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VALENCY CLASSIFICATION OF *MAPUDÜNGUN* VERBAL ROOTS

CLASIFICACIÓN VALENCIAL DE LAS RAÍCES VERBALES DEL *MAPUDÜNGUN*

Andrés Chandía

Universitat de Barcelona, España.

andreschandiaf@gmail.com

<https://orcid.org/0000-0002-3208-3491>

ABSTRACT: This study examines the valency of *Mapudiüngun* verbal roots through morphotactic analysis. By analysing permissible and restricted suffix combinations with roots or verbal stems, the research aims to enhance the morphological analyser *Düngupeyüm*, integrating verified findings into the system. From the linguistic point of view, it seeks to advance the understanding of valency in *Mapuche* verb roots.

KEYWORDS: Mapuche, Mapudüngun, morphology, suffixes, verbal valency.

RESUMEN: Este estudio examina la valencia de las raíces verbales del *Mapudiüngun* por medio de un análisis morfotáctico. A través de las combinaciones permitidas y restringidas de sufijos con raíces o temas verbales, la intención es mejorar el analizador morfológico *Düngupeyüm*, incorporando los hallazgos verificados al sistema. Desde el punto de vista lingüístico, se busca avanzar en la comprensión del comportamiento valencial de las raíces verbales mapuche.

Palabras clave: mapuche, mapudüngun, morfología, sufijos, valencia verbal.

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INTRODUCTION

This study builds on prior lexical reclassification to examine the valency of *Mapuche* verb roots, following Smeets' (2008) framework. It focuses on the complexities of valency classification, incorporating roots identified as verbal in Chandía (2025). The research aims to enhance the computational morphological analyser *Düngupeyüm* (Chandía, 2012), initially based on Smeets'. Accurate valency determination is critical, as this value influences verb form, which also goes through suffixation and morphophonological changes.

Smeets' work, though foundational, is based on data from only ten informants and does not fully capture *Mapudüngun*'s diversity. Her description facilitates computational coding as it identifies fixed positions for approximately 100 suffixes in verb forms and outlines their morphotactics. It states that affixes occupy 36 numbered slots, ordered from right to left, with some slots containing mutually exclusive suffixes. A minimal verb form consists of a root, optional derivational suffixes, and inflectional suffixes, with finite forms requiring a mood and person marker. While up to 7-8 affixes can follow the root, spontaneous speech typically includes 4-6 suffixes.

As is well known, many traditionally transitive verbs appear in intransitive contexts, and vice versa (De Dios, 2013, p. 425). Furthermore, in *Mapudüngun*, suffixes can alter verb valency, enabling transitive or intransitive use regardless of the root's original valency. Semantic classification¹ may not assign a single valency to each verb, so the most frequent one is adopted. Syntactic classification describes how verbal forms function in sentences, varying by context².

¹ Zúñiga (2024) provides a semantic interpretation for selecting applicatives, including *-tu*, discussed morphologically in §3.7.

² Golluscio (2007; 2010) and Zúñiga (2006; 2009a; 2015; 2024) offer in-depth syntactic studies of *Mapuche* verb valency.

Mapudüngun's polysynthetic³ and agglutinative⁴ nature means verb behaviour is indicated by morphosyntactic indices. Suffix clusters convey meanings expressed through phrases in other languages, shaping verb valency through affixes, sentence elements, and their combined semantic value⁵. This study employs morphotactics to determine verbal valency, with limited use of semantics and syntax to resolve ambiguities.

1. STATE OF THE ART

1.1. The study of verbal valency

Recent advancements in verb valency research, such as *Valency Classes in the World's Languages* (Malchukov & Comrie, 2015), explore the argument-structure properties of verbs from a typological perspective. This work identifies general syntactic patterns through analysis of 70 core verb meanings across 30 languages, including *Mapudüngun* (Zúñiga, 2015). Following Creissels (2015), valency is understood here as the number of obligatory arguments a verb requires, distinguished from the number of syntactic positions it may optionally license. *Mapudüngun* does not exhibit a clear transitivising or intransitivising profile cross-linguistically: morphologically, causatives transitivise, but syntactically there are labile alternations. This mixed pattern is addressed throughout the analysis.

1.2. Mapudüngun: Morphosyntactic and Sociolinguistic Profile

*Mapudüngun*⁶ is polysynthetic and predominantly suffixing; and it is spoken in Chile and Argentina by approximately 200,000 people (Zúñiga, 2006). UNESCO classifies

³ 'Synthesis' refers to the number of morphemes forming a word: few = analytic, more = synthetic, many = polysynthetic (Zúñiga, 2006, p. 199).

⁴ 'Agglutination' is a morphological pattern in which morphemes appear inside a word without altering their form across different contexts, and in which distinct semantic elements remain clearly distinguishable from one another (Zúñiga, 2006, p. 200).

⁵ Tubino (2017) provides a comprehensive discussion of valency change processes in agglutinative languages, with particular attention to Yaqui, a language typologically similar to *Mapudüngun*.

⁶ The spelling *mapudüngun* follows the AMU alphabet (*ü* = /ə/). The pronunciation *düngu* is attested historically (Valdivia, Febrés, Augusta, Navarro, consulted through CORLEXIM, see footnote 9).

it as endangered. The language exhibits split ergativity based on tense and person, free word order with tending toward SVO/AOV, and a rich system of valency-changing operations. Verbal morphology is templatic: roots are followed by derivational suffixes, then inflectional markers for mood, person, and number.

2. METHODOLOGY

The present research employs a ‘reverse engineering’ (§2.3) approach, analysing verb morphology to determine whether a root is transitive, intransitive, or labile. The goal is to identify the root’s most fundamental –and ideally unique– valency, contributing to a clearer understanding of *Mapudüingun* verb structure. Accurate valency determination is crucial for the computational system’s effectiveness, as it underpins morphological analysis. Root-suffix combinations and valency changes during word formation pose a challenge for a correct classification that ensures unambiguous or minimally ambiguous analyses (Chandía, 2025, see footnote 18).

2.1. Lexical Category of the Roots

This study reviewed verb roots in Smeets’ work to verify and, where necessary, modify their valency classification. The first step was to confirm whether these roots were inherently verbal or verbalised forms of other categories. This process is summarised in Chandía (2025, Table 3).

2.2. Valency of Verbal Roots

A subsequent phase of this study classified verb roots by valency. However, in *Mapudüingun*, roots from non-verbal categories are frequently verbalised, complicating determination of the original category. The review begins by verifying valency of intransitive roots. Distinguishing between intransitive and transitive roots is complex, as De Augusta

(1903) noted: “Some neutral (intransitive) verbs are also used as transitives of the 1st class” (p. 294). This reflects how suffixes can add semantic-grammatical nuances, creating transitive forms from intransitive or labile roots (§3.4.1). For example, intransitive⁷ roots can form transitive verbal predicates through affixation of causatives like *-(ü)l* and *-(ü)m*. Example 1.a and 1.c are intransitive, while 1.b and 1.d are transitivised:

- 1.a. *küpa* *-n* (De Augusta, 1903, p. 295)
 IV.come +IND1SG⁸
 ‘I came’
- 1.b. *küpa* *-l* *-ün*
 IV.come +CA +IND1SG
 ‘I brought’; lit.: ‘I made come’
- 1.c. *püra* *-n* (De Augusta, 1903, p. 296)
 IV.go.up +IND1SG
 ‘I went up’
- 1.d. *püra* *-m* *-ün* (De Augusta, 1903; CORLEXIM⁹)
 IV.go.up +CA +IND1SG
 ‘I lifted up’; lit.: ‘I made go up’

Verbs can be classified according to semantics, syntax and morphology. The morphological approach, discussed further in §3, identifies affixes that combine exclusively with roots of a specific valency –a pattern evident in *Mapudiüngun*. Syntactic analysis reveals valency through the verb’s interaction with sentence elements, allowing a verb to behave as transitive or intransitive depending on context. Semantic classification aligns with the

⁷ *Mapudiüngun* intransitives often translate into Spanish pronominal forms, e.g., *wüyü-* ‘get dizzy’ → ‘marearse’.

⁸ Labels and abbreviations used in the glosses are listed in the Appendix.

⁹ CORLEXIM: Corpus Lexicográfico del *Mapudiüngun*, an online collection of digitalised dictionaries from various periods, freely available on <https://www.chandia.net/corlexim>

verb's syntactic projection. The resulting valency may be unique to the form, reflect its most frequent usage, or indicate lability when the verb functions as both transitive and intransitive with comparable frequency.

2.3. Analytic Procedure

The reverse engineering approach is in five steps: a) hypothesise a root's valency based on Smeets' classification; b) systematic combination of the root with diagnostic suffixes (causatives *-(ü)m/- (ü)l*, progressive *-nie*, stative *-(kü)le*); c) verification of attested forms in the primary corpus (Coña's memoirs) and contrastive verification in Smeets (2008); d) cross-validation with lexical sources (De Augusta, 1903; CORLEXIM); e) resolution of discrepancies by prioritising intransitive interpretations when Smeets and Coña disagree (following the principle that transitivity is overtly marked, while intransitivity may be unmarked).

2.4. Corpus and Sources

The study draws on a hierarchically organised corpus. The primary corpus consists of Coña's memoirs (Wilhelm *et al.*, 1930), comprising approximately 450 pages of naturalistic narrative text. Smeets, a descriptive grammar based on elicitation with ten speakers, is the contrastive source. Lexical verification sources include de Augusta (1903) and CORLEXIM. Secondary sources include Zúñiga (2006) and Salas (1992). On valency disagreement, the analysis prioritises Coña's usage as naturalistic discourse, while noting discrepancies.

3. TRANSITIVITY AND INTRANSITIVITY IN *MAPUDÜNGUN*: MORPHOLOGICAL CRITERIA

This section examines affix-root interactions, focusing on Smeets' postulates, to establish morphological criteria for identifying verbal root valency.

3.1. Suffixes *-nie*, *-künu* and *-(kü)le*

The ‘Progressive Persistent’ *-nie* conveys durability maintained by the agent, e.g., transforming ‘separate’ into ‘keep separated’. The ‘Perfective Persistent’ *-künu* indicates a durable activity that persists without ongoing agent intervention, e.g., changing ‘separate’ into ‘leave/keep separated’. The ‘Stative’ *-(kü)le* adds a state or indicates a persisting event, e.g., *püra-le-y* ‘it is up’ or ‘it is going up’ and *arof-küle-y* ‘he is sweaty’ or ‘he is sweating’ (Smeets, 2008, p. 282).

Smeets (2008, p. 169) claims that verbs with *-nie* or *-künu* are transitive, as the action targets a direct object, while verbs with *-(kü)le* are intransitive. She also asserts that transitive verbs logically requiring a patient do not take *-(kü)le*. However, this is contested, as *-(kü)le* appears with transitive roots and verb forms in her work. For example, in 2.a, the transitive verb *elu-* ‘give’ is used reflexively with *-(u)w*, while 2.b demonstrates pronominal affixation¹⁰, confirming transitivity. The transitive verb *pi-* ‘say’ in 2.b further challenges Smeets’ claim.

2.a. *elu -w -küle -fu -n ñi tripa -ya -l* (Smeets, p. 292)

TV.give +REF +**ST** +RI +IND1SG SP.my IV.leave +FUT +OVN

‘I was ready to leave’ – ‘estaba listo parairme’ lit.: ‘I was about to give me my exit’

2.b. *fey -pi -le -y -ø ta -ti* (Smeets, p. 92)

DP.that -TV.say +**ST** +IND +3 DP -DP

‘he said so’ – ‘eso dijo, sí’ lit.: ‘That was he saying, yes’

Smeets’ statement refers to verbal (complete) forms, not necessarily to roots. For instance, in 3, the verb form generated from the intransitive root *ngül-* ‘get together’ is transitivised by the causative *-(ü)m* (§3.3). Thus, the presence of *-nie* or *-künu* does not

¹⁰ Pronominal affixation refers to the marking of object arguments directly on the verb via person agreement suffixes such as *-fi* and *-e* (§3.5).

conclusively determine root transitivity. A detailed analysis of these morphemes is provided in §4.1.

3. *ngiül* *-üüm* *-nie* *-y* *-ø* *plata* (Smeets, 2008, p. 111)
 IV.get.together +**CA** +**PRPS** +IND +3 NN.money
 ‘he saves money’ – ‘él ahorra dinero’ lit.: ‘he makes money gather’

3.2. Adjectiviser *-fal*

The affix *-fal* semantically indicates feasibility, labelled +ADJDO (adjective + doable = feasible) in *Düngupeyüm*. Smeets (2008, p. 312) classifies it as a productive derivational nominaliser, with forms containing *-fal* functioning as adjectives. For example, combining *i*- ‘eat’ with *-fal* yields *ifal* ‘edible’. *-fal* typically combines with transitive roots, potentially marking transitivity. However, lexical items with *-fal* are rare, with only one example found in Coña’s memoirs (4.e).

Alternatively, forms ending in *-fal* consist of a compound theme: the main verb provides semantic content, combined with the demonstrative *fa*- ‘this, here’, followed by the causative *-(ü)l* and the nominalising/adjectivising¹¹ suffix *-ø*. For instance, *ifal* could be paraphrased as ‘this that makes (itself) be eaten’, i.e., ‘edible’; analyses in 4.b, 4.d and 4.e reflect this proposal.

- 4.a. *i* *-fal* (Smeets, 20008, p. 312)
 eat +**NOM** (+ADJDO in *Düngupeyüm*)
 ‘edible’
- 4.b. *i* *-fa* *-l* *-ø*
 TV.eat -**DP.this** +**CA** +NOM
 ‘edible’
- 4.c. *pepi* *-l* *-fal* (Smeets, 20008, p. 312)

¹¹ Nominal/adjectival forms can function interchangeably in *Mapudüüngun*.

be.able +CA +NOM (+ADJDO in *Düngupeyüm*)

‘feasible, practicable’

4.d. *pepi* -*l* -*fa* -*l* - $\emptyset$

TV.be.able +CA -DP.this +CA +NOM

‘feasible, possible’

4.e. *üde* -*fa* -*l* - $\emptyset$ (Wilhelm *et al.*, 1930, p. 271)

TV.hate -DP.this +CA +NOM

‘abominable’

This analysis also applies to forms ending in *-l*, which Smeets (2008, p. 313) lists among unproductive nominalisers. In 5.a-5.c, *-l* corresponds to the causative rather than a nominaliser.

5.a. *apo* -*l* - $\emptyset$

IV.get.filled +CA +NOM

‘filling’ – ‘aquello lleno, relleno, rellenado’ – ‘that which is full, stuffed’

5.b. *ina* -*l* - $\emptyset$

AV.near +CA +NOM

‘the next’, ‘bank (of river)’ – ‘el siguiente’, la orilla’ – ‘the next, the following, the shore’

5.c. *montu* -*l* - $\emptyset$

IV.escape_survive +CA +NOM

‘protector’ – ‘el libertador’, ‘el salvador’ – ‘the liberator’, ‘the saviour’

This suggests a strategy in *Mapudiüngun* for deriving nouns or adjectives from intransitive verbs. The causative is added to the verb, and the form remains uninflected. While the nominaliser *-fal* may not exist, this remains unconfirmed.

Smeets' (2008, p. 312) restriction –that *-fal* only combines with transitive roots– can be reformulated as transitive roots may combine with the causative *-(ü)l* when forming a compound with *fa-*, resulting in an adjective or noun. Alternatively, *-fal* may align with +FORCE (force majeure), implying necessity or obligation for the subject to perform the action or to command others to do so (Smeets, 2008, p. 272; Zúñiga, 2006, p. 390). The semantic effects are comparable.

In conclusion, *-fal* may indicate obligation or command in inflected forms, while in uninflected forms it shifts the sense of obligation to the action itself. The causative *-(ü)l* can occur with transitive roots in both cases.

3.3. Causative Suffix *-(ü)m*

The causative *-(ü)m* triggers a valency-increasing operation (Kulikov, 2013) indicating that the subject does not perform the action but instructs others to do so (Zúñiga, 2006, p. 390). It transitivises intransitive verbs. Smeets (p. 299) states that *-(ü)m* is unproductive, combining with about 35 intransitive roots. Golluscio (2007, p. 210) and Loncon (2011, p. 110) concur, noting that *-(ü)m* is used with unaccusative intransitive verbs, while *-(ü)l* (§3.4) is used with agentive intransitives.

To verify these claims, examples from Smeets and Coña were analysed. While Loncon's examples are limited, and Golluscio's data only partially supports her claim, Smeets' examples confirm that *-(ü)m* primarily combines with intransitive roots.

The root *püna-*, initially classified as transitive by Smeets (6.a), was confirmed as intransitive (De Augusta, 1903), allowing causativisation with *-(ü)m* (6.b). Coña only uses it as intransitive (6.c to 6.f).

- 6.a. *püna-* (Vt) stick, glue – 'pegar, encolar'; *pünaeyew ti chiklet* 'she got stuck to her containing gum' – 'ella se quedó pegada a su chicle'; lit.: 'it stuck her gum';

pünañfñ ‘I stuck to her, I hung around her’ – ‘me pegué a ella, me arrimé a ella’;
lit.: ‘I stuck myself to him/her – *me le pegué¹²’

- 6.b. *püna-m-* (Vt) glue something to – ‘encolar/pegar algo a (algo más)’
6.c. *kura mew püna-ntüku-le-y* ‘on the rocks, they are stuck’
6.d. *püna-kon-küle-y* ‘they get nailed’; ‘lit.: ‘they are stuck entering’
6.e. *püna-n¹³-kon-küle-y* ‘they are found stuck’
6.f. *püna-ntüku-y trawa mew* ‘they stick strongly to the skin’

Additionally, in verbal compounds¹⁴, *-(ü)m* never attaches to the transitive root:

- 7.a. *püra -m -ye -nie -fi -y -ø -iñ* (Smeets, 2008, p. 474)
IV.go.up +CA -TV.carry +PRPS +3P +IND +1 +PL
‘we kept it up’ – ‘lo mantuvimos arriba/levantado/elevado’; lit.: ‘we made it go up by carrying it’
7.b. *tofkü -ñpüra -m* (Smeets, 2008, p. 558)
IV.spit -IV.go.up +CA
‘(Vt) spit up [to]’ – ‘escupir hacia arriba [a]’; lit.: ‘spit going up [towards]’
7.c. *are -ngül -üm -üñma -e -n -ew ñi mansun*
(Smeets, 2008, p. 227)
TV.lend -IV.gather +CA +IO +INV +IND1SG +3A SP.my NN.ox
‘he lent my ox’ – ‘él prestó mi buey’; lit.: ‘he lent [it] making [it] join [with the others] my ox’
7.d. *reng -üm -nak -üm* (Smeets, 2008, p. 554)
IV.sediment +CA -AV.down +CA¹⁵

¹² The Spanish translation is jarring but fits the *Mapuche* verb.

¹³ *n* may be epenthetic as in *ntüku-*, not a verbal noun marker.

¹⁴ Verbal compounds derive valency from the later component (Smeets, 2008, p. 315).

¹⁵ Causatives transitivise verbal compounds, a rule added to *Düngupeyüm*.

‘(Vt) cause something to settle and thicken’–‘causar que algo se asiente y espese’;
lit.: ‘make sediment by lowering’

Coña’s memoirs confirm that *-(ü)m* combines exclusively with intransitive roots (8.a), though also with verbalised nouns (8.b), adjectives (8.c), adverbs (8.d), and demonstratives (8.e).

8.a. *füy* *-üm* *-el*

IV.tighten_hold.on +CA +OVN

‘held, fastened’; lit.: ‘make it held/fastened’

8.b. *chaw* *-üm* *-ke* *-i* *-ng* *-u*

NN.father_man +CA +HAB +IND +3 +DL

‘they brood’; lit.: ‘they make fathering¹⁶’

8.c. *firkü* *-m* *-nge* *-ke* *-y* *-ø*

AJ.fresh_cool +CA +PASS +HAB +IND +3

‘they let [it] cool down’; lit.: ‘they make [it] be cool’

8.d. *üng* *-üm* *-uw* *-pu* *-y* *-ø* *-iñ*

AV.while +CA +REF +LOC +IND +1 +PL

‘we waited there (the rest of us)’; lit.: ‘we made ourselves whiling there’

8.e. *fa* *-m* *-a* *-el*

DP.this_here +CA +FUT +OVN

‘do this’

The list of roots combining with *-(ü)m* has expanded (Chandía, 2025, Table 4) though uncertainties remain for 545 additional words. In conclusion, *-(ü)m* reliably indicates intransitive roots, but its application requires confirming the root’s category. Not all

¹⁶ ‘Fathering’ = ‘incubating eggs’; *-ke* indicates habitual action or custom.

intransitive roots accept *-(ü)m*, suggesting further investigation into the role of telicity or atelicity in causativisation.

3.4. Causative Suffix *-(ü)l*

The causative *-(ü)l* has allomorphs *-ül* and *-el*. Smeets (2008, p. 300) notes that *-ül* is the preferred form in *Ngüllumapu* dialects (present-day Chile), while Golluscio (2007) identifies *-el*. Loncon (2011) describes *-(ü)l* as a causative added to inergative intransitive roots. Golluscio (2007, p. 209) suggests that *-(ü)l* may derive from the verb *el-* ‘place, create, form’ (also ‘leave’), and is used with intransitive and labile verbs. She notes that while Smeets (2008) and Aranovich (2003) provide examples of *-(ü)l* with transitive verbs, her consultant Fresia *Melliko* indicated that its primary function is applicative, with causative interpretation depending on discourse context.

While all three authors agree that *-(ü)l* combines with intransitive roots, Loncon asserts it is exclusive to intransitives, Golluscio (2007) extends it to labile roots and Smeets (p. 299) states that *-(ü)l* is productive, combining with both transitive and intransitive verbs¹⁷, as well as loanwords, unlike *-(ü)m*, which is restricted to *Mapuche* roots. The present study follows Golluscio’s characterisation as the best fit for the corpus data.

3.4.1. Labile Roots and the Causative *-(ü)l*

Labile roots can function transitively or intransitively without requiring specific suffixes. Golluscio (2007, p. 214) provides examples of labile roots combining with *-(ü)l*, e.g. *kim-* and *watro-*, *kim-* is excluded for being adjectival (Chandía, 2025, §2.1).

¹⁷ Smeets (2008) identifies three *-l* suffixes: Causative, More Implicated Object, and Benefactive. Zúñiga (2009a, p. 18) suggests they may be one suffix with multiple functions.

For *watro-*, De Augusta's (1903) definition (CORLEXIM) and Golluscio's examples (2007, p. 214) suggest ambitransitivity¹⁸. In Coña's memoirs, *watro-* appears only four times and as intransitive:

- 9.a. *watro* -nge -y -ø ñi i -nge -a -l
 IV.split +PASS +IND +3 SP.their TV.eat +PASS +FUT +OVN
 'they are harvested for consumption'; lit.: 'they are split for eating [later]'
- 9.b. *watro* -n uwa fin -küle -lu
 IV.split +PVN NN.corn NN.fruit +ST +SVN
 'the spadix separated from the plant'; lit.: '[the] split [of the] maize [is what] is spiked'
- 9.c. *watro* -ntu -ye -a -fi -ñ wün mew
 IV.split -TV.take +OO +FUT +3P +IND1SG NN.mouth INST
 'I will crush it between my teeth'; lit.: 'I will take it to split in [my] mouth'
- 9.d. fey *watro* -y -ø kuykuy
 AV.then IV.split +IND +3 NN.bridge
 'that [one] broke' lit.: 'then it split [the] bridge'

Smeets (2008, p. 570) classifies *watro-* as labile 'break', but only one of her examples is explicitly intransitive. 10.a. and 10.b show transitive use, although the analysis is not given by her. Without additional context, an alternative intransitive translation, such as 'his cup broke completely', is plausible.

- 10.a. *watro* -ka -w -üy -ø (Smeets, 2008, p. 388)
 break (intr.) +FAC +REF +IND +3
 'it broke into (various) pieces; it was destroyed' – 'se quebró en (varios) pedazos; fue destruido',
 lit.: 'it broke completely'

¹⁸ Labile verbs are ambitransitive without morphological change (Golluscio, 2007).

10.b. *watro* *-ka* *-y* *-ø* *ñi tasa* (Smeets, 2008, p. 570)

IV.break_split +FAC +IND +3 SP.his NN.cup

‘he broke his cup in various pieces’ – ‘quebró su taza en varios pedazos’

Only two of Smeets’ roots were identified as verbal combining with *-(ü)l* and exhibiting ambitransitivity: *llüka-* ‘fear’ and *üta-* ‘graze’. For *üta-*, Smeets provides limited material, but CORLEXIM records *üta-l-ün* ‘make graze’, suggesting causative use. De Augusta documents ditransitive use, though the intransitive interpretation ‘the horse grazes [on grass]’, is possible for 0:

11.a. *ütakey kachu kawellu* (De Augusta, 2003; CORLEXIM)

‘the horse eats [grazes] grass’

11.b. *üta* *-l* *-uw* *-küle* *-a* *-fu* *-y* *-ø* (Smeets, 2008, p. 453)

IV.graze +CA +REF +ST +FUT +RI +IND +3

‘they graze [their cattle]’–‘ellos apacentan [su ganado], lit.: ‘they could make graze [their livestock]’

Coña forms only one verb¹⁹ with *üta-* and uses it intransitively:

12. *kachu* *ñi* *üta* *-ya* *-m*

NN.grass SP.its IV.graze +FUT +IVN

‘its grazing’; lit.: ‘grass for [its] grazing’

Smeets describes *llüka-* as ‘(Vi, Vt) fear’, but her examples do not definitively show lability. While ‘fear’ can be transitive or intransitive in English or Spanish, this does not guarantee the same in *Mapudüingun* (13.a). However, directional suffixes, used in transitive

¹⁹ *ütal-tuku-lel-nge-ke-y* in Coña aligns instead with de Valdivia’s *ütaf-* ‘press, fit in’.

forms, would confirm *llüka*-’s lability (§3.5). 13.b shows transitivity by causativisation, and 13.c proves *llüka*-’s intransitivity.

- 13.a. *llüka* -ya -e -y -ø -u -ø (Smeets, 2008, p. 193)
 IV.become.afraid_fear +FUT +INV +IND +1 +DL +1t2A
 ‘you expect me to be afraid of you’ – ‘esperas que te tenga miedo’; lit.: ‘I’ll fear you / I’ll be frightened with you’
- 13.b. *llüka* -l -ka -ke -fu -y -ng -ün
 (Smeets, 2008, p. 228.6)
 IV.become.afraid_fear +CA +FAC +HAB +RI +IND +3 +PL
 ‘they used to intimidate’ – ‘ellos solían intimidar’; lit.: ‘they used to cause a lot of fear’
- 13.c. *llüka* -la -y -ø (Smeets, 2008, p. 420)
 IV.become.afraid_fear +NEG +IND +3
 ‘he was not afraid’ – ‘él no se asustaba; él no estaba atemorizado’; lit.: ‘he did not fear’

In Coña’s memoirs, 21 verbal roots²⁰ combine with *-(ü)l*, nearly all intransitive except for two labile roots (14.a, 14.b). For example, *monge*- ‘live, revive, heal’ appears with *-(ü)l* in 14.c ‘make heal’ but without it in 14.d ‘revive’. Similarly, *yewe*- ‘respect/be embarrassed’ combines with *-(ü)l* in 14.g, though this single example is insufficient to confirm a rule.

- 14.a. *fey m ew wüla küme monge -ke -ø -ø -iñ*
 DP.that INST AV.until AJ.good IV.live +HAB +IND +1 +PL
 ‘then we really came back to life’; lit.: ‘until that, we [didn’t] live well’
- 14.b. *monge -ke -fi -ñ fill lawen mew*
 IV.live +HAB +3P +IND1SG AJ.complete NN.medicine INST

²⁰ Verification of roots in compounds with causatives is pending.

‘I administer various medications to them’; lit.: ‘I revive them with all kinds of medicine’

14.c. *monge -l -ke -fi -ø -ø -iñ kutran -chi che*

IV.heal +CA +HAB +3P +IND +1 +PL NN.illness +ADJ NN.person

‘we heal the sick’; lit.: ‘we make heal sick people’

14.d. *la -ya -lu ka, monge -ke -fi -ø -ø -iñ*

AJ.dead +FUT +SVN CJ.yes (also) TV.revive +HAB +3P +IND +1 +PL

‘even if they are already dying, we bring them back to life’; lit.: ‘[those who are] dying, we also bring back to life’

14.e. *yewe -y -ø küpa -ya -el*

IV.be.ashamed +IND +3 IV.come +FUT +OVN

‘he is embarrassed to come in’; lit.: ‘he feels ashamed of coming in’

14.f. *küme may poye -w -a -i -y -u ka yewe*
-w -a -i -y -u

AJ.good CJ.yes TV.appreciate +REF +FUT +IND +1 +DL CJ.y TV.respect +REF +FUT +IND +1 +DL

‘we will esteem and respect each other’; lit.: ‘yes indeed, we will esteem and respect each other’

14.g. *yewe -l -ka -ntüku -ke -e -l -i -ø -ø*

IV.be.ashamed +CA +FAC -TV.put +NEG +INV +SJI +1 +SG +1t2A

‘don’t make me feel ashamed’; lit.: ‘If (truly) you did not put me in a situation that causes me embarrassment’

The use of *-fi* (Differential Object Marker) in transitive forms (14.b) contrasts with its absence in intransitive forms (14.a). This highlights the role of person agreement suffixes²¹ in distinguishing valency of the verb form, but not of the root.

²¹ *Mapudüngun*’s verbal system includes direct, inverse, and passive forms (Golluscio, 2010; Salas, 1992; Zúñiga, 2006).

3.4.2. Considerations on certain Verbal Roots

This section examines three cases where roots or suffixes require detailed analysis to clarify their implications for verb form, meaning, and valency. All cases involve the causative *-(i)l*.

3.4.2.1. *troki*- ‘separate, set apart’

The root *troki*-, in Coña’s records combines with the *-l* morpheme. It is defined as ‘consider, think that, believe that’ (Smeets, 2008, p. 564), ‘indicate’ (De Augusta, 1903; Febrés; CORLEXIM), and ‘division, portion, part’ (ibid). Examples suggest *troki*- means ‘setting something aside for consideration’. The form prompting this analysis (15) suggests that *-l* may function as a benefactive, as indicated by its literal translation. While no conclusion is drawn, these observations are noted for future research.

15. *ñuke* *-ye* *-l* *troki* *-l* *-ke* *-e* *-y* *-ø* *-ew*
 ñi *pu* *yall*
 NN.mother -TV.carry +OVN TV.split +**BEN** +HAB +INV +IND +3 +3A
 SP.their COLL NN.son
 ‘receives treatment from them as a stepmother’;
 lit.: ‘she’s treated as a mother; they consider [like] that, their children (father’s)’

3.4.2.2. *pi*- ‘say’

Düngupeyüm’s analyses (Chandía, 2021) suggest that *pi*-, when combined with the determiner *fa*-, may combine with the causative *-(i)l*. For example, *pifaleymün* can be analysed in three ways:

- 16.a. *pi* *-fa* *-le* *-y* *-m* *-ün*
 TV.say -**DP.this** +**ST** +IND +2 +PL
 16.b. *pi* *-fal* *-e* *-y* *-m* *-ün* *-ø*

TV.say +**FORCE** +**INV** +**IND** +2 +**PL** +1t2A

16.c. *pi* *-fa* *-l* *-e* *-y* *-m* *-ün* *-ø*

TV.say -**DP.this** +**CA** +**INV** +**IND** +2 +**PL** +1t2A

In the context where *pifaleymün Elewterio* translates as ‘Eleuterio sends me to tell you’, the stative analysis (16.a) is dismissed as it loses the sense of ‘send to’ Smeets (2008, p. 169) notes that the stative indicates a state which may or may not imply agentivity, as in *amu-le-n* ‘I am going’ or *ellka-le-y* ‘it is hidden’. The analyses in 16.b and 16.c preserve the sense of ‘sending to’. 16.b combines *pi-* and *-fal* (+**FORCE**), while 16.c presents *pi-* with the demonstrative *fa-* followed by the causative *-(ü)l* (§3.2). Smeets (2008, p. 272) states that *-fal* can imply obligation or command, aligning with the analysis of *-fa-l* as a bimorphemic²² construction meaning ‘cause this’. Analyses 17.a, 17.c are Smeets’, 17.b, 17.d are alternative:

17.a. *ellka* *-künu* *-lel* *-fal* - *ye* *-nge* *-y* *-ø* (Smeets, p. 273)

TV.hide +**PFPS** +**BEN** +**FORCE** +**PLR** +**PASS** +**IND** +3

‘various [things] have to remain hidden from him’ – ‘varias cosas deben permanecer ocultas a él’,

lit.: ‘they must be kept hidden from him’

17.b. *ellka* *-künu* *-lel* *-fa* *-l* *-ye* *-nge* *-y* *-ø*

TV.hide +**PFPS** +**BEN** -**DP.this** +**CA** +**PLR** +**PASS** +**IND** +3

‘they must be left hidden from him’

17.c. *lang*²³ *-üm* *-fal* *-ma* *-e* *-n* *-ew* (Smeets, p. 273)

AJ.dead +**CA** +**FORCE** +**IO** +**INV** +**IND1SG** +3A

‘he had it killed’, ‘he has to kill it’ – ‘él lo mató’, ‘él debe matarlo’; lit.: ‘he must kill it for me’

²² ‘Bimorpheme’ = two morphemes combined (Zúñiga, 2009a).

²³ *la-* is adjectival, not verbal, despite *ng*’s presence; this is confirmed in Chandía (2025).

- 17.d. *lang -iim -fa -l -ma -e -n -ew*
 AJ.dead +CA **-DP +CA** +IO +INV +IND1SG +3A
 ‘he has to kill it for me’

In 17.d, double causativisation is observed, where the second causative acts on a verb already transitivised by a causative. This suggests that *-(ü)l* can combine with transitivised roots, as noted by Smeets, or that the main root is intransitive. Applying this to *pifaleymün* (16.c), *pi-* may be transitive, intransitive, or ambitransitive.

The analysis of *-fa-l* as a syncretic *-fal* is plausible, as Smeets (2008, p. 274) speculates that *-fal* derives from *fa-* ‘become like this’ and *-(ü)l* ‘cause’. This implies *pi-*’s transitive valency while dissociating the causative from transitive roots in this instance. The meaning of *-fa-l* and *-fal* aligns, with *-fal* implying that the subject commands someone to perform the action. Thus, *pifaleymün* ‘say + this (fa-) + cause (-l)’ translates as ‘send (somebody) to say (something to somebody else)’.

3.4.2.3. *nge-* IV ‘be’, TV ‘have’

The root *nge-* exhibits bivalence, intransitive meaning ‘be’, when may be combined with the causative (18.a), and transitive meaning ‘have’.

- 18.a. *nge -l -me -fi -ñ* (Smeets, 2008, p. 126)
 IV.be +**CA** +TH +3P +IND1SG
 ‘I have take them there’ – ‘las he llevado allá’; lit.: ‘I made them be there’
- 18.b. IV.be +**MIO** +TH +3P +IND1SG

In 18.b, an alternative analysis interprets *-l* as ‘More Involved Object’ rather than causative. This is proposed due to insufficient evidence for the causative analysis in Smeets and the absence of *nge-* with *-l* in Coña’s memoirs. Golluscio (2007, p. 216) sets *nge-* among

prototypical existence verbs that ‘do not allow causativisation’, though this restriction applies only for *-(ü)m*, not *-(ü)l*.

The +MIO analysis is plausible. c (2008, p. 287) describes +MIO as indicating a more direct or intense involvement of the patient in the event. Thus, the interpretation could be ‘I have taken them [specifically these and no others] there’.

3.5. Labile Roots and Person Agreement Suffixes

To determine valency of roots through morphology, this study examines root-suffix combinations, particularly those increasing valency. It has been observed that some intransitive roots function transitively with the addition of person agreement suffixes²⁴, without other valency modifiers. This suggests these roots are labile, functioning intransitively without such suffixes or transitively with them, see 14.a, 14.b and the following examples:

- 19.a. *aye* *-ka* *-fi* *-ñ* (Smeets, 2008, p. 298)

IV.laugh +CONT +3P +IND1SG

‘I joked with him’ – ‘bromeé con él’; lit.: ‘I was laughing it’

- 19.b. *kewa* *-e* *-y* *-ø* *-ew* (Smeets, 2008, p. 156)

IV.fight_combat +INV +IND +3 +3A

‘he beat him’ – ‘él lo golpeó’

- 19.c. *kewa* *-ya* *-fi* *-ñ* (Wilhelm *et al.*, 1930)

IV.fight_combat +FUT +3P +IND1SG

‘lo derrotaré’; lit.: ‘I will combat him’

- 19.d. *luka* *-ya* *-e* *-y* *-ø* *-u* *-ø* (Smeets, 2008, p. 194)

IV.fear +FUT +INV +IND +1 +DL +1t2A

²⁴ Earlier termed ‘directional’, though this is misleading as they mark direct/inverse relationships rather than spatial direction. For *-fi* see Salas (1992), De Augusta (1903), Zúñiga (2006; 2010; 2015).

- ‘I’m afraid of you’ – ‘tengo miedo de ti’; lit.: ‘you will scare me / I will fear you’
- 19.e. *llüka -fi -ø* (Wilhelm *et al.*, 1930)
IV.fear +3P+IND +3
‘I was afraid of him’; lit.: ‘I feared him/it’ – ‘temíalo’
- 19.f. *maychü -fi -ñ* (Smeets, 2008, p. 288)
IV.rise.hands +3P +IND1SG
‘I waved at him’ – ‘Lo saludé’
- 19.g. *meke -a -e -n -ew* (Smeets, 2008, p. 484)
IV.get.busy +FUT +INV +IND1SG +3A
‘I will be busy at/on it’ – ‘estaré ocupado en/con eso’; lit.: ‘I will take care of it’
– ‘*me le ocuparé’ (see note)
- 19.h. *meke -fi -ø* (Wilhelm *et al.*, 1930)
IV.get.busy +3P+IND +3
‘hacerlo’; lit.: ‘get busy on/with (do what is being mentioned, be occupied with doing it)’

Labile roots are included in both transitive and intransitive lists of *Diingupeyüm*, each with the appropriate sense. While this increases ambiguity in analyses, omitting them would risk excluding potential interpretations. The system has been adjusted to ensure causatives *-(ü)m* (§3.3) and *-(ü)l* (§3.4) only co-occur with intransitive senses of labile roots (Chandía, 2025, §2.4).

3.6. Labile Roots and Other Suffixes

An observation of note is that some labile roots, when used transitively, frequently co-occur with suffixes like the Habitual Aspect (HA) *-ke*, which does not inherently affect valency. For example, *kewa-* ‘fight, struggle’ appears transitively as ‘hit, strike’ with *-ke* (20.a-

20.d). HA indicates the ongoing nature of the action, often denoting a characteristic or habit (Zúñiga, 2006, p. 160).

- 20.a. *epe* *kewa* *-fu* *-ø* *-ø* *-iñ*
 AV.almost IV.fight_combat +RI +IND +1 +PL
 ‘we almost would have fought’ – ‘casi hubiéramos peleado’
- 20.b. *ka* *kewa* *-i* *-ng* *-ün*
 AJ.(an)other IV.fight_combat +IND +3 +PL
 ‘they fought again’ – ‘pelearon otra vez’
- 20.c. *kewa* *-ke* *-fu* *-y* *-ø* *ñi* *kure*
 IV.fight_combat +**HAB** +RI +IND +3 SP.his NN.wife
 ‘[he used to] hit his wife’ – ‘[le] pegaba a su mujer’
- 20.d. *welu* *kewa* *-nge* *-ke* *-la* *-y* *-ø*
 CJ.on.the.contrary_but IV.fight_combat +PASS +**HAB** +NEG +IND +3
 ‘but they don’t usually hit her’ – ‘pero no suelen pegarle’;
 lit.: ‘but [she] is not constantly hit’ – ‘pero no es constantemente golpeada’

Similarly, *kon-* ‘enter’ exhibits a transitive sense ‘begin, start’ with *-ke* in specific contexts (21.a). Here, the complement is an inanimate object, often a nominalised or non-finite verb²⁵. The transitive interpretation aligns with Spanish idiomatic usage ‘they started...’, but a more literal translation would be in the non-transitive sense: ‘they entered into their complaint’. While *kon-* is not generally labile (21.b), its transitive sense with *-ke* is noteworthy.

- 21.a. *kon* *-ke* *-fu* *-y* *-ng* *-ün* *ñi* *kekaw* *-a* *-l*
 (Smeets, p. 203)
 IV.enter +**HAB** +RI +IND +3 +PL SP.his IV.complain +FUT +OVN

²⁵ Fernando Zúñiga clarified *kon-*’s transitive use.

‘they usually started to complain’ – ‘ellos generalmente comenzaban a quejarse’;
lit.: ‘they began their complaint’

21.b. *kon -ke -fu -y -ø epu wentru* (Wilhelm *et al.* 1930)

IV.enter +**HAB** +RI +IND +3 NU.two NN.man

‘two men would enter’; lit.: ‘enter used to two men’

3.7. Transitivity Suffix *-tu*

The suffix *-tu* is often assumed to transitivity intransitive roots or complex verbal themes, among other functions (§3.7.1). However, Smeets (2008, p. 297) states that *-tu* can be added to both intransitive and transitive roots. With intransitive verbs, *-tu* adds an object, resulting in a transitive form. With transitives, it incorporates an additional object, creating a form with two objects. Despite its name, *-tu* does not always transitivity²⁶; with transitive roots, it incorporates an object rather than altering valency. This function is not unique to *-tu*, as causatives (§3.3, §3.4), applicatives²⁷ (§3.7.1), and benefactives also increase valency.

22.a. *anel-* ‘(Vt) threaten, menace’; – ‘amenazar, intimidar’ (Smeets, 2008, p. 496)

anel-tu- ‘(Vt) threaten someone with something’ – ‘amenazar a alguien con algo’

22.b. *anel -tu -la -e -y -ø -u -ø* (Smeets, 2008, p. 157)

TV.threaten +**TR** +NEG +INV +IND +1 +DL +1t2A

‘I did not threaten you’ – ‘no te amenacé’

Smeets' description is debated. For example, in (22.b), the verbal form has only two arguments (agent and patient), with no additional object, contradicting her explanation. Similarly, in 23.a-23.c, *are-* 'lend' and *are-tu* 'borrow' imply 'someone VERB something to/from someone', yet no additional object is introduced in 23.b, 23.c.

²⁶ Transitive verbs select objects; intransitive verbs do not (Tubino, 2017, p. 20).

²⁷ Applicatives modify verb forms to include additional participants (Zúñiga, 2006, p. 123).

- 23.a. *are-* '(Vt) lend to' – 'prestar a'; *are-l-* 'lend to' – 'prestar a' it is more frequent;
arelenew kiñe mansun 'he lent me one ox' – 'me prestó un buey';
are-tu- '(Vt) borrow from' – 'pedir prestado a'; *aretuenew ketran* ~ *aretuketranenew*
 'he borrowed wheat from me' – 'me pidió prestado trigo' (Smeets, 2008, p. 498)
- 23.b. *are -tu -n -mew monge -li -y -ø* (Smeets, 2008, p. 62)
 TV.lend +**TR** +PVN +INST IV.live +ST +IND +3
 'he lives of borrowing' – 'él vive de pedir prestado';
 lit.: 'he's living off the borrowed' – 'de lo prestado está viviendo'
- 23.c. *fey re are -tu -n ropa nie -y -ø*
 (Smeets, p. 198)
 DP.that AV.only TV.lend +**TR** +PVN NN.clothing TV.have +IND +3
 'he has only borrowed clothes' – 'él solamente ropa prestada tiene'

Thus, while *-tu* can add an object to intransitive verbs, its function with transitive verbs is more complex, often involving object incorporation rather than strict transitivity.

3.7.1. Applicative Suffix *-tu*

Salas (1992, p. 150) describes *-tu* as 'repetitive/inversive' (24.a), sometimes indicating 'inversion' (24.b), 'repetition' (24.c), or actions resulting from prior events (24.d). It also works as a non-causative transitiviser (24.e) or attaches to reduplicated verbal stems (24.f). Additionally, it verbalises nominal roots, conveying 'performing the action appropriate to such a noun' (24.g-24.i).

Smeets (2008) notes similar functions but places *-tu* in different slots, suggesting it may be homophonous or a single suffix with roles depending on position. Golluscio (2010) and Zúñiga (2009a; 2009b; 2015; 2024) describe *-tu* as an applicative, highlighting its ability to increase, neutralise, or decrease valency.

- 24.a. *küpa-y* 'he came' → *küpa-tu-y* 'he came (back)' (Salas, 1992, p. 150)
- 24.b. *kansa-n* → *kansa-tu-n* 'I rested' (Salas, 1991, p. 150)
- 24.c. *wew-nge-y-m-i* 'you were beaten' → *wew-nge-tu-y-m-i* 'you were beaten again' (Salas, 1992, p. 150)
- 24.d. *wikürü-y* 'it tore' → *wikürü-tu-y* 'It tore (after that, as a consequence of that)' (Salas, 1992, p. 150)
- 24.e. *tripa-n* 'go out' → *tripa-tu-n* 'intercept (someone)' – 'salirle al paso (a alguien)' (Salas, 1992, p. 187)
- 24.f. *rüngkü-rüngkü-tu-y* 'he bounced – 'dio saltos' (Salas, 1992, p. 189)
- 24.g. *kofke* 'bread' → *kofke-tu-n* 'eat bread' (Salas, 1992, p. 194)
- 24.h. *koyla* 'lie' → *koyla-tu-n* 'lie' (Salas, 1992, p. 194)
- 24.i. *kawello* 'horse' → *kawello-tu-n* 'ride (on horseback)' (Salas, 1992, p. 194)

Zúñiga (2009a, p. 10) summarises *-tu*'s broad range: it functions as a denominal verbaliser (*mamüll-tu* 'gather firewood'), forms iteratives (*rüngkü-rüngkü-tu-y* 'he/she bounced repeatedly'), and often means 'to return' (*aku-tu-y* 'he/she returned here').

- 25.a. *pelo*²⁸ *-tu -tu -y -ø -iñ* (Smeets, 2008, p. 476)
TV.light.up +TR +RE +IND +1 +PL
'we have seen the light again' – 'hemos vuelto a ver la luz'; lit.: 'it lit up for us again'
- 25.b. *ina -tu -tu -fi -y -ø -iñ* (Smeets, 2008, p. 476)
AV.close +TR +RE +3P +IND +1 +PL
'we have also been close to our own [matter]' – 'también hemos estado cerca de lo nuestro';
lit.: 'we approached again to it'

²⁸ See Chandía (2025, Table 4, footnote f).

The suffix's multiple roles suggest it may have evolved into distinct forms, acquiring different meanings depending on the distance from the root. Alternatively, in its distal position, it may derive from *tuw-* 'come from, begin'²⁹, implying 'originate again' (25.a-25.b). In 26a-26.b, *-tu* appears twice in the same verb form, with Smeets (2008, p. 410) interpreting its reduplication as reinforcing repetition. Zúñiga (2009b, p. 206) concurs, noting *-tu*'s iterative and intensifying functions.

26.a. *wiño* **-tu** **-tu** *-fu* *-y* *-ø* (Smeets, 2008, p. 410)

IV.return +**RE** +**RE** +RI +IND +3

'they kept coming back' – 'seguían volviendo'

26.b. *kona-kona* **-tu** **-tu** *-y* *-m* *-ün?* (Smeets, 2008, p. 468)

NN.warrior +**SFR** +**RE** +IND +2 +PL

'did you get courage again?' – 'tuvieron coraje nuevamente?'

Finally, as a denominal verbaliser, *-tu* implies actions with duration, such as *kofke-tu* 'eat bread' or *pulku-tu* 'drink wine', performed incrementally. Thus, *-tu* is not semantically empty but conveys repetitive or restorative nuances.

The literature contains conflicting statements about *-tu*'s valency effects. Golluscio (2010) and Zúñiga (2009a; 2009b; 2015; 2024) characterise *-tu* as an applicative that can increase, neutralise, or decrease valency. However, these claims raise theoretical tension: prototypical applicatives add an argument (valency increase). How a single suffix can both add and decrease arguments is not explicitly reconciled in the cited sources, nor is the term 'neutralise valency' operationally defined. Resolving this tension lies beyond the scope of this study. For the purposes of valency diagnosis, the crucial observation is that *-tu* behaves inconsistently: it sometimes adds an object, sometimes does not, and appears with roots of both valency classes. Consequently, *-tu* is not a reliable diagnostic

²⁹ *-tu* may derive from *tu-* 'take' (Zúñiga, 2009a, p. 7).

for determining root valency. This study therefore excludes it from the set of morphological criteria used to classify verbal roots.

4. TRANSITIVISING PROPERTIES OF VARIOUS SUFFIXES

Beyond the causatives *-(ü)m* (§3.3), *-(ü)l* (§3.4) and the applicative *-tu* (§3.7), other suffixes can transitive intransitive roots. However, as shown below, these are too rare, idiosyncratic, or ambiguous to serve as reliable valency diagnostics.

- 27.a. *lladkü-* 'become sad' → *lladkü-ñma-* 'offer condolences' (Zúñiga, 2009b, p. 10)
- 27.b. *ngüma-* 'cry' → *ngüma-ye-* 'mourn, grieve for, cry for [someone]' (Zúñiga, 2009b, p. 3)
- 27.c. *ngilla-* 'tu buy' → *ngilla-lel-* 'buy [something] in behalf of [somebody else]' (Zúñiga, 2009b, p. 7)

Suffixes like *-(ñ)ma*, *-ye*, which acts as a compounding verb rather than a suffix, and *-(l)el-* (consider footnote 17) appear in limited lexical contexts and are not productive across the verbal lexicon. Consequently, they are excluded from the set of morphological criteria for systematic valency classification.

4.1. Transitivity Induced by the Aspectual Suffixes *-nie* and *-künu*

The 'Progressive Persistent' *-nie* and 'Perfective Persistent' *-künu* can impart a transitive sense to intransitive roots. Smeets (2008, p. 293) notes their durative effects and mutual exclusivity. Both suffixes are transparently related to transitive verbs: *nie-* 'have' and *künu-* 'let'. Zúñiga (2009a p. 8) hypothesises that some lexical items grammaticalised into suffixes without losing their verbal function.

However, determining whether forms with *-nie* or *-künu* are verbal compounds or modulated roots is challenging. Replacing *-nie* with *nie-* and *-künu* with *künu-* suggests a compounding³⁰ analysis:

28.a. *angid -nie -fi -n* (Smeets, 2008, p. 294)

IV.blaze +**PRPS** +3P +IND1SG

‘I keep it scorching’ – ‘Lo mantengo ardiendo’; lit.: ‘I have it blazing’

comp.: IV.blaze -TV.have +3P +IND1SG → ‘I have it blazing’

28.b. *weyel -künu -fi -n* (Smeets, 2008, p. 168)

IV.swim +**PFPS** +3P +IND1SG

‘I let him swim’ – ‘lo dejé nadar’

comp.: IV.swim -TV.let +3P +IND1SG → ‘I let him swim’

28.c. *weyel -nie -fi -n* (Smeets, 2008, p. 168)

IV.swim +**PRPS** +3P +IND1SG

‘I kept him swimming’ – ‘lo tuve/mantuve nadando’

comp.: IV.swim -TV.have +3P +IND1SG → ‘I had/kept him swimming’

Smeets (2008, p. 294) observes that *-nie* and *-künu* transitivise intransitive roots³¹ (28.a-28.c). Yet no intransitive roots in the consulted works produce transitive forms without the reflexive *-(u)w*, which reduces valency. Smeets classifies such forms as intransitive, as *-(u)w* is always present (29.a-29.e):

29.a. *külü-künu-w-* ‘(Vi) lie to one side’ – ‘recostarse de lado’

29.b. *payla-künu-w-* ‘(Vi) lie down on one’s back’ – ‘recostarse de espaldas’

29.c. *rekül-künu-w-* ‘(Vi) sit/lay down leaning (upon one’s elbow/on one’s arm/against a wall)’ – ‘sentarse o recostarse apoyándose (sobre el codo, sobre el brazo o contra la pared)’

³⁰ Fernández & Malvestitti (2012), and Fernández (2015) analyse serial verb constructions in Argentine Mapudüñgun.

³¹ Posture verbs in compounds lack *-künu*, *-nie*, or *-(kü)le* (Smeets, 2008, p. 325).

29.d. *treka-künu-w-* '(Vi) set off, set out for' – 'partir, echarse a andar'

29.e. *wille/wüllü-künu-* '(Vi) urinate' – 'orinar'³²

Only two instances of intransitive roots exclusively transitivised by *-nie* or *-künu* were found, and these may be verbal compounds:

30.a. *maychi -nie -y -ø ñi kug* (Wilhelm *et al.*, 1930)

IV.rise.hands +**PRPS** +IND +3 SP.his NN.hand

'he extended his hands'; lit.: 'he had his hand risen'

30.1. *trongo -künu -y -ø tol* (Smeets, 2008, p. 296)

IV.frown +**PFPS** +IND +3 NN.(the).forehead

'he frowned, thereby causing wrinkles to appear on his forehead' – 'el frunció el ceño, provocando la aparición de arrugas en su frente'

Ultimately, *-nie* and *-künu* do not reliably discriminate root valency, as they apply to roots of either valency, and the resulting forms are not always transitive, despite their origins in transitive verbs:

31. *doy küme monge -nie -tu -a -fu -m* (Smeets, 2008, p. 472)

AV.more AJ.good IV.live +**PRPS** +RE +FUT +RI +IVN

'have a better life again' – 'tener una mejor vida denuevo'; lit.: 'better living [one] will have again'

4.2. Transitivity with *-(ñ)ma* (Experimentative)

Smeets' (2008, p. 301) 'Experimentative' *-(ñ)ma* denotes a subject experiencing the process of an intransitive verb, potentially indicating an intransitive root. However, Zúñiga

³² *wüllü-künu-* may mean 'urinate (on oneself)'.

(2009a, p. 12) argues that *-(ñ)ma* alternates with *-(ü)ñmu*, with the former indicating alloaffectation and the latter autoaffectation.

It is unclear whether *-(ñ)ma* is a single morpheme with multiple functions or distinct homophonous morphemes. Smeets lists *-(ü)ñmu* as Satisfactive, *-(ñ)ma* as Indirect Object, and another *-(ñ)ma* as Experimentative in different slots. *Düngupeyüm* (Chandía, 2021, p. 46) labels *-(ñ)ma* as an Adverbialiser, highlighting the overlap.

Analysis of Coña's memoirs yielded 270 forms with *-ñma* from 108 roots. Of these, 34 have only the Indirect Object suffix, 43 only the Experimentative, and 167 allow both interpretations. One form includes both suffixes, and four contain the adverbialiser.

Due to this ambiguity, valency determination based on *-(ñ)ma* is avoided. Transitivity with *-(ñ)ma* is rare, as shown by the contrast between 32.a (transitive) and 32.b (intransitive):

32.a. *chew püra -ñma -w -ø -ø -iñ kawell?* (Wilhelm *et al.*, 1930)

IP.where IV.climb +**EXP** +REF +IND +1 +PL NN.horse

‘where do we send your horse?’; lit.: ‘where do we experience going up your horse?’

32.b. *fey mew anü -ñma -y -ø ñi wital* (Wilhelm *et al.*, 1930)

DP.that INST IV.sit +**EXP** +IND +3 SP.her NN.loom

‘there sited in front of her loom’

CONCLUSIONS

This study has examined the use of suffixes to determine the valency of *Mapudiüngun* verb roots. A reliable computational morphological analyser requires clear, non-redundant data, ideally listing roots under a single classification to minimise ambiguity. However, labile roots are included in both transitive and intransitive categories, introducing some ambiguity but ensuring that potential analyses are not excluded.

After verifying root categories (Chandía, 2025), the study assessed suffixes for their ability to indicate valency, establishing morphological criteria for recognising verb valency. The following morphemes were reviewed: aspectual suffixes *-nie*, *-künu*, *-(kü)le* (§3.1, §4.1); adjectiviser *-fal* (§3.2); causatives *-(ü)m* (§3.3) and *-(ü)l* (§3.4); transitivity/applicative *-tu* (§3.7); person agreement suffixes *-fi* and *-e* (§3.5); and the experimentative *-(ñ)ma* (§4.2).

The reliability of the tested suffixes can be summarised systematically as follows; *-(ü)m*, *-(ü)l*: reliable (for intransitivity), consistently transitivity intransitive roots. *-fi*, *-e*: partially reliable, indicate transitivity but also appear with labile roots. The following are unreliable; *-fal*: too rare; alternative analysis possible. *-tu*: polysemous, valency effects inconsistent. *-nie*, *-künu*: apply to roots of either valency class. *-(ñ)ma*: morpheme functions ambiguous.

Forms ending in *-fal* involve transitive roots but are rare, limiting their utility (§3.2). The suffix *-tu* affects valency inconsistently, making it unsuitable for determining root valency (§3.7). Person agreement suffixes *-fi* and *-e* help identify transitive roots but also appear in transitivity intransitive forms and labile verbs, complicating valency distinction (§3.5).

The causatives *-(ü)m* and *-(ü)l* are the most effective tools for identifying intransitivity, provided the roots are confirmed as verbal. Roots transitivity with *-(ü)m* are listed in Chandía (2025, Table 4), while those with *-(ü)l* are detailed in *ibid.*, §2.3, based on Coña's memoirs. The use of *-(ü)m* appears to be declining in favour of *-(ü)l* among current speakers, though a systematic sociolinguistic study would be required to confirm this impression.

Beyond the main objective, this study explored related topics, proposing alternative analyses for *-fal* (§3.2) and labile verbs (§3.4.1). It suggested that verbal themes with *-nie* and *-künu* may be compounds rather than aspectual suffixes (§4.1) and encouraged further investigation into the habitative *-ke* (§3.6).

The morphotactic approach adopted here, inferring root valency from permissible suffix combinations, has clear limitations. First, it cannot resolve cases where a root is

genuinely labile and both transitive and intransitive uses are equally frequent without morphological marking. Second, the method depends on the quality and representativeness of the corpus; Coña's memoirs, while extensive, represent a single idiolect from a specific historical period. Third, morphotactics alone cannot distinguish between root valency and valency induced by constructional or discourse factors. Future research should systematically complement morphological analysis with syntactic tests (e.g., passivisation, applicativisation) and semantic criteria. The method proposed here is sufficient for a first-pass classification but requires triangulation with other levels of analysis for problematic cases.

This study is, by necessity, partly exploratory. The complex interaction between root valency, suffixation, and constructional effects means that not all cases could be resolved with certainty. Nevertheless, the article establishes a reliable method for determining intransitive valency using causatives *-(ü)m* and *-(ü)l*, enhancing both the computational analyser and the understanding of *Mapudiingun*. Future work will extend the analysis to transitive roots and incorporate syntactic tests to resolve the ambiguous cases identified here.

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APPENDIX: LIST OF ABBREVIATIONS

1, 2, 3: 1st, 2nd, 3rd person	IVN: Intransitive Verbal Noun
1t2A: 1st to 2nd person Agent	LOC: Locative
3A: 3rd person Agent	MIO: More Involved Object
3P: 3rd person Patient	NEG: Negative
ADJ: Adjectiviser	NN: Noun
ADJDO: Adjective + Doable	NOM: Nominaliser
AJ: Adjective	NU: Numeral
AV: Adverb	OO: Oblique Object
BEN: Benefactive	OVN: Objective Verbal Noun
CA: Causative	PASS: Passive
CJ: Conjunction	PFPS: Perfective Persistent
COLL: Collective	PL: Plural
CONT: Continuative	PLR: Pluraliser
DL: Dual	PRPS: Progressive Persistent
DP: Demonstrative Pronoun	PVN: Plain Verbal Noun
EXP: Experimentative	RE: Repetitive
FAC: Factitive	REF: Reflexive/Reciprocal
FORCE: Force majeure	RI: Ruptured Implicature
FUT: Future	SFR: Stem Formative
HAB: Habitual	SG: Singular
IND: Indicative	SJI: Subjunctive in Imperatives
IND1SG: Indicative 1st person Singular	SP: Possessive Pronoun
INST: Instrumental	ST: Stative
INV: Inversion	SVN: Subjective Verbal Noun
IO: Indirect Object	TH: Thither
IP: Interrogative Pronoun	TR: Transitivity
IV: Intransitive Verb	TV: Transitive Verb