</td>
<td>Morphotoponym (geometric shape of the Shell)</td>
</tr>
<tr>
<td>HORTO FLORESTAL [FOREST GARDEN]</td>
<td>Phytotoponyms (TREES)</td>
</tr>
<tr>
<td>USINA DE ARTES JOÃO DONATO [ART PLANT JOÃO DONATO]</td>
<td>Acronymtoponym (Letters)</td>
</tr>
</tbody>
</table>

Source: Author.

Note: Literal translations provided in English for the understanding of individual words.
There are two motivating referents for sign choice in two instances. One is LAGO DO AMOR, in which a heart-shaped sculpture and the lake itself are used as referents for the toponymic sign formation. This case may include the taxonomy “ergotoponym” for the heart, which is a material sculpture produced by man, and the hydrotoponym for referring to the lake – a hydrographic element.

The second instance is PARQUE CHICO MENDES. Firstly, it is formed by an anthropotoponym: the sign-name CHICO MENDES, referring to the union leader who gives the park its name. Secondly, it is formed by a hodotoponym, referring to the footbridge to access the park.

The remaining signs were classified as simple: 5 ergotoponyms, 2 phytotoponyms, 2 acronymtoponyms, 1 morphotoponym, and 2 signs with double classification (1 ergotoponym + hydrotoponym; 1 anthropotoponym + hodotoponym).

Graph 2 shows these figures.

Graph 2. Taxonomic distribution.

The largest number of taxonomies (42%) was related to ergotoponyms. This was possibly related to the fact that elements of material culture produced by man stand out visually to the name-giver. Material cultural elements, such as statues, staircases, and kiosks, are part of the landscape of urban spaces and end up favoring their use as a motivational reference in the act of naming spaces.

http://revistas.pucsp.br/esp  DOI: https://doi.org/10.23925/2318-7115.2022v43i2a1
The second top cases include phytotoponyms and acronymtoponyms (17% each). The trees occupying the park spaces (Capitão Ciríaco and Horto Florestal) are significant elements due to the very nature of the spaces, which may have favored their choices as referents.

As to acronymtoponyms, i.e., the use of the initial letters of spaces in Portuguese, the signposts probably favored the choice of initial letters in the toponymic sign constitution.

**Final remarks**

According to Sousa (2022a: 14), “naming is making exist”. And, when naming, the subjects project their cultural marks on those lexical items that will serve as reference (whether personal or spatial, for example) or individualization. This study aimed to analyze Libras toponyms that name leisure spaces in the City of Rio Branco considering their formal (morphological) and semantic-motivational aspects. The findings showed that most signs have a hybrid compound formation (42%) or a hybrid simple formation (33%). These findings reveal a strong influence of the oral language in the formation of the toponyms under scrutiny. Hybrid formation, as explained by Sousa (2019b), is the one in which the hand configuration (one or more) refers to the letters of the pace names in the oral language (in this case, Brazilian Portuguese).

The data also showed that ergotoponyms (i.e., reference to elements of material culture) stand out as the most frequent semantic-motivational aspect: 42%. These elements included the flag, the stairs, statues, and other elements that make up the urban landscape in the City of Rio Branco. This result can be explained by the visual nature inherent to the Deaf individual who gives name to spaces. Material elements that explain a space name are prominent visual references of this space.

The present findings are part of project *Toponymy in Libras*, developed at Universidade Federal do Acre, Brazil. They refer to only 12 toponymic signs, with the remaining signs and analysis available in Sousa (2022a; 2022b). The study needs to be extended to map the urban toponymic profile of the City of Rio Branco in Libras. In addition, it needs to tackle the semantic-motivational aspects more deeply and relate them to the iconicity of the toponymic signs under scrutiny as performed in Sousa (2019b) and Sousa and Quadros (2021).

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References


