

## The metaphorical extension of classifiers in Tawrã Mishmi: an exploration

### Abstract

Many languages make use of a morphosyntactic system that imposes a classification on their nominal lexicon. While research on nominal classification that the semantics of the morphemes used in such classification systems is often shaped by paradigmatic and associative relations, less attention has been given to the semantic motivation behind their distribution. This article addresses that gap by exploring how metaphor, as conceptualized by Barcelona (2003a), can account for the semantic distribution of classificatory morphemes.

Drawing on data from the numeral classifier system of Tawrã, a Tibeto-Burman language spoken in Northeast India, the study examines two types of metaphorical extensions: (1) the interplay between cultural and biological domains, and (2) the use of body parts as mensural classifiers. In the first case, a *botanical idiom* is identified in which plant biology is metaphorically mapped onto aspects of human society and culture and vice versa. It is argued here that a cognition of the plant world has been part of human evolution. In the second case, body parts are used as mensural classifiers (e.g., *one hand(ful) of rice*). One explanation for this common metaphor is a cognitive and epistemological model based on the bodily experience that processes indistinctly the natural and the social world. This investigation proposes that cognitive, cultural and social factors are at play behind these metaphorical extensions in the semantic domain. Classifiers thus offer the possibility to follow the use of metaphors to both break down abstract images into concrete nouns and use cognitive resources available from classification to exploit patterns and similarities.

### Keywords

Classification, classifiers, metaphor, Tibeto-Burman, body parts.

### Resumen

Muchas lenguas utilizan un sistema morfosintáctico que impone una clasificación sobre su léxico nominal. Aunque el estudio sobre la clasificación nominal ha demostrado que la semántica de los morfemas usados en estos sistemas suele estar moldeada por relaciones

paradigmáticas y asociativas, ha habido menos atención en la motivación semántica detrás de tal distribución. Este artículo aborda esa laguna explorando cómo la metáfora, tal como la conceptualiza Barcelona (2003a), puede explicar la distribución semántica de los morfemas clasificatorios.

A partir de datos del sistema de clasificadores numerales del Tawrā, una lengua tibeto-birmana hablada en el noreste de la India, el estudio examina dos tipos de extensiones metafóricas: (1) la interacción entre los dominios cultural y biológico, y (2) el uso de partes del cuerpo como clasificadores mensurales. En el primer caso, se identifica un *idioma botánico* en el que la biología vegetal se proyecta metafóricamente sobre aspectos de la sociedad y la cultura humanas y viceversa. Se argumenta que la cognición del mundo vegetal ha formado parte de la evolución humana. En el segundo caso, partes del cuerpo son utilizadas como clasificadores mensurales (por ejemplo, *una mano de arroz*), lo cual refleja cómo la experiencia corporal fundamenta la conceptualización de medidas.

Este estudio sostiene que factores cognitivos, culturales y sociales están involucrados en estas extensiones metafóricas dentro del dominio semántico. Los clasificadores, por lo tanto, ofrecen una vía para observar cómo la metáfora permite tanto descomponer imágenes abstractas en sustantivos concretos como aprovechar los recursos cognitivos de la clasificación para explotar patrones y similitudes.

## Palabras clave

Clasificación, clasificadores, metáfora, Tibeto-birmano, partes del cuerpo.

## 1. Introduction

The present investigation explores the use of metaphors among (numeral) classifiers, a form of nominal classification, as exemplified in Tawrā, a Tibeto-Burman language from Northeast India. Concretely, this investigation focuses on two points: the extension of classifiers from plants to include human referents and the use of body parts as classifiers of quantity. These two examples showcase the expressive and creative potential of nominal classification as well as how the analogies behind the extension of metaphors are influenced by cognitive, environmental and evolutionary factors. This study looks at metaphors as an important driver of semantic change that has an impact on morphosyntax, as evidenced in classifiers.

The choice to focus on (numeral) classifiers rests on their ambiguous stance; they lie at an intersection between syntax and semantics, offering a unique window into the complexity of how the mind categorizes objects in the world (Burling 2003: 247; Kemmerer 2017: 402).

While §1.1 provides a fuller definition of nominal classification systems, it is sufficient here to note that such systems organize a language's lexicon according to semantic patterns such as animacy, shape, or perceptual features. Categorization, understood as “the interpretation of experience concerning previously existing structures” (Langacker 2008: 17) is a fundamental cognitive operation shaped by cultural and environmental factors, as evidenced by the diversity of classificatory strategies across the world's languages (for an overview, cf. Aikhenvald 2000). Crucially, classification naturally leads to imperfect matches between terms and categories (*absurd relations*, cf. Coseriu 1956: 95-96); creative and analogical thinking gives way to impossible combinations that transcend compositionality and expand the expressive potential of language. In this context, metaphor is understood as a cognitive mechanism of categorization that pairs concepts driven by paradigmatic and associative relations rather than metonymic taxonomy (Becker 1975: 112; metaphors as a *semantic clash*, cf. Ellison / Reinöhl 2024; Foley 1997: 233f. Lakoff 1986: 29-30). Such fuzzy models help us efficiently store information, making use of both perceptual and cultural resources (*cognitive economy* in the sense of Rosch 1978: 28f; Twersky 1986: 64; also Ellen 2017: 269).

The data for this investigation comes from my research in the Tawrā area. All examples take a tag in square brackets ([ ]) that corresponds to the corpus that this investigation is based on.

This investigation is organized in the following manner: §1.1 offers a brief background on the morphosyntax and diachrony of classifiers in Tawrā. §1.2 will introduce relevant semantic features of classifiers in Tawrā. §2 is the main part of this investigation and will discuss two aspects where classifiers seem to be driven by metaphorical expansion: The extension of classifiers for plants to people §2.1 and the use of body parts as mensural classifiers §2.2. §3 closes this paper.

### 1.1. Classifiers in Tawrā: Morphosyntax and diachrony

A system of nominal classification categorizes a substantial subset of (basic-level) nominal elements within a discrete set of parameters (e.g. perceptual features, animacy or function). Such a system will flag these categories with specialized morphemes (termed *classifiers*) that occur in conjunction with the nominal elements (for an overview, cf. Aikhenvald 2000: 1; Craig 1986b; Seifart 2010: 719). Particularly, *numeral* classifiers (simply *classifiers* for the sake of clarity) occur along numerals in numeral noun phrases and other expressions of quantity, most commonly when counting (cf. Aikhenvald 2000: 98-100; Craig 1992: 277-289). A textbook

case of a classifier language is Mandarin Chinese. In Example 1, a numeral cannot modify a noun without a classifier (Li / Bisang 2012: 336).<sup>1</sup>

(1) Mandarin Chinese (Li & Bisang 2012, 336)

|              |                   |               |
|--------------|-------------------|---------------|
| <i>shi</i>   | *( <i>zhang</i> ) | <i>zuozhi</i> |
| ten          | CLF               | table         |
| ‘ten tables’ |                   |               |

Classifiers are not an established category in European languages but their closest functional equivalent would be *heads* in *heads of cattle*. In Tawrã, they are morphosyntactically defined by a numeral test: nouns can be directly counted with the full form of the numeral ‘one’ *khing(-gê)*. Conversely, if nouns are counted by a classifier, that triggers a truncated form of the numeral ‘one’ *gê*.<sup>2</sup> In Example 2a, the classifier triggers a truncated form of the numeral. Conversely, in Example 2b, the noun *àng* ‘house’ cannot be counted with this short numeral; it requires the full form of the numeral ‘one’, as illustrated in Example 2c. This example also shows that classifiers are not obligatory in Tawrã; a noun can be directly modified by a numeral (cf. §1.2). A thorough account of classifiers in Tawrã is available at Hotz (2025a: 281-292) and Hotz (2025b).

|     |    |                          |           |
|-----|----|--------------------------|-----------|
| (2) | a. | <i>ka</i>                | <i>gê</i> |
|     |    | CLF:mouthful             | one       |
|     |    | ‘one mouthful (of food)’ |           |
|     | b. | * <i>àng</i>             | <i>gê</i> |
|     |    | house                    | one       |
|     |    | Intended: ‘one house’    |           |

<sup>1</sup> **Abbreviations and conventions:** ALLO allophoric, CAUS causative, CLF classifier, CP classifier phrase, EGO egophoric, EVI evidential, HAB habitual, HSAY hearsay, NUM numeral, VOL volitional, 1-D 1 dimensional, 2-D 2 dimensional, 3-D 3 dimensional.

<sup>2</sup> Tawrã is a tonal language, as demonstrated by Evans and Manyu (2021). The present work recognizes four tonemes: mid tone (unmarked), high tone (˥), low tone (˩) and high-falling tone (˥˩). Some grammatical suffixes are toneless. Since they can hardly be distinguished from mid tones in natural speech, both are unmarked. A phonological word can have maximally and minimally one tone, which coincides with stress. A dot <.> marks the boundary between phonological words inside a complex lexeme.

- c.     *àng khing.gê*  
           house one  
           ‘one house’ [all three: field notes 22102024]

The classifier and the numeral form a syntactic constituent within the NP: the classifier phrase (CP). Evidence for the constituency of the CP is adduced from its fixed CLF-NUM order, where no other element can intervene, and its alternative position before the head noun. Table 1 illustrates the structure of the CP. Furthermore, the classifier may occur without the numeral in a construction termed bare classifier. The discussion of this construction escapes the limits of this investigation.

|       |     |      |                      |
|-------|-----|------|----------------------|
| (DEM) | (N) | [CLF | (NUM)] <sub>CP</sub> |
|-------|-----|------|----------------------|

Table 1: Structure of the classifier phrase

As mentioned above, the CP may occur before or after the head noun. While the post-nominal position of the CP can be thought of as pragmatically less marked (i.e. neutral), the pre-nominal position is triggered by referential and topical factors. Table 2 illustrates both word orders. All elements in parentheses can be omitted. This referentially-triggered apposition of the CP reveals that classifiers are not only associated with counting but can also mark other grammatical and discourse categories, such as definiteness, nominal modification, among others (Bisang 2017: 199f.).

| Possible structures | Constituents                  |
|---------------------|-------------------------------|
| A) post-noun        | (N) [CLF (NUM)] <sub>CP</sub> |
| B) pre-noun         | [CLF (NUM)] <sub>CP</sub> (N) |

Table 2: Possible structure of the CP

In Example 3a, the CP occurs after the head noun. Conversely, in Example 3b the CP occurs before the head noun, which prompts a specific reading of the NP.

- (3) a.     *tyû [pum kasang]<sub>CP</sub> malâ-de*  
           chicken CLF:3D.round three search-EGO.HAB  
           ‘I am looking for (any) three chickens.’
- b.     *[pum kasang]<sub>CP</sub> tyû malâ-de*  
           CLF:3D.round three chicken search-EGO.HAB

‘I am looking for three (specific) chickens (e.g. the ones I lent to somebody).’  
[both 011024\_STBT\_eli2 175]

Nouns are cross-linguistically the main source of classifiers (Aikhenvald 2000: 100, 120, 442; DeLancey 1986: 438; Dixon 1986: 110-111). This also applies to Tawrã, where most classifiers have been recruited from nouns. An example is *taplá* CLF:spoonfuls (from the noun *taplá* ‘spoon’) or *tyàng* CLF:bodies of large animals (including people) (from *tyàng* ‘body’).

## 1.2. Classifiers in Tawrã: Morphosyntax and diachrony

Comparative studies on classifiers have recognized four basic semantic oppositions: animacy, perceptual features, function and a generic classifier (Adams / Conklin 1973: 2; Aikhenvald 2000, 98, 271). This section will discuss the main characteristics of these semantic oppositions and compare them to the classifier system of Tawrã.

### 1.2.1. Animacy

Animacy stands for the continuum between more or less animate. Cross-linguistically, animacy is a common semantic parameter (Allan 1977: 299-300) and many classifier languages have specific classifiers for animals, humans or inanimate referents. This distinction is often porous, as context or register may prompt the transgression of these categories for a particular pragmatic effect, be it self-deprecation or insult, among others (cf. Adams 1986: 243). Tawrã stands out in this regard as it does not have a dedicated classifier for human referents.<sup>3</sup> Moreover, humans may either be counted without a classifier, with the generic classifier *bra* or the classifier *brúw* for bamboo-shaped things, although the latter occurs rarely. In Example 4, a speaker refers to one human referent with a numeral and without a classifier.

- (4) *webogũ* [mè *khing*]<sub>NP</sub> *agû-shyûw-ya* *kh râk*  
and.then person one guard-VOL.CAUS-ALLO EVI  
‘And then they appointed one guard.’ [TA22\_kutyemba\_phla 379 712]

<sup>3</sup> A similar case has been described for the Macro Tani languages (for Milang, cf. Modi 2017: 249f; for an overview, cf. Post 2022: 249f.), as well as Kera’a and Kaman (own field notes).

### 1.2.2. Perceptual features

The category of perceptual features encompasses dimensions such as forms/shapes, textures, sizes, extendedness and structure. Numerous fMRI studies suggest that the human mind relies on basic geometric forms (e.g. bricks, cylinders and cones) as fundamental components of object recognition (Bracci / Op de Beeck 2016; for a discussion on geons, cf. Biederman 1993). These elementary shapes closely parallel the perceptual distinctions to which classifier systems are often attuned (cf. Lescroart et al. 2010; for an overview, cf. Kemmerer 2017: 412).

Some authors working on nominal classification subdivide the category of perceptual features into dimensions, thus, one-dimensional classifiers discriminate based on straight vs. curved, two-dimensional classifiers based on surface (e.g. plank-like) and three-dimensional classifiers based on shape (e.g. 3-D round or banana-shaped, etc.) (Craig 1986b; Denny 1979: 100; Grinevald 2003: 96).

This category presents an analytical contradiction: on the one hand, perceptual features are largely observable and, in a sense, are considered to be basic (cf. Twersky 1986: 72; Creider 1975: 132). On the other hand, perceptual features are abstract; they are never fixed and can be readily extended through metaphors that are often opaque (Adams 1986: 253-254; Lakoff 1986: 25-30), as will be discussed in this investigation.

Table 3 includes a few classifiers in Tawrā that are sensitive to abstract perceptual features as well as the nouns that they classify.

| Classifier  | Perceptual features            | Classified nouns                              |
|-------------|--------------------------------|---|
| <i>brã</i>  | 1-D rope or thread-like things | ropes, thread                                 |
| <i>halá</i> | 2-D stackables                 | leaves, paper and cloth (that can be stacked) |
| <i>na</i>   | 2-D foldables                  | leaves, paper and cloth (that can be folded)  |
| <i>bra</i>  | 3-D small round things         | beads, stones                                 |
| <i>brík</i> | 3-D bamboo-shaped things       | bananas, bamboo, fingers                      |
| <i>bú</i>   | 3-D cylindrical things         | logs  |
| <i>pum</i>  | 3-D big round                  | fruits, chicken, cars                         |

Table 3: Classifiers sensitive to (abstract) perceptual features in Tawrā (excerpt)

However, it should be noted that most classifiers in Tawrā refer to concrete objects as well as to particular or conventionalized quantities (termed mensural classifiers, cf. Aikhenvald

2000: 114; Lyons 1977: 463). Table 4 includes a list of classifiers that are sensitive to concrete perceptual features. This list also includes classifiers for periods of time (e.g. *halo* ‘CLF:months’) and measurements; Tawrā has a set of specialized classifiers for volume of water and measurement of weight and distance. This point will be brought up again in §2.2.

| Classifier             | Perceptual features   | Classified nouns              |
|------------------------|---|-------------------------------|
| <i>abûw</i>            | tied bundles  | firewood                      |
| <i>ayüw</i>            | man-made chicken’s nest as well<br>nestfuls of eggs         | chicken’s nest and eggs as    |
| <i>dü</i>              | large, man-made structures                                  | houses, granaries             |
| <i>hadûm</i>           | groups of plants and thickets (and<br>same-gender siblings) | plants, thickets (and people) |
| <i>ka</i>              | mouthfuls, portions of food                                 | food                          |
| <i>halo</i>            | months  |                               |
| <i>grû-bülüm-hapyê</i> | volume of water: up to the feet                             |                               |
| <i>lyâng</i>           | measurement: fathom   |                               |

Table 4: Classifiers sensitive to (concrete) perceptual features in Tawrā (excerpt)

### 1.2.3. Functionality

The category function stands for the use or actions associated with a classifier, e.g. whether it can be drunk or eaten, or depending on the form of transportation associated with it, or on their value. As discussed by Aikhenvald (2000: 273-274) and Adams / Conklin (1973: 7), the associations that define the functionality of things are inextricably linked to social relations and cultural practices. Furthermore, certain shapes are associated with particular actions and uses, revealing that these two categories can overlap.

In Tawrā, there are a few functional classifiers. One example is *hazûm* ‘CLF: things that can be tied or skewered together’ (e.g. meat or bunches of lychees). In many cases, functional classifiers cannot be separated from classifiers that discriminate based on perceptual features; as an example, classifiers *halá* and *na* refer to the same 2-D objects but they differ in their functional perspective: *halá* refers to things that can be stacked (e.g. stacked paper or cloth) whereas *na* refers to things that can be folded (also leaves, paper and cloth).

#### 1.2.4. Generic classifier

Most classifier languages include a generic, desemantized classifier that exhibits three core properties: a) it can be coupled with heterogeneous nouns, b) it often overrides more specific classifiers and c) it lacks a clear semantic motivation (Aikhenvald 2000: 98; Grinevald 2003: 99). In Tawrā, this classifier is *bra*, which also functions in other contexts as a classifier for small, round objects. The generic classifier can modify any noun and thus replace more specific classifiers. In Example 5a, the noun *tyû* ‘chicken’ is modified by a CP headed by the classifier *pum* ‘CLASS:3D round things’. Conversely, in Example 5b the same noun is modified by the generic classifier *bra*.

- (5) a. *tyû pum gê*  
 chicken CLASS:3D.round one  
 ‘one chicken’
- b. *tyû bra gê*  
 chicken CLASS:generic one  
 ‘one chicken’ [both 011023\_STBT\_eli2 190]

## 2. Towards a semantic motivation for the distribution of classifiers in Tawrā

This section will introduce two tendencies or driving forces underlying the semantics distribution of classifiers. Both are broadly centered on the human figure, particularly the human body, as a main reference point in systems of classification. This anthropocentric orientation is unsurprising, since all cultures highlight the prominent position of the human as the base, standard and template of categorization (cf. Ellen 2017: 270). Moreover, most metaphors are based on the way humans perceive and interact with the world (Barcelona 2003a: 11f; Barcelona 2003b: 51f).

The two points presently discussed are: a) the use of classifiers for plants on human referents (§2.1) and b) the use of the human body as a point of reference for quantities (§2.2).

### 2.1. Crossing of cultural and biological categories: *people as plants*

A few classifiers that refer to plants can be employed for people in Tawrā. One example is *hadûm* ‘CLF:group of plants or trees, also thickets of bamboo’. By extension, it also refers to groups of same-gender siblings, e.g. *mîya hadûm* (girl CLF:group of plants or trees) ‘bunch of

girls (i.e. without any male brother)’. A further example is *phũ* ‘CLF:root, yam’, which by extension also refers to clans, e.g. when counting the number of clans in a congregation. In similar lines, abstract classifiers that refer to perceptual features (cf. §1.2) can often be applied for human and plant parts, cf. *kahã* ‘CLASS: nodes (e.g. in a bamboo), joints (e.g. in a hand)’ or *pi* ‘CLASS: foldings (e.g. in a blade of grass), knees’. In Example 6, a god is described in a traditional story as having nine segment long legs with eight knees (i.e. long legs with eight knees). Note that in this example, the head noun is omitted; the CP has an anaphoric function.

(6) *grũ mu pí lyũm la*  
leg also CLF:2D.fold eight HSAY

‘(His) legs were also eight knees long (lit. eight foldings), it is said.’ [TA23\_newmyth 14  
84]

The intrusion of cultural categories in descriptive terms for flora and vice versa should come as no surprise for a society that has a close relation to the forest, like the Tawrā and other peoples. There is some literature on the metaphorical cross-extension of categories between plants to people, also termed botanical idiom (cf. Ellen 2020: 162-164): Lewis (1988: 73-76) describes the metaphors related to the bamboo eye (the point from which a branch emerges from a node) as a “germinal point” from which new things emerge in the ritual language of the Ata Tana Ai people of Flores, Indonesia. Ellen (2020: 38) discusses the use of the adjectival sex qualifiers *pina* (female) and *hanaie* (male) for plant natural kinds among the Nuaulu. As a final example, Besky (2014: 63f) describes the extension of kinship terms (e.g. ‘child’) for tea shrubs by tea pluckers in Darjeeling. In these examples, there is a crossing of selected categories of human culture that are either projected into the plant world in a form of analogical thinking or vice versa, i.e. from the plant world to human culture.

As discussed by Ellen (2020: 162-164), systems of biological knowledge are culturally and socially embedded because a cognition of the plant world has been part of human evolution (also cf. Chapais 2011). Similarly, apart from providing for the basic needs of humans (shelter, food, tools, etc.), plants constitute a model of organic transformation (fructification, growth, death and decay) on account of their fast life cycle and their compliance and accessibility to detailed and repeated scrutiny (as opposed to animals) (Ellen 2020: 162-164). Plants have the potential to be actionable, i.e. humans perceive what they can afford (in the sense of Ingold 2000: 166) through uses, rather than through mere observation.

In this sense, the widespread botanical idiom in which plant biology is metaphorically extended to aspects of human society and culture and vice versa (e.g. in Tawrā *bûm* both ‘stem’ and a kinship term for ‘EGO’s maternal line’) may go back to a cognitive and epistemological model based on the bodily experience that apprehends indistinctly the natural and the social world (Ellen 2020: 163; Ellen 1988; Low 2016: 238-240); nature is humanized and society made inert (cf. Lévi-Strauss 1963: 56f; also Atran 2012: 122f; Ellen 2017: 270). There is, thus, a motivation for the extension of this metaphor that is grounded in cultural and cognitive explanations (cf. Lakoff 1986: 20). We can assume that this metaphorical extension started as an innovation that found a common ground, i.e. shared ontology among peers (Cosieriu 1956: 30; Givón 2002: 307; Smith / Hoefler 2016: 158).

Finally, it should be noted that the metaphorical crossing of cultural and biological categories is also found outside the domain of classifiers, cf. *kurù*, meaning both ‘head’ and ‘crown (of a tree)’ (a common grammaticalization path, cf. Kuteva et al. 2019: 222-226). Furthermore, the inherent tension between nature and society is poignantly depicted in the noun *habang*, which means both ‘forest, jungle’ but also ‘outside’; the natural world thus lies ‘outside’.<sup>4</sup>

## 2.2. Body parts as mensural classifiers

We experience the world first through the body (cf. Pálsson 1994: 910-911). This fosters the creation of mental imagery expressed through bodily metaphors to refer to human interaction with the environment (images schema, cf. Langacker 2008: 32). For example, the feet and the head are readily taken to mean down and up (Smith / Hoefler 2016: 171-172; Yu 2008; Barcelona 2003a: 4). The literature on grammaticalization has recognized that body parts are commonly recruited as devices to mark grammatical information, thus, exploiting the relation between concrete experience and abstract categories (Campbell et al. 1986: 549; a grammaticalization cline, cf. Hopper / Traugott 2003: 6; Kuteva et al. 2019: 4, 12, 64). One common example is the noun meaning ‘body’, which has become a reflexive marker in many languages (cf. Tawrā *ga.tyàng* ‘reflexive pronoun’ and *tyàng* ‘body’) or an adjective suffix in

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<sup>4</sup> As an etymological note, it seems that *habang* used to mean only ‘outside’ and was extended to include ‘forest, jungle’, cf. the case of Idu, a sister language of Tawrā, that has two different words *kaŋ<sup>53</sup>baŋ<sup>55</sup>* ‘outside’ (Sun 1991) (also *amuko* (field notes 2023)) and *ambē* ‘forest’ (field notes 2023).

A noteworthy case is found among the neighboring Tani languages, where the root of Proto-Tani *\*raŋ~\*roŋ* ‘empty’ (Sun 1993: 187) also ‘inside’ (Mark Post 2025, p.c.) is found in some words related to ‘forest’, cf. Galo *a-ràa* ‘inside, empty’ and *hiiùu-raalúu* ‘deep, undisturbed jungle’ (Post 2007: 881) or Apatani *ʔùuráa* ‘inside (as of a house)’ and *móoré* ‘jungle, forest’ (Post / Kanno 2013: 52, 240).

many Germanic languages, e.g. English *-ly*, which goes back to Proto-Germanic \*līka ‘body, corpse’ (Kroonen 2013: s.v. *līka*).

As mentioned in §1.2.2, a number of classifiers in Tawrā discriminate nouns based on how they are manipulated, e.g. *hazúm* refers to anything that can be tied or skewered together, such as chunks of meat, as well as things that are already ‘tied together’, e.g. a cluster of grapes or lychee. Functionality is borne out of practical use (cf. Craig 1986a: 252) and it is the human body that is taken as the point of reference; recurrent actions are conventionalized in the form of grammaticalized devices (here classifiers). Similarly, in English feet or cubit can also express measurements.

Tawrā has a wealth of classifiers for measurements that have the human body as the center of reference (cf. Aikhenvald 2000: 356f, 444f). What lies at the center of these expressions is the quantification of abstract, mass nouns (e.g. water, grains of rice, etc.) through useful, at hand expressions that are easily replicable. In Tawrā, these expressions of measurement behave as standard classifiers in triggering a reduced form of the numeral ‘one’ (cf. §1.1). Table 5 displays a list of eight classifiers of volume. The first four refer to the volume of water (e.g. ‘water up to the calf’). *Bû*, *habrûk*, *kapyêk* and *tapûng*, refer to measurements in terms of hands (e.g. ‘a handful of flour’). Finally, the last three classifiers are measurements of distance.

| Classifier               | Meaning                                     | Notes  |
|--------------------------|---|--|
| <i>dê-katã</i>           | water level up to the head while on tiptoes | cf. <i>dê-katã</i> ‘stand on tiptoes’                |
| <i>grû-bülüm-hapyê</i>   | water level up to the feet                  | cf. <i>grû-bülüm</i> ‘sinus tarsi (eye of the foot)’ |
| <i>grû-shya-hapyê</i>    | water level up to the calf                  |  |
| <i>khalyâng-pà-hapyê</i> | water level up to the shoulders             | cf. <i>khalyâng-pà</i> ‘shoulder’                    |
| <i>bû</i>                | handful                                     |  |
| <i>habrûk</i>            | two handfuls                                |  |
| <i>kapyêk</i>            | third of a clenched fist                    |  |
| <i>tapûng</i>            | half clenched fist                          |  |
| <i>habrâng</i>           | finger (breadth)                            | cf. <i>habrâng</i> ‘finger’                          |
| <i>hatyâng</i>           | thumb (breadth)                             | cf. <i>hatyâng</i> ‘thumb’                           |
| <i>húm</i>               | cubit (elbow to fingertips)                 |  |

Table 5: Classifiers of volume (excerpt)

As mentioned in §1.1, classifiers are commonly recruited from nouns. This also holds for many mensural classifiers, cf. *grū-bülüm-hapyê* ‘CLF: water level up to the feet’, *grū-shya-hapyê* ‘CLF: water level up to the calf’ and *khalyâng-pà-hapyê* ‘CLF: water level up to the shoulders’. In these cases, most nouns recruited for these classifiers correspond to measurements, i.e. hands, legs, etc. In the case of *dê-katā* ‘CLF: water level up to the head while on tiptoes’, however, this goes back to a verb (‘stand on tiptoes’). It is noteworthy that many mensural classifiers lack a nominal counterpart in the language.

In sum, body parts are commonly recruited as grammatical devices likely due to the role that the body plays in apprehending the world. Particularly, the motivation for the metaphorical extension of body parts to mensural classifiers is grounded in the tendency to have the human as the base, standard and template of categorization (cf. Ellen 2017: 270) and in practical use, as body-part measurements are typologically common.

### 3. Concluding remarks

Classifiers offer a window into aspects of human cognition, particularly into how the mind organizes and categorizes objects in the world. As has been noted in the literature, research in semantic typology suggests that categorization reflects both “universal tendencies and language-particular idiosyncrasies” (Kemmerer 2017: 402). This investigation has explored the role of metaphors in the semantic distribution of classifiers in Tawrā, focusing on two particular domains: the extension of classifiers for plants to people (§2.1) and the mensural classifiers that employ the human body as a reference (§2.2).

The arguments brought forth in this investigation have often touched on the study of grammaticalization. Therein, the role of metaphor is often paired with that of abstraction, since grammaticalized elements are thought to acquire grammatical properties that are considered abstract (Heine 2003: 586; Hoenigswald 1963: 34; Hopper / Traugott 2003: 84; Kuteva et al. 2019, 5f; abstraction understood as precision, cf. Iliev / Axelrod 2017). Metaphors link abstract with concrete ideas; in the data presented from Tawrā, for example, *phù* the classifier for roots and yams, is readily used to refer to distinct clans (e.g. in a congregation), i.e. a complex social relation (i.e. that of distinct clans) is matched to the image of plants (metaphor as a form of knowledge through images, cf. Coseriu 1956: 95). Furthermore, this investigation has embedded the rhetorical figure of the metaphor in functional, cognitive and cultural explanations, not merely as abstraction but as the driver of semantic extension and a central feature of human creativity.

Regarding the use of classifiers for plants to people (§2.1), it is hypothesized here that the botanical idiom (cf. Ellen 2020: 162-164), i.e. metaphorical extension plants are people, goes back to the evolution of humans in their environment, where systems of biological knowledge are culturally and socially embedded (cf. Chapais 2011). Furthermore, plants constitute a model of organic transformation that can be readily applied to any society (Ellen 2020: 162).

In the case of mensural classifiers that employ the human body as reference (§2.2), this can be integrated in the typologically common development of extending body parts to encode measurement and grammatical categories. This seems to go back to a fundamental aspect of human condition of how we experience the world through the body (Langacker 2008: 32; Smith / Hoefler 2016: 171-172).

## Bibliography

- Adams, Karen L. (1986): “Numeral Classifiers in Austroasiatic”, in: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Amsterdam/Philadelphia: John Benjamins, 241-262.
- Adams, Keith L. / N. F. Conklin (1973): “Toward a theory of natural classification”, in: C. Corum, T. C. Smith-Stark, and A. Weiser (eds.), *Papers from the 9th Regional Meeting of the Chicago Linguistic Society*, Vol. 9, Chicago: Chicago Linguistic Society, 1-11.
- Aikhenvald, Alexandra Y. (2000): *Classifiers: A typology of noun categorization devices*. Oxford: Oxford University Press.
- Allan, Keith L. (1977): “Classifiers”, *Language* 53.2, 285-311.
- Atran, Scott / Medin, Douglas L. (2012): *The native mind and the cultural construction of nature*. Cambridge, MA: MIT Press.
- Barcelona, Antonio (2003a): “Introduction: The cognitive theory of metaphor and metonymy”, in: A. Barcelona (Ed.), *Metaphor and Metonymy at the Crossroads: A Cognitive Perspective*. Berlin/Boston: De Gruyter Mouton, 1-28.
- (2003b): “On the Plausibility of Claiming a Metonymic Motivation for Conceptual Metaphor”, in: *Metaphor and Metonymy at the Crossroads: A Cognitive Perspective*. Ed. by A. Barcelona. Berlin/New York: Mouton De Gruyter, pp. 31–58.
- Becker, Alton L. (1975): “A Linguistic Image of Nature: The Burmese Numerative Classifier System”, *Linguistics* 165, 109-121.

- Besky, Sarah (2014): *The Darjeeling distinction: Labor and justice on fair-trade tea plantations in India*. Oakland: University of California Press.
- Biederman, Irving (1993): “Geon theory as an account of shape recognition in mind and brain”, *The Irish Journal of Psychology* 14.3, 314-327.
- Bisang, Walter (2017): “Classification between Grammar and Culture: a Cross-Linguistic Perspective”, in: T. Pommerening / W. Bisang (eds.), *Classification from Antiquity to Modern Times: Sources, Methods, and Theories from an Interdisciplinary Perspective*. Berlin/Boston: De Gruyter, 199-230.
- Bracci, S. / H. Op de Beeck (2016): “Dissociations and Associations between Shape and Category Representations in the Two Visual Pathways”, *J Neurosci* 36.2, 432-444.
- Burling, Robert (2003): *The language of the Modhupur Mandi, Garo : Vol. I : Grammar*. The Scholarly Publishing Office, The University of Michigan, University Library.
- Campbell, L. / T. Kaufman, / T. C. Smith-Stark (1986): “Meso-America as a Linguistic Area”, *Language* 62.3, 530-570.
- Chapais, Bernard (2011): “The Deep Social Structure of Humankind” *Science* 331.6022, 1276-1277.
- Coseriu, Eugenio (1956): “La creación metafórica en el lenguaje”, *Revista Nacional (Montevideo)* 187, 82-109.
- Craig, Colette G. (1986a): “Jacalteco noun classifiers: A study in grammaticalization”, *Lingua* 70.4, 241-284.
- Craig, Colette G. (1986b). “Introduction”, in: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Amsterdam/Philadelphia: John Benjamins, 1-10.
- Craig, Colette G. (1992): “Classifiers in a Functional Perspective”, in: M. Fortescue / P. Harder / L. Kristoffersen (eds.), *Layered Structure and Reference in a Functional Perspective: Papers from the Functional Grammar Conference, Copenhagen 1990*. Amsterdam/Philadelphia: John Benjamins, 277-301.
- Creider, Chet A. (1975): “The Semantic System of Noun Classes in Proto-Bantu”, *Anthropological Linguistics* 17.3, 127-138.

- DeLancey, Scott (1986): "Toward a history of Tai classifier systems", in: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Amsterdam/Philadelphia: John Benjamins, 437-452.
- Denny, J. Peter (1979): "The 'Extendedness' Variable in Classifier Semantics: Universal Features and Cultural Variation", in: M. Mathiot (Ed.), *Ethnolinguistics: Boas, Sapir and Whorf Revisited*, Berlin/Boston: De Gruyter Mouton, 97-119.
- Dixon, R. M. W. (1986): "Noun classes and noun classification in typological perspective", in: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Amsterdam/Philadelphia: John Benjamins, 213-235.
- Ellen, Roy (1988): "Fetishism", *Man* 23, pp. 213-235.
- Ellen, Roy (2017): "Categorizing Natural Objects: Some Issues Arising from Recent Work in Cognitive Anthropology and Ethnobiological Classification", in: T. Pommerening / W. Bisang (eds.), *Classification from Antiquity to Modern Times: Sources, Methods, and Theories from an Interdisciplinary Perspective*. Berlin/Boston: De Gruyter, 263-278.
- Ellen, Roy (2020): *The Nuaulu world of plants: Ethnobotanical cognition, knowledge and practice among a people of Seram, eastern Indonesia*. Canon Pyon: Sean Kingston.
- Ellison, Mark T. / Uta Reinöhl (2024): "Compositionality, Metaphor, and the Evolution of Language", *International Journal of Primatology* 45.3, 703-719.
- Evans, Jonathan P. / Johakso Manyu (2021): "The sounds of Tawrä (Digaru-Mishmi), a Tibeto-Burman language", *Linguistics of the Tibeto-Burman Area* 44.1, 1-26.
- Foley, William A. (1997): *Anthropological linguistics: an Introduction*. Hoboken, New Jersey: Wiley- Blackwell.
- Givón, T. (2002): *Bio-Linguistics: The Santa Barbara Lectures*. Amsterdam/Philadelphia: John Benjamins.
- Grinevald, Colette (2003): "Classifier systems in the context of a typology of nominal classification", in: Karen Emmorey (Eds.), *Perspectives on Classifier Constructions in Sign Languages*, 91-109.

- Heine, Bernd (2003): “Grammaticalization”, in: Brian D. Joseph / Richard D. Janda (eds.), *The Handbook of Historical Linguistics*. Malden, MA: Blackwell, 573-601.
- Hoenigswald, H. M. (1963): “Are there universals of linguistic change?”, in: J. Greenberg (Ed.), *Universals of Language*, Cambridge, MA: MIT Press, 23-41.
- Hopper, Paul J. / Elizabeth C. Traugott (2003): *Grammaticalization*. Cambridge: Cambridge University Press.
- Hotz, Rolf (2025a): “A Grammar of Tawrā Mishmi”. PhD thesis. University of Sydney.
- Hotz, Rolf (2025b): “Classifiers in Tawrā Mishmi”, *Linguistics of the Tibeto-Burman Area* 48.2, 296- 324.
- Iliev, Rumen / Robert Axelrod (2017): “The paradox of abstraction: Precision versus concreteness”, *Journal of psycholinguistic research* 46.3, pp. 715–729.
- Ingold, Tim (2000): *The perception of the environment: essays on livelihood, dwelling and skill*. London/New York: Routledge.
- Kemmerer, Daniel (2017): “Categories of object concepts across languages and brains: the relevance of nominal classification systems to cognitive neuroscience”, *Language, Cognition and Neuroscience* 32.4, 401-424.
- Kroonen, Guus (2013): *Etymological Dictionary of Proto-Germanic*. Leiden: Brill.
- Kuteva, T. et al. (2019): *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.
- Lakoff, George (1986): “Classifiers as a Reflection of Mind”, in: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun classification*, Eugene, Oregon, October 1983. Amsterdam/Philadelphia: John Benjamins, 13-52.
- Langacker, Roland W. (2008): *Cognitive Grammar: A Basic Introduction*. Oxford University Press.
- Lescroart, M. D. et al. (2010): “A cross-cultural study of the representation of shape: Sensitivity to generalized cone dimensions”, *Visual Cognition* 18.1, 50-66.
- Lévi-Strauss, Claude (1963): *Totemism*. Trans. by R. Needham. Boston: Beacon.
- Lewis, E. Douglas (1988): *People of the Source: The Social and Ceremonial Order of Tana Wai Brama on Flores*. Dordrecht: Foris.

- Li, XuPing / Walter Bisang (2012): “Classifiers in Sinitic languages: From individuation to definiteness-marking”, *Lingua* 122.4, 335-355.
- Low, C. (2016): “Human physiology, San shamanic healing and the ‘cognitive revolution’”, in: C. Power / M. Finnegan / H. Callan (eds.), *Human Origins: Contributions from Social Anthropology*. New York/Oxford: Berghahn Books, 224-247.
- Lyons, John (1977): *Semantics*. Cambridge : Cambridge University Press.
- Modi, Yankee (2017): “The Milang Language: Grammar and texts”. PhD thesis. Bern: University of Bern.
- Pálsson, Gísli (1994): “Enskilment at Sea”, *Man* 29.4, 901-927.
- Post, Mark W. and Tage Kanno (2013): “Apatani phonology and lexicon, with a special focus on tone”, *Himalayan Linguistics* 12(1), 17-75.
- Post, Mark W. (2007): “A grammar of Galo”. PhD thesis. Melbourne: La Trobe University.
- Post, Mark W. (2022): “Classifiers in a language with articles: Recent evolution of a typologically unusual Asian classifier system in the Tani languages of (N)ortheast India”, in: *Asian Languages and Linguistics* 3.2, 239-267.
- Rosch, Eleanor (1978): “Principles of categorization”, *Cognition and categorization*, 27- 48.
- Seifart, Frank (2010): “Nominal Classification”, *Language and Linguistics Compass* 4.8, 719-736.
- Smith, A. D. M. / S. Hoefler (2016): “From metaphor to symbols and grammar: the cumulative cultural evolution of language”, in: C. Power / M. Finnegan / H. Callan (eds.) *Human Origins: Contributions from Social Anthropology*. New York/Oxford: Berghahn Books, 153-179.
- Sun, H. (1991): “Zangmianyu yuyin he cihui” [Tibeto-Burman phonology and lexicon]. Beijing: Chinese Social Sciences Press. Accessed via STEDT database <<http://stedt.berkeley.edu/search/>> on 2023-02-16.
- Sun, Tianshin Jackson (1993): “A Historical-Comparative Study of the Tani Branch of Tibeto-Burman”. PhD thesis. Berkeley: University of California, Berkeley.
- Twersky, Barbara (1986): “Components and categorization”, In: C. G. Craig (Ed.), *Noun Classes and Categorization: Proceedings of a symposium on categorization and noun*

*classification, Eugene, Oregon, October 1983*. Amsterdam/Philadelphia: John Benjamins, 63-67.

Yu, Ning (2008): “Metaphor from Body and Culture”, in: R. W. Gibbs, Jr. (Ed.), *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press, 247-261.