Valency classes in Mapudungun

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1. Introduction

Mapudungun is an isolate currently spoken by approximately 250,000 people in southern Chile and south-central Argentina. A number of dialects can be distinguished, mainly on lexical and phonetic/phonological grounds; the present paper focuses on the Chilean variety called Central Mapudungun. Unless otherwise specified, the data presented here come from my own field notes taken during work sessions with several Chilean speakers in and around Villarrica (Cautín Province, Araucanía Region) and Cañete (Arauco Province, Biobío Region). I checked most data with different speakers—including some of the neighboring Lafquenche dialect—, but my year-long collaborator Leonel Lienlaf deserves special mention because we went through the Valency Classes questionnaire (cf. Section 3.1) in great detail.[1]

The paper is organized as follows. Section 2 summarizes the basic aspects of Mapudungun morphosyntax. Section 3 gives in tabular format a sample of Mapudungun verbs with their valency patterns based on the updated version of the questionnaire submitted to the contributors of the Valency Classes Project, with some additional comments. Section 4 deals with the morphologically unmarked valency alternations, whose importance in the language is rather modest. Section 5 describes coded valency alternations, which are not only frequently found but also of paramount importance for the description of lexical and grammatical patterns of Mapudungun. Section 6 summarizes the results.

2. Basics of Mapudungun morphosyntax

This language has a fairly simple phonology and shows a rather simple nominal morphology on the one hand and a rich polysynthetic concatenative (predominantly suffixing) verbal morphology on the other.[2] Nonverbal equational clauses consist of two juxtaposed NPs (frequently supplemented by one out of a series of discourse particles whose exact pragmatic yield is still not fully understood). Verbal clauses, by contrast, minimally consist of a finite verb form and often

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[2] Textual examples are given in their underlying form in the present article; surface forms differ from these representations in that elision, epenthesis, resyllabification and assimilation rules apply. The orthographic convention employed in here is the Chilean version of the Alfabeto Mapuche Unificado. (In Argentina, the same convention is utilized, but *i* is used instead of *ü* to represent the vowel [ɨ]~[ə].) The usual citation form of Mapudungun verbs is the so-called infinitive characterized by the suffix *-n*, and I have followed the widespread practice of giving its surface form when mentioning verbs; in most cases, the *ü* preceding this suffix is epenthetical (an exception being e.g. *lladkü-n* 'be sad', where *ü* is the stem-final vowel).

include NPs corresponding to core syntactic arguments and adpositional phrases corresponding to different kinds of peripheral arguments or adjuncts. Complex clauses can include several verb forms, either coordinated or subordinated, some of which may be nonfinite. As to clause relations, Mapudungun can be classified as consistently head-marking.

The verb found in simple matrix clauses minimally consists of a root, a mood marker (indicative *-i*, subjunctive *-l* or imperative *-Ø*), a person marker (*-i* '1', *-m* '2' or *-Ø* '3'), and a number marker (*-i* 'SG', *-u* 'DU' or *-n* 'PL'). (There are few portmanteau markers encoding both person and number, and sometimes also mood, e.g. *-n* '1SG.IND' instead of expected *-i-i-i*.) The participant thus cross-referenced will be termed PRIMARY ARGUMENT (PA) here and can be thought of as a kind of subject. On the inflectional side, it is also possible to mark a second participant on the verb (labeled SECONDARY ARGUMENT (SA) here; this is possibly a kind of primary object), albeit in a less detailed fashion: sometimes the second participant is understood as 2SG by default, and on occasion only its person, but not its number, is explicitly marked via suffixation.[3] There is one suffix that encodes transitivity inversion (*-e*) and another that cross-references a differentially marked object (*-fi*), and other formatives express future tense (*-a*), habitual aspect (*-ke*), ruptured implicature (*-fu*), and hearsay evidentiality (*-rke*), among other categories. On the derivational side, a number of morphological processes correspond to valency-changing operations (passive *-nge*, causative *-l* or *-m*, applicative suffixation of *-l* or *-ñma*, applicative serialization with *tu-* 'take' or *ye-* 'carry', reflexive *-w*, and nominal incorporation), whereas others express space-related values (cislocative *-pa*, translocative *-pu*, andative *-me*, serialization with *püra-* 'ascend' or *nag-* 'descend', etc.).[4]

Clauses with bivalent and trivalent verbs come in two guises, viz. direct and inverse. Roughly, interactions with S[peech] A[ct] P[articipant] A (agentive) arguments and 3rd person P/R (patientive/recipient-like) arguments are invariably direct while those with SAP P/R arguments and 3rd person A arguments are obligatorily inverse. Direct verb forms are morphologically unmarked, have A PAs and P/R SAs, and show D[ifferential] O[bject] M[arking] under complex conditions related to the animacy, definiteness and discourse prominence of the SA (Zúñiga 2010b). Inverse verb forms take the inverse suffix *-e*, have A SAs and P/R PAs, and never take the DOMr *-fi*. In addition, 3↔3 interactions can be expressed by either direct or inverse verb forms, depending on the animacy and discourse prominence of the P/R argument; the "higher" argument will be called PROXIMATE and the "lower" OBVIATIVE here. Lastly, SAP↔SAP interactions are expressed by morphologically complex verb forms, most of which are inverse or inverse-like (see Golluscio 2010 for a brief summary of the system, Zúñiga 2006a, 2006b for a detailed account, and Arnold 1996 for an earlier version of the inverse analysis and some remarks as to its possible evolution).

Core syntactic argument NPs (i.e. subjects or PAs, as well as primary and secondary objects or indexed and nonindexed SAs) are typically unmarked. In addition to a number of adpositions expressing mainly spatial notions (preposed *pu* 'in', *ina* 'near', *miñche* 'beneath', *wente* 'above', *furitu* 'behind', *puñma* 'in front of', *ngeno* 'without'; postposed *püle* 'towards, by', *kütu* 'since'), there is a semantically unspecified postposition *mew*—it can also appear as suffixed/encliticized *mu* ~ *mo*—that licenses further participants, e.g. locations, sources, goals, instruments, and recipients. Its exact interpretation relies on the lexical content of predicate and arguments, but also on

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[3] Number of PAs is invaribaly distinguished on the verb for 1st and 2nd persons; verbs with 3rd person PAs are typically unmarked if there is an overt coreferential NP in the clause but distinguish singular, dual, and plural if the argument is covert.

[4] Nonfinite verb forms invariably replace the morphology encoding mood and person/number of the PA by a specific ending (*-n, -el,* and *-lu,* among others); the PA is expressed via a verb-external possessive or personal pronoun. In addition, their aspecto-temporal inflectional potential is restricted when compared with matrix verbs.

context. Examples follow (note that independent pronouns are usually only used for focusing/disambiguating purposes):

(1) a. *(Iñche) pe-fi-n   chi   machi.*
    1SG   see-3P-1SG.IND   ART   shaman
    'I saw the shaman.'

   b. *(Iñche) pe-e-n-mew   chi   machi.*
    1SG   see-INV-1SG.IND-3A   ART   shaman
    'The shaman saw me.'

(2) a. *Elu-fi-i-Ø   kiñe   manshu̱n.*
    give-3P-IND-3   one   ox
    'S/he (PROX) gave her/him (OBV) an ox.'

   b. *Elu-e-i-Ø-mew   kiñe   manshu̱n.*
    give-INV-IND-3-3A   one   ox
    'S/he (OBV) gave her/him (PROX) an ox.'

(3) a. *Amu-a-n   Troltren   mew.*
    go-FUT-1SG.IND   T.   PPOS
    'I will go to Toltén.' (Augusta 1903:128)

   b. *Küpa-n   Troltren   mew.*
    come-1SG.IND   T.   PPOS
    'I came from Toltén.' (Augusta 1903:128)

   c. *Longko   mew   nü-e-i-Ø-mew.*
    head   PPOS   take-INV-IND-3-3A
    'S/he (OBV) took her/him (PROX) by the head.' (Augusta 1903:135)

   d. *Mütrongka-pu-fi-i-Ø   kiñe   karoti   mew.*
    hit-TRANS-3P-IND-3   one   stick   PPOS
    'S/he (PROX) hit her/him (OBV) with a stick.' (Augusta 1903:128)

3. The valency patterns of Mapudungun

As noted in Golluscio (2010), most nonderived verbs are syntactically avalent (e.g. *mawün̲in̲* 'rain'), monovalent (e.g. *akun* 'arrive here'), bivalent (e.g. *nien* 'have'), or trivalent (e.g. *elun* 'give'). There are few labile verbs, notably some ambitransitives (either agentive, like *küdawün* 'work (on)', or patientive, like *watron* 'break') and some ambiditransitives (e.g. *pin* 'say', which optionally expresses the R argument). Even though some avalent/monovalent verbs cannot be causativized or applicativized (e.g. *mülen* 'be, exist'), most of them can accommodate additional arguments via those valency-increasing operations.

3.1   Valency classes: Summary

1	A covers P (with X)	A *tukun* P (X *mew*)	
2	A fills P (with X)	A *apolün* P (X *mew*)	*l*-causative of *apon*
3	A loads T (onto L)	A *chechümün* L (T *mew*)	
4	A ties P (to L) (with I)	A *trarün* P (L *mew*)	
5	A pours T somewhere (L)	A *wütruntukun* T (L *mew*)	(also *wütrun*)

6	A puts T somewhere (L)	A *eliin* T (L *mew*)	
7	A throws T somewhere (L)	A *ütrüfün* T (L *mew*)	
8	A brings T to R	A *küpalelün* T R	*l*-applicative of *l*-causative of *küpan*
9	A carries T (to X)	A *yen* T	*l*-applicativize to accommodate X
10	A sends T (to X)	A *amulün* T (X *mew*)	*l*-causative of *amun*
11	A gives T to R	A *elun* T R	
12	A shows T (to R)	A *pengelün* T R	cf. 5.4
14	A steals T (from X)	A *weñen* T	*ñma*-applicativize to accommodate X
15	A hides T (from X)	A *llumümün* T	*m*-causative of *llumün*; *ma*-applicativize to accommodate X
16	A tears P (from X)	A *kacharnentun* P	*ma*-applicativize to accommodate X
17	A wipes T (off X)	A *nentun* T (X *mew*)	
18	A cuts P (with I)	A *katrün* P (I *mew*)	
19	A touches P (with I)	A *kachillma* P (I *mew*)	
20	A hits P (with I)	A *trawawün* P (I *mew*)	
21	A beats P (with I)	A *trawawtrawawtun* P (I *mew*)	iterative of *trawawün*
22	A kills P (with I)	A *langümün* P (I *mew*)	irregular *m*-causative of *lan*
23	A breaks P (with I)	A *watron* P (I *mew*)	cf. 3.3
25	A name X (a) Y	A *üytuntukun* X	*l*-applicativize to accommodate Y
26	A says "…"(to X)	"…" *pin* A X	
28	A tells (X) Y	A *ngütramün* Y	*l*-applicativize to accommodate X
29	A asks (X) for Y	A *ngillatun* X Y	*tu*-applicativized *ngillan* 'buy'
30	A talks (to X) (about Y)	A *ngütramkan*	*l*-applicativize to accommodate X (Y *mew*) *ye*-applicativize to accommodate Y (X *mew*)
31	A knows P	A *kimün* P	
33	E sees M	E *pen* M	
34	A looks at P	A *lelin* P	
35	A frightens P	A *trupefülün* P	*l*-causative of *trupefün*
36	E fears M	E *llükan* M	
37	E likes M	E *kümentun* M	
41	A meets X	A *trafün* X	
42	A follows X	A *inan* X	
43	A helps X	A *kellun* X	
44	A eats P	A *in* P	
46	A washes P	A *küchan* P	
47	S coughs	S *chafon*	
48	A climbs (up L)	A *wechun* (L *mew*)	
49	S sits down (somewhere (L))	S *anün* (L *mew*)	
51	A runs	A *lefün*	
52	A jumps	A *rüngkün* (L *mew*)	

55	S sings	S *ülkantun*	
56	S lives somewhere (L)	S *mülen* (L *mew*)	
57	S appears	S *wefün* (L *mew*)	
59	S dies	S *lan*	
60	S falls	S *tranün* (L *mew*)	
61	S is cold	S *wütren*	
62	E is hungry	E *ngüñün*	
63	(it) rains	*mawünün*	
64	R gets T (from X)	R *llowün* T	*ma*-applicativize to accommodate X
65	S cries	S *ngüman*	
66	A makes P (out of X)	A *dewman* P (X *mew*)	
67	A thinks about X	A *rakiduamün* (X *mew*)	
68	A searches for X	A *kintun* X	
69	A hugs P	A *rofülün* P	
70	E feels pain in M	E *kutranün* POSS M / E *kutran*-M-*n*	
71	E is sad	E *lladkün*	
72	S is sick	S *kutran-küle-n*	resultative aspect
73	S is dry	S *angkü-le-n*	resultative aspect
74	S laughs	S *ayen*	
75	S burns	S *lüf-küle-n*	resultative aspect
76	S blinks	S *llüpifün*	
77	S is a hunter	S *tralkatufengen*	NMLZ + COP
78	A takes P (from X)	A *nün* P	*ñma*-applicativize to accommodate X
79	A digs (for X)	A *rüngan*	X requires a second V in nonfinite form
80	A peels (X off) P	A *chafün* P	X requires a second V in nonfinite form
81	A grinds P (with I)	A *mülan* P (I *mew*)	
82	A shaves (his beard/hair)	A *payuntun*	
83	A pushes P (somewhere (L))	A *pelün* P	L *mew* possibly unidiomatic
84	S goes somewhere (L)	S *amun* (L *mew*)	
85	A rolls	A *imülün*	
86	A teaches R T	A *kimelün* R T	
87	S screams	S *wirarün*	
88	A cooks P	A *afümün* P	*m*-causative of *afün*
89	E hears M	E *allkün* M	
90	A wants X	A *ayün* X	
91	S sinks	S *lanün*	
92	S boils	S *afün*	
93	E smells M	E *nümütun* M	*tu*-applicative of *nümun*
94	A dresses P	A *takun* P	
95	A shouts at X	A *wirarün* X	
96	A builds P (out of X)	A *dewman* P (X *yengu*)	
97	S sits somewhere (L)	S *anü-le-n* (L *mew*)	resultative aspect
98	A left L	A *püntun* (L *mew*)	
99	S plays	S *awkantun*	

3.2 Avalent verbs

Verbs used to describe meteorological events appear marked for a 3rd person singular PA but do not appear with overt argument NPs in matrix clauses; they are *kürüfün* 'become windy', *mawünün* 'rain', *yain* 'hail', and *piren* 'snow'. (The participle of the latter predicate can appear in NPs, e.g. *piren wingkul* 'snowy hill'.) The verbs *punün* 'get dark, become night' and *wünün* 'get light, dawn' behave like the ones mentioned above. All these predicates can take a maleficiary argument when applicativized (cf. Section 5.4 below); in such cases, 3rd person indexing disappears and the PA of a formally monovalent verb is the maleficiary. Examples follow:

(4) a. *Mawün̲-i-Ø.*
         rain-IND-3
         'It rained.' (p.k.)

     b. *Mawün̲-ma-r-pa-i-m-i?*
         rain-APPL2-INTER-CIS-IND-2-SG
         'Did you (SG) get rained on while coming here?' (Augusta 1916: 133)

     c. *Kürüf-tuku-mawün̲-i-Ø.*
         wind-put-rain-IND-3
         'It stormed (lit. rained with wind).' (Augusta 1916: 107)

3.3 Monovalent verbs

The arguments of underived monovalent predicates can be animate or inanimate, volitional or nonvolitional, etc. They index the PA, which can be covert or overt. Examples follow:

(5) a. *Kude-i-Ø   ti   pu   pichi   wentru.*
         play-IND-3   ART   PL   little   man
         'The boys played.'

     b. *La̲-i-Ø   ti   domo.*
         die-IND-3   the   woman
         'The woman died.'

   A handful of verbs can be used with either a monovalent or a bivalent coding frame; these include verbs like *trafon / watron* 'break' and others like *wirarün* 'scream, shout (at)':[5]

(6) a. *Trafo-i-Ø   ti   kura.*
         break-IND-3   ART   stone
         'The stone broke / s/he broke the stone.'

     b. *Wirar-i-Ø   ti   kalku.*
         scream-IND-3   ART   warlock
         'The warlock screamed.'

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[5] There is some variation with *wirarün* 'scream, shout'. According to Golluscio (2010), this predicate is monovalent and needs to be applicativized in order to take a nonagentive argument, viz. *wirar-el-fi-n* (shout-APPL1-3P-1SG.IND) 'I shouted at him'. Such a usage was confirmed by some of my Chilean consultants in elicitation, but for most *wirarün* was labile. Although I have not conducted a systematic search in the written sources, I have found both ambitransitive and strictly intransitive examples in Augusta's (1910) and Salas's (2006) texts. Smeets (2008:577) explicitly notes that it is labile but mentions the applicativized form as meaning 'shout at (someone far away)'.

   c. *Ti   wentru   wirarü-tu-fi-i-Ø   ti   pichi   domo.*
      ART   man   shout-TEL-3P-IND-3   ART   little   woman
      'The man (PROX) shouted (angrily) at the girl (OBV).'

An overt NP coreferential with the P argument may be absent from the clause (e.g., *ti wentru wirarütu-fi-i-Ø* 'the man shouted angrily at him/her', parallel to 6c above); in such cases, only the DOMr *-fi* or the inverse(-like) morphology signals a syntactic valency of two. Other ambitransitives are *pen* 'see, find', *witran* 'stand up, pull', *küdaw* 'work (on)', *katrün* 'be cut; cut, separate', *weychan* 'fight', *ülkantun* 'sing', *uman* 'lodge (with)', and *weñen* 'steal'. Augusta (1916: 31) also mentions *düngun ~ dungun* 'speak' as ambitransitive; the bivalent coding frame basically corresponds to the meaning 'speak to',[6] and my older informants tend to inconsistently accept it. I suspect that the Spanish structure [*hablar* 'speak' + indirect object] may influence its acceptability.

    The addition of an adpositional phrase (e.g. [NP *mew*]) to a clause based upon a monovalent motion verb is in principle always possible if such a constituent expresses spatial/locative notions (typically, Grounds with respect to which the Figure-PA moves). (It is also possible to find verbalized nominals corresponding to place names, e.g. in *Temuko-tu-me-pe-n* [T.-VBLZ-AND-PFV-1SG.IND] 'I went to Temuco', roughly equivalent to *amun Temuko mew*, as well as unmarked well-known place name NPs, e.g. in *Temuko tuw-n* [T. come.from-1SG.IND] 'I come from Temuco'.) Nevertheless, due to the empty quality of *mew* in particular, most monovalent verbs take such adpositional phrases in order to express nonspatial notions only very rarely. Either causativization (cf. 5.3) or applicativization (cf. 5.4) is used to introduce other participants to the clause, or the speaker relies on context in order to make sure that some relevant detail characterizing the state of affairs is understood. Predicates that felicitously appear with a *mew*-phrase in the questionnaire are *rakiduamün* 'think', *wechun* 'climb', *anün* 'sit down', *amun* 'go', *püntun* 'leave (lit. become separated)', *mülen* 'be, exist', and *tranün* 'fall'. Example (7) shows both possibilities with *rakiduamün*, and Example (8) shows two different yields of *mew*:

(7) a. *Rakiduam-i -Ø   ñi   ñuke   mew.*
       think-IND-3   3.PSR   mother PPOS
       'S/he thought about her/his mother.'

     b. *Ti   wentru   rakiduam-ye-i-Ø   ti   wetripantu.*
       ART   man   think-APPL4-IND-3 ART   New.Year
       'The man thought about (the celebration of) New Year.'

(8) a. *Tüfa   ruka   mew   müle-i-Ø   che.*
       this   house   PPOS   be-IND-3   people
       'This house is inhabited.' (lit. there are people in this house) (Augusta 1916: 136)

     b. *Tuw-n   Suiza   mapu   mew.*
       come.from-1SG.IND   S.   land   PPOS
       'I come from Switzerland.'

    Noncausative motion verbs like *konün* 'enter' and *nagün* 'descend' are monovalent, and a goal participant can be expressed via a *mew*-phrase or via *tu*-applicativization (cf. 5.4):

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[6] Augusta also mentions that *düngun* can mean 'denounce' in the variety spoken in Huapi (Ranco Province, Los Ríos Region, Chile). I have not found this meaning elsewhere, not have I been able to confirm or disprove Augusta's claim.

(9) a. *Kon-n*   *Pedro*   *mew.*
     enter-1SG.IND   P.   PPOS

    b. *Kon-tu-fi-n*   *Pedro.*
     enter-APPL3-3P-1SG.IND   P.

    Both: 'I entered Pedro's house.'

3.4 Bivalent verbs

High-transitivity predicates like underived *nün* 'take, seize' and causative *l̠angümün* 'kill' typically occur in the bivalent coding frame:

(10) a. *Nü-i-Ø*   *ti*   *pülata* *ti*   *wentru.*
     take-IND-3   ART money ART man
     'The man took the money.'

    b. *L̠angüm-fi-i-Ø*   *ti*   *filu*   *ti*   *pichi*   *wentru.*
     kill-3P-IND-3   ART snake ART little   man
     'The boy (PROX) killed the snake (OBV).'

As noted in Section 2 above, bivalent clauses can be either direct or inverse; in the former, a comparatively agentive PA acts upon a comparatively patientive SA (the former is invariably indexed on the verb while the latter is subject to the conditions governing DOM). In inverse clauses, the PA is patientive while the SA is agentive. Animate→inanimate interactions are unproblematic for this coding frame. Even though there are examples of inanimate→inanimate interactions expressed by a single simple matrix clause (usually, matrix clauses with monovalent verbs are used instead), clauses with inanimate PAs and animate SAs seem to be ungrammatical. Clauses with two overt lexical NPs are easily obtainable in elicitation but comparatively less frequent than clauses with one overt lexical NP (usually the SA) in narrative texts. If both NPs are present, the constituent orders [V-SA-PA] and [PA-V-SA] seem to be the most frequent ones. The inverse equivalent of (10b) follows:

(10b') *Ti*   *filu*   *l̠angüm-e-i-Ø-mew*   *ti*   *pichi*   *wentru.*
     ART snake kill-INV-IND-3-3A   ART little   man
     'The snake (PROX) was killed by the boy (OBV).'

3.5 Trivalent verbs

Golluscio (2010) documented two underived trivalent verbs, viz. *elun* 'give' and *müntun* 'take away, snatch, deprive'. In addition, she mentions labile verbs like ambiditransitives *ramtun* 'ask (for), request', *aretun* 'borrow (from)' and *arelün* 'lend', as well as predicates that can take one, two or three core syntactic arguments, e.g. *ngillatun* 'pray, beg, request'.[7] Although some bivalent verbs are not applicativizable (e.g. *wülün* 'give away, hand'), most of them are, and so most trivalent predicates of the language are derived.

In the results of the questionnaire, underived *elun* 'give', *ngillatun* 'ask for', and *pin* 'say' (usually with a clausal or reported speech complement) are used with unmarked A, T, and R arguments. The derived trivalent verbs in the questionnaire are *küpalelün* 'bring (sthg.) to (sbdy.)' (*küpa-*

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[7] Golluscio (2010: 727) mentions *pin* 'say' as belonging to the same class as *ngillatun*, but I have not found any clear examples of that verb used with one core syntactic argument. According to my data, it always takes at least two arguments, of which the T participant can be, and most often is, clausal (or reported speech) instead of an NP; I classify it therefore as ambiditransitive.

'come' + *-l* 'causative1' + *-el* 'applicative1'), *kimelün* 'teach (sthg.) to (sbdy.)' (*kim-* 'know' + *-el* 'causative1'), and *pengelün* 'show (sthg.) to (sbdy.)' (*pe-* 'see' + *-el* 'causative1'; the apparently empty *ng* element might be the same as the one present in *langümün* 'kill' and *arengelümün* 'borrow', cf. 4. below).

3.6 Nominal incorporation

Mapudungun as used by fluent elderly speakers shows productive lexical-compounding / discourse-manipulating incorporation of nominal elements into the verbal word.[8] Potentially complex NPs can follow the verb root(s) and reduce the syntactic valency of a bivalent predicate (11a). It is less frequently applied to monovalent predicates, but when it occurs, the incorporated nominal element often corresponds to the notional subject of the verb root and the PA is an experiencer (sometimes perhaps a possessor) (11b); it can also occur with dummy 3rd person marking and a monovalent verb root (11c):

(11) a. *Katrü-kachu-me-a-n.*
      cut-grass-AND-FUT-1SG.IND
      'I will go to mow the grass / do some grass-mowing.' (Harmelink 1992: 129)

    b. *Waw-yuw-küle-i-m-i.*
      leak-nose-PROG-IND-2-SG
      'You (SG) have a bloody nose.' (Smeets 2008: 319)

    c. *Dewma   puw-trafiya-le,   amu-tu-a-n.*
      finished   arrive.there-evening-3.SBJ go-back-FUT-1SG.IND
      'When the evening has fallen, I shall go back.' (Smeets 2008: 319)

Incorporation may also apply to trivalent verbs, in which case the T argument is the one customarily incorporated and the resulting verb complex is syntactically bivalent. Especially noteworthy is *eludüngun* 'inform, tell (sbdy.)' (*elu-* 'give' + *düngun* 'matter, issue'):

(12) *Elu-düngu-a-fi-n.*
    give-matter-FUT-3P-1SG.IND
    'I will inform him/her of it.' (Augusta 1916: 39)

4. Uncoded alternations

The ambitransitives *trafon / watron* 'break' and *wirarün* 'scream, shout (at)' were already mentioned in 3.3 above. The verb of melting strictly distinguishes valency following the default Mapudungun pattern (*lluwün* is patientive monovalent and *m*-causativized *lluwümün* is bivalent), and others do so following a pattern possibly calqued from Spanish, e.g. reflexivized *ngülawün* is patientive monovalent 'open' while underived *ngülan* is either bivalent or agentive monovalent 'open'. Since Mapudungun has a relatively small amount of labile verbs, it is perhaps not surprising that uncoded alternations are comparatively few as well.

Golluscio (2010: 727f) mentions some verbs that can be used either as bivalent or as trivalent predicates without coded alternations mediating between the two variants. *Kullin* 'pay' is

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[8] The reader is referred to Harmelink (1992), the first in-depth study on the topic, as well as to Smeets (2008: 318f) and Zúñiga (2006a: 181f).

especially interesting in this context, because it can occur either with an unmarked R argument and a [T *mew*] constituent or with unmarked T and R arguments (in that order):

(13) a. *Kulli-fi-n*   *chi*   *wentru*   *tañi*   *waka*   *mew*.
       pay-3P-1SG.IND   ART   man   1SG.PSR   cow   PPOS
    b. *Kulli-fi-n*   *tañi*   *waka*   *chi*   *wentru*.
       pay-3P-1SG.IND   1SG.PSR   cow   ART   man
       Both: 'I paid the man for my cow.' (Golluscio 2010: 728)

    Ramtun 'ask' appears to be different from *kullin*, since it can occur with or without an overt T argument, but not with a [T *mew*] constituent. *Ngillatun* 'pray, beg, request' also differs from these two cases. First, it is derived (cf. *ngillan* 'buy'; *ramtun* might be historically derived, but there is no underived **ramün* in the present-day language). Second, Golluscio (2010: 729) provides data showing that it can be monovalent (e.g. *ngillatu-n iñche* 'I prayed'), bivalent (*ngillatu-a-fi-m-i chaw* 'you (SG) shall pray to your father'), or trivalent (14b). Nevertheless, there seems to be variation here as well; Golluscio cites sentence (14b) (from Augusta 1916) with unmarked T and R arguments, but the same source also mentions a version with [T *mew*] and the same constituent order alternation we saw for *kullin* 'pay' in (13) above:

(14) a. *Ngillatu-a-n*   *kiñe*   *rosario*   *padre*   *mew*.
       ask-FUT-1SG.IND   one   rosary   priest   PPOS
       'I will ask a rosary from the priest.' (Augusta 1916: 62)

    b. *Ngillatu-fi-n*   *püchi*   *kachilla*   *tañi*   *püñeñ.*
       ask-3P-1SG.IND   little   wheat   1SG.PSR   child.of.woman
       'I (F) asked my son for some wheat.' (Golluscio 2010: 729)

    c. *Ngillatu-ñma-e-n-mew*   *ñi*   *rosario*.
       ask.for-APPL2-INV-1SG.IND-3A   1SG.PSR   rosary
       'S/he asked me for my rosary.' (Augusta 1916: 62)

    Golluscio's last example, viz. the pair *aretun* 'borrow, rent' and *arelün* 'lend', is more complicated. The underived predicate *aren* 'get/be hot' exists but is an unlikely root for the verbs just mentioned. Augusta (1916) also mentions *aretun*, which appears to be ambiditransitive, as Golluscio says—but note (15c), where the R participant is integrated into the clause via applicativization instead:

(15) a. *Aretu-a-n*   *kiñe*   *kareta*.
       borrow-FUT-1SG.IND   one   wagon
       'I'll borrow a wagon.' (Augusta 1916: 11)

    b. *Aretu-fi-n*   *kareta*   *tañi*   *chaw*.
       borrow-3P-1SG.IND   wagon   1SG.PSR   father
       'I borrowed a wagon from my father.' (Golluscio 2010: 729)

    c. *Aretu-ñma-a-fi-n*   *ñi*   *kawell*.
       borrow-APPL2-FUT-3P-1SG.IND   1SG.PSR   horse
       'I will ask him/her for his/her horse.' (Augusta 1916: 300)

In addition, Augusta mentions two related verbs meaning 'lend', viz. *arelün* and *arengelümün*, but he notes that the former means 'lend (sthg.) to (sbdy.)' while the latter means 'lend (sthg.)':

(16) a. *Arel-fi-n*   *pülata.*
        lend1-3P-1SG.IND   money
        'I lent him/her money.' (Augusta 1916: 11)

     b. *Arengelüm-ke-la-n*   *pülata*   *mapunche*   *mew.*
        lend2-HAB-NEG-1SG.IND   money   M.   PPOS
        'I do not lend money to the Mapuche.' (Augusta 1916: 11)

Arelün can appear either without the DOMr *-fi* and only with an overt T argument in the clause, in which case it is syntactically monovalent, or with *-fi*, as in (16a) above, in which case it is trivalent. With respect to *arengelümün*, my consultants rejected attempts to accommodate an unmarked R argument with this verb without applicativization. If all these predicates are built on a root **are-* that no longer exists in the language, it is not evident what the meaning of such a root might have been. Assuming *arengelümün* is not anomalous with respect to the linear order of its elements, **are-* should have been monovalent for it to be passivizable via *-nge*, and then a causative/applicative *-l* and a causative *-m* would have been added, but such a derivational process is clearly unattractive on semantic grounds if the compositionality principle is supposed to hold. Alternatively, one could hypothesize that the transitivizers are suffixed to the stem **areng-* instead of **are-* (analogously to the opposition between underived <u>la</u>- 'die' and causative <u>lang</u>-*m-* 'kill', cf. 5.3 below), in which case (i) the underived root **are-* possibly meant 'go as a loan', (ii) the *l*-causativized stem *are-l-* originally meant 'lend' (lit. 'cause to go as a loan'), and (iii) the *m*-causativized stem *areng-l-m-* originally meant 'borrow' (lit. 'cause to lend'), with the root extension from *are-* to *areng-* perhaps triggered by *-m.*

5. Coded alternations

5.1   Reflexives and reciprocals

There is a morphological reflexive/reciprocal suffix *-w* (*-uw* after nonvowels) that occurs (i) only marginally with monovalent predicates (possibly a calque of telicizing *se* in Spanish), (ii) regularly with bivalent verbs of relevant semantics (where the A argument is interpreted as coreferential with the P argument), and (iii) somewhat restrictedly with trivalent verbs (where the A argument is interpreted as coreferential with the R argument). Thus, both *leliwün* 'look at oneself, look at each other' (< *lelin* 'look at') and *eluwün* 'give (sthg.) to oneself, give (sthg.) to each other' (< *elun* 'give') are felicitous, but *müntuwün* (< *müntun* 'take away') and *areluwün* (< *arelün* 'lend') only admit the reciprocal interpretations 'take away from each other' and 'lend to each other' respectively. See Golluscio (2010: 742f) for more details.

5.2   Passives

Mapudungun passives are obligatorily agentless. The verb takes the suffix *-nge* and indexes via person-number morphology the P argument of bivalent verbs and the R argument of trivalent predicates. Whether the passivized stem is derived or nonderived, neither DOM nor inverse morphology can appear on the verb form. Examples follow:

(17) a. *Elu-nge-n*   *epu*   *waka.*
        give-PASS-1SG.IND   two   cow
        'I was given two cows.'

b. *Pedro   ngilla-l-nge-i-Ø   kiñe   kawell.*
  P.   buy-APPL1-PASS-IND-3   one   horse
  'Pedro was bought a horse.'

Augusta (1903: 60) mentions infrequent instances of *-nge* applied to monovalent predicates—which would favor Salas's (2006: 116) characterization of this suffix in terms of 'indeterminate agentive 3rd person' instead of passive marker—, as in *kom a̲n̲t̲ü̲ ülkantu-nge-ke-i-Ø tiechi ruka mew* (all day sing-PASS-HAB-IND-3 that house PPOS) 'people sing all day long in that house'. Some of my consultants were indecisive as to the acceptability of such forms while others simply rejected them; more research is needed here.

5.3   Causatives

I follow Golluscio (2007, 2010) here in distinguishing low-control causative *-m* from high-control causative *-l*. Both apply to monovalent verbs, the former usually deriving bivalent change-of-state predicates (e.g. *afümün* 'cook (sthg.)' < *afün* 'cook') and the latter typically deriving bivalent activities performed by human/animate participants (e.g. *küdawelün* 'make (sbdy.) work' < *küdawün* 'work', *ayelen* 'make (sbdy.) laugh' < *ayen* 'laugh').

The morphology of these two causative is quite diverse. The suffix *-m* (which expectedly appears with epenthetical *ü* after nonvowels) triggers fortition in stem-final *f* and *g*, e.g. *lepümün* 'make run' < *lefün* 'run', *nakümün* 'lower' < *nagün* 'descend', possibly suggesting old age. By contrast, *-l* habitually appears as *-el* after non-vowels, does not trigger any morphophonemic changes in its environment, and is apparently the same suffix *-l* as one of the applicatives (cf. 5.4). (Nevertheless, the expected *-ül* does appear with some determined predicates.)

Golluscio (2010: 717-718) mentions that *l*-transitivization may have a contextually determined reading—i.e., it is interpreted as either causative or applicative—with monovalent bases, e.g. *küdaw-l-* 'make (sbdy.) work / work for (sbdy.)' and *aye-l-* 'laugh at / make (sbdy.) laugh'. To judge from Augusta's (1903) presentation and my consultants' responses, I tend to believe that this dual nature of *-l* is a relatively recent phenomenon and not merely a recently discovered one: fluent elderly speakers apparently tend to reject the applicative reading of *l*-transitivized monovalent verbs significantly more often than younger (typically more educated) ones.

A few verbs of the questionnaire are *m*-causatives, viz. *llumümün* 'hide (sthg.)' < *llumün* 'hide', *l̲a̲ngümün* 'kill' < *l̲a̲n* 'die' (with an unexpected, and unexplained, *ng* segment), and *afümün* 'cook (sthg.)' < *afün* 'cook'. The other derived bivalent predicates in the sample are *l*-causatives: *apolün* 'fill (sthg.)' < *apon* 'fill', *küpalün* 'bring' < *küpan* 'come', *amulün* 'send' < *amun* 'go', and *trupefülün* 'frighten' < *trupefün* 'become frightened'.

5.4   Applicatives

Four major operations in the language allow a nonagentive participant that is not a base core argument of the predicate to appear as an applied core argument. Two of them are instances of suffixation: *-l* (and its allomorphs) and *-ñma* (and its allomorphs). The other two are instances of root serialization: the functional root following the main root is either *tu-* 'take, get' or *ye-* 'carry, bring'.

What I will label applicative1 here is usually interpreted as having a benefactive yield, or at least as implying that the (base) T argument will approach the (applied) R argument. In (18), however, the applied argument *karüpotro* is the name given to the base argument *keshkesheñ üñüm*

'k. bird', which is the primary object in the applicativized clause (i.e., it is coreferential with the verbal DOMr -*fi*):[9]

(18) *Pu*　　*mapuche*　*üytuntuku-lel-fi-i-Ø*　　　　*keshkesheñ*　*üñüm*　*karüpotro.*
　　 PL　　 M.　　　 name-APPL1-3P-IND-3　　　 k.　　　　 bird　 k.
　　 'The Mapuche call the *keshkesheñ* bird *karüpotro*.' (Augusta 1916:273)

As mentioned in 5.3 above, the use of -*l* to applicativize monovalent bases has been reported in the literature; it is customarily found with bivalent bases, and it is not difficult to find cases of underived trivalent bases applicativized with -*l* (19). *L*-applicativization of derived trivalent bases seems to be relatively marked, but it is found as well.

(19) *Elu-l-fi-n*　　　　　　　*sañchu*　*tañi*　*weṉüy*　*tañi*　*foṯüm.*
　　 give-APPL1-3P-1SG.IND　 pig　　 1SG.PSR　friend　 1SG.PSR　son.of.man
　　 'I (M) gave my son's friend a pig.' (Golluscio 2010: 737)

The allomorphy of applicative -*l* is intricate; the suffix can appear as -*el*, *ül*, and even as -*lel*, under specific phonological and lexical conditions. Golluscio (2010) prefers to treat -*lel* as a different applicative altogether. There is indeed some evidence supporting such an analysis, e.g. *tuku-* ~ *tuku-l-* 'put, cover (sthg.)' (where -*l* is valency-neutral) vs. *tuku-lel-* 'put, cover (sthg.) for (sbdy.)' (where -*lel* is a clear applicative) and *küdaw-l-* 'work for (sbdy.) / make work' (where -*l* is arguably an underspecified transitivizer) vs. *küdawl-lel-* 'work for (sbdy.)' (where -*lel* is a clear applicative). The facts are more complicated, however; despite Golluscio's claim that "-*lel* never functions as a causative marker" (2010: 719), both Augusta (1916: 65) and my consultants agree that with some verbs it can be, e.g. *i-lel-* 'feed' (< *i-* 'eat'). See Zúñiga (2009, 2010a, forthc., i.p.) for more details.

　　Applicative2, by contrast, is widely used to applicativize avalent and monovalent bases; its use with bivalent bases is frequent, and both underived and derived trivalent verbs take it as well. When applied to bivalent verbs, its yield can usually be interpreted as malefactive, or at least as separative, especially when it contrasts with applicative1:

(20) a. *Ngilla-lel-fi-n*　　　　　 *Juan*　*ñi*　　*kawellu.*
　　　 buy-APPL1-3P-1SG.IND　 J.　　 3.PSR　 horse
　　　 'I bought a/the horse for / in order to give it to Juan.'

　　 b. *Ngilla-ñma-fi-n*　　　　 *Juan*　*ñi*　　*kawellu.*
　　　 buy-APPL2-3P-1SG.IND　 J.　　 3.PSR　 horse
　　　 'I bought a/the horse from / on Juan.'

With derived trivalent verbs, -*ñma* seems to be the preferred applicativizing option and does not seem to have a clearly benefactive or malefactive interpretation:

(21) a. *Weñe-ñma-ñma-nge-i-m-i*　　　　　 *waka*　*tami*　　 *foṯüm.*
　　　 steal-APPL2-APPL2-PASS-IND-2-SG　 cow　　 2SG.PSR　 son.of.man
　　　 'They stole your (M.SG) son's cow.' (Salas 2006: 124)

　　 b. *Küpa-l-el-ma-nge-i-m-i*　　　　　　　 *kuram*　*tami*　 *ñuke.*
　　　 come-CAUS-APPL1-APPL2-PASS-IND-2-SG　 egg　　 2SG.PSR　 mother
　　　 'They brought eggs to your (SG) mother.' (Salas 2006: 124)

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[9] The bivalent verb *üytuntukun* 'name (sthg.)' is morphologically complex and consists of *üy* 'name' plus the infinitive *tun* 'take' and the root *tüku-* 'put, cover', but this is irrelevant for the suffixation of applicative -*lel*.

With avalent and monovalent verbs, it has received separate treatment by other authors (e.g. Salas's 2006 "participative" and Smeets's 2008 "experience"). Even though the allomorphy conditions are admittedly more complex than with *-l*, there is enough evidence to regard the formative *-ma* (~ *-(ü)ñma*) found with avalent and monovalent verbs as allomorph of the formative *-(ü)ñma* (~ *-ma*) found with bivalent and trivalent verbs (cf. Zúñiga 2009, 2010b, forthc.). The most important difference between them is that, in many cases, verb valency is not increased in a straightforward fashion but redirected instead; the applied PA is the new participant, and the original (3rd person) participant can appear as overt and unmarked NP in the clause, but without indexing on the verb:

(22) a. *Iñche aku-ñma-n   kiñe küme dungu.*
   1SG arrive.here-APPL2-1SG.IND one good matter
   'I received a nice message.' (Smeets 2008: 302)

  b. *Iñche af-ma-n   kofke.*
   1SG end-APPL2-1SG.IND bread
   'I ran out of bread.' (Smeets 2008: 302)

  c. *Iñche kon-ma-n   trüfür ñi   nge mew.*
   1SG enter-APPL2-1SG.IND dust 1SG.PSR eye PPOS
   'I got dust in my eye.' (Smeets 2008: 302)

  d. *Femngen kon-ma-a-i-i-u   ale.*
   thus   enter-APPL2-FUT-IND-1-DU moonlight
   'Thus the moon will start shining (before our (DU) work is finished).'
   (Augusta 1916: 94)

With other monovalent verbs, the resulting predicate is a run-of-the-mill derived bivalent verb:

(23) a. *Chadi-ñma-fi-n   ti katrü-n ilo.*
   salt-APPL2-3P-1SG.IND ART cut-NFIN meat
   'I put salt on the piece of meat.' (Smeets 2008: 303)

  b. *Anü-ñma-e-i-Ø-mew   wekufü.*
   sit.down-APPL2-INV-IND-3-3A demon
   'S/he (PROX) was possessed by a demon (OBV).' (Smeets 2008: 303)

The other two applicativizing strategies, viz. those built on *tu-* 'take' and *ye-* 'carry', differ from *-l* and *-ñma* on both formal and functional grounds. First, the base verb root forms a complex verb stem together with one of these roots, which show no allomorphy whatsoever. Second, they have a much more varied syntactic yield. With some verbs, *tu-* and *ye-* are arguably both valency-neutral and meaning-neutral (e.g. *kakünu(-tu-)n* 'change (sthg.)', *dewma(-ye-)n* 'make'); sometimes they might show some semantic yield (e.g. *ñidüfün* 'sew' vs. *ñidüftun* 'mend', *pen* 'see' vs. *peyen* 'picture'); *tu-* is reported by Augusta (1916) to detransitivize some verbs, but present-day speakers do not seem to consistently interpret such alternations the way he predicts. Third, when they do increase verb valency they have fairly specific (and restricted) semantic effects. *Tu-* basically adds goal SAs to monovalent verbs of motion (e.g. *kontun* 'go to (sbdy.)'s place', from *konün* 'enter') and stimulus SAs to monovalent psych verbs (e.g. *illkutun* 'get angry at', from *illun* 'get angry). In turn, *ye-* typically adds topics of speech/thought to monovalent verbs (e.g. *dunguyen* 'speak about', from *dungun* 'speak').

6. Conclusions

Like in many other languages, the number of Mapudungun avalent verbs and underived trivalent verbs is relatively small. The language is basically transitivizing (Nichols et al. 2004), with several valency-increasing operations applying to underived verbs in order to accommodate causers, as well as to both underived and derived verbs to accommodate different nonagentive participants. While it is apparent that the causatives partition the Mapudungun lexicon in a systematic way, it is not yet clear to which extent the applicatives do so as well. Productive alternations between coding frames are typically coded on the verb; applicatives derived via suffixation are more productive—although not necessarily always more semantically regular—than those derived via root serialization and causatives. On the inflectional side, the semantic and pragmatic principles governing the inverse system and differential object marking regulate the way matrix clauses function, without any clear tendencies with respect to skewings related to predicate class, or even to individual predicates.

Spanish—with which it has been in contact for the last four centuries—is markedly different: transitive-ditransitive alignment is indirective/neutral in Spanish, whereas it is secundative in Mapudungun. Moreover, Spanish is basically detransitivizing and has an anticausativizing derivation, as well as pervasive use of constructions with datively coded nonbase participants instead of the causative and applicative strategies of Mapudungun. Even though Spanish prepositions like *a, de,* and *en* cover a wide range of spatial and nonspatial meanings and can be used to accommodate nonbase participants in three-participant clauses, there is no direct equivalent of the highly unspecified Mapudungun postposition *mew*—which is used rather rarely to introduce nonspatial participants—in that language. The anticausative use of reflexive morphology is not only limited in Mapudungun but also possibly a comparatively recent calque from Spanish. Interestingly enough, Mapudungun is like Spanish, and unlike English, in that labile verbs (especially change-of-state ones like those corresponding to *break* and *melt*) are relatively few. Uncoded alternations of the type *load hay onto the wagon* vs. *load the wagon with hay* are present in Spanish if one regards the dative participants as comparable, but they are infrequent in Mapudungun.

Abbreviations

AND andative, APPL applicative, ART article, CAUS causative, CIS cilsocative, DOMr differential object marker, DU dual, F future, FUT future, HAB habitual, IND indicative, INV inverse, INTER interruptive, M masculine, NEG negative, PA primary argument, PASS passive, PFV perfective, PL plural, PPOS postposition, PROG progressive, PSR possessor, SA secondary argument, SAP speech act participant, SBJ ssubjunctive, SG singular, TEL telic, TRANS translocative, VBLZ verbalizer

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