Mapping Halkomelem Causatives

Donna B. Gerdts
Simon Fraser University

1. Causatives[1]

In morphological causative constructions in Halkomelem, a Salish language of southwestern British Columbia, the causative suffix can be added to a verb base to yield a causative form, as in (1).

(1) ʔiməš-stəxʷ 'make (s.o.) walk', nəʔém-əstəxʷ 'make (s.o.) go; take', ʔəmət-stəxʷ 'have (s.o.) sit down', ʔəmʔí-stəxʷ 'make (s.o.) come; bring', qaʔqaʔ-stəxʷ 'have (s.o.) drink'

The verb bases in (1) are intransitive, and thus are used in clauses with one argument, such as (2):

(2) ni   ʔiməš   tᶿə swiwʔləs
     aux   walk   det boy
     'The boy walked.'

The causative form commonly appears in a transitive sentence, where the causer is the first argument and the causee is the second argument, as in (3) and (4).

(3). ʔi   cən   ʔiməš-stəxʷ   tᶿə swiwʔləs
      aux   1sub   walk-cs+tr+3obj det boy
      'I made the boy walk.'

(4)   ʔi   ʔəmʔi-sθám ʔš-əs   θə słéniʔ
      aux   come-cs+tr+1obj-3erg   det woman
      'The woman made me come.'/'The woman brought me.'

As in many languages, the Halkomelem causative is severely constrained as to what other types of morphology can appear inside and outside it. In the discussion below, I give data showing the distribution in (5):

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(5)

	Inside Causative	Outside Causative
Transitive	no	yes
Passive	no	yes
Antipassive	yes	no
Reflexive	yes	yes
Applicative	no	no

If a theory of morphosyntax seeks to account for Halkomelem and other languages with a similar pattern of causatives, the challenge is not only to provide an analysis of the basic causative construction, but also to make correct predictions concerning the range of morphology with which the causative co-occurs.

This paper treats Halkomelem causatives from the point of view of Mapping Theory (Gerdts 1992, 1993). This theory gives an analysis of clause structure centered on the concept of morphosyntactically-licensed argument positions, henceforth MAPs. Under my analysis, the causee nominal plays a dual role in the relational structure: it is both the 2 of the causative and the 1 of the verb base. Furthermore, I claim that, in Halkomelem, this nominal must be mapped (i.e. must be a core argument). This requirement, together with the claim that Halkomelem is a two-MAP language and the analyses for passives, antipassives, reflexives, and applicatives already proposed for Halkomelem in Gerdts (1993), predicts the distribution of causative structures in (5).

The crux of this analysis is the condition on Halkomelem causatives that the causee must be mapped. I claim that this is not a universal restriction but rather is parameterized. I briefly contrast Halkomelem with another two-MAP language, Ilokano. Ilokano lacks the condition on mapping the causee, and consequently has a very different pattern of causatives.

Finally, I briefly contrast the Mapping Theory analysis of Halkomelem causatives with two other relational analyses. The other treatments are unable to account for the full range of data without resorting to ad hoc stipulations. Therefore, I conclude that the Mapping Theory view of causatives is an improvement over previous analyses.

2. Mapping Theory

Originally conceived as a morphological component to augment Relational Grammar, Mapping Theory provides an alternative means for stating generalizations that would refer to the concept of final level in RG. Mapping Theory consists of several modules and rules for relating one module to another. Four perspectives on a nominal are encoded. First is its thematic relation. Second is its grammatical relation, corresponding to its initial grammatical relation in RG. The relations are ordered according to the standard RG hierarchy of 1 > 2 > 3 > oblique. Third is its MAP. Nominals associated with a MAP are direct arguments. They get core morphosyntactic marking: that is, they determine agreement, license structural case, or appear in a configurationally determined word order. MAPs are hierarchically arranged according to a case/agreement hierarchy. Fourth is its

morphosyntactic presentation.

The Halkomelem transitive clause in (6) is given the representation in (7).

(6)   ni   q'ʷaqʷ-ət-əs   tθə swəy?qe?   tθə spe?əθ
         aux   club-tr-3erg   det man   det bear
         'The man clubbed the bear.'

(7)   thematic relations: agent   theme
         grammatical relations: 1   2

                           | |
         MAPs: A   B
         presentation: 3erg/no case   no case

There are two lexically subcategorized nominals in (6)—the agent and the theme. Each bears a term grammatical relation in initial structure and is linked to a MAP. MAPs are ordered positions (represented here as A, B) linked to morphological presentational statements. For example, some of the presentation rules for Halkomelem are given in (8).[2]

(8)   agreement: A = subject pronominals, e.g. cən '1st person clitic'
                                  -əs '3rd person suffix' (iff B)
                B = object suffixes, e.g. -sám?š '1st person suffix'
         nominals: A and B = no marking; others = preposition ?ə

In any given clause, we assign the number of MAPs based on three things: the lexical semantic valence of the verb, MAP-reducing or -building morphology, and the MAP thresholds set for the language (that is, the maximum and minimum number of MAPs allowed). Halkomelem, as claimed in Gerdts (1992, to appear), is a two-MAP language, and thus only A and B are available for linking.

The universal principles for linking GRs to MAPs are given in (9).

(9)   Saturation Principle: every MAP must be linked to a GR or cancelled.
      Biuniqueness Principle: (except in cases of coreference) a MAP is linked to at most one GR and every GR is linked to at most one MAP.
      No Delinking Principle: there are no "delinkings".

Two types of associations are recognized in the theory. Unmarked associations proceed in a vertical, non-crossing, left-to-right fashion. Marked associations, however, may involve non-vertical linkings, the linking of an "extra" nominal not lexically subcategorized by the verb, the non-linking of a nominal, or a special stipulation concerning a linked nominal. Marked associations are generally correlated with specific morphological forms. A statement of the conditions on these forms and their effect on argument structure is the biggest task of a mapping

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[2]See Gerdts (1988) for details of the presentation structure of Halkomelem. The presentation level will also involve co-occurence restrictions, which may refer to the semantic and grammatical properties of the mapped elements. For example, Halkomelem has the following constraint: *A = 3rd person, B = 2nd person.

grammar.[3]

2.1. Mapping Causatives

Mapping Theory has only one level of relational structure at its disposal. Thus, causatives present a special challenge, since most theories analyse them as multi-level structures in order to accommodate the arguments of both the causative and the base predicate. I will assume, following Alsina (1992) and others, that a lexical rule is responsible for morphological causatives of the type found in Halkomelem, where there is no evidence that the causative morpheme is a higher verb. This rule will provide for the concatenation of the arguments of the causative and base predicate. The core claim of this rule is that one of the nominals has a double function, bearing a grammatical relation with respect to each predicate. A single nominal is both the causee and the agent of the base predicate.[4] Within Mapping Theory, this can be captured by assigning this nominal a dual grammatical relation, even though it is linked to only one MAP. Thus, a causative such as (10) based on an intransitive stem—see (11a)—is represented as in (11b).

(10)   ni   nə?ém-əstəxʷ-əs   kʷθə swəy?qe? kʷθə swiw?ləs
        aux go-cs+tr+3obj-3erg   det man   det boy
        'The man made the boy go.'/'The man took the boy there.'

(11a)	agent	(11b)	causer	causee/agent
	1		1	2=1
	|		|	|
	A		A	B

The relations assigned to these arguments will form a single row in the mapping analysis, and thus the GR level will be monostratal . The Mapping Theory equivalent of the traditional notion of embedded clause is the reuse of core GRs (1, 2, 3) after an equal sign. Thus, there are two 1s in (11b).[5] I will refer to elements before the equal sign and the morphology associated with them as "outside" the causative and I will refer to elements after the equal sign and the morphology associated with them as "inside" the causative.[6]

It should be noted that the analysis for causatives represented in (11b) is appropriate for those languages referred to as two-MAP languages in Gerdts (1992)

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[3]Henceforth I give simplified representations showing only the linking of GRs to MAPs.

[4]Since "agent" is specifically mentioned here, causatives on unaccusatives, which do not have an agent nominal, are ruled out. This is the correct prediction for Halkomelem, as Gerdts (1991) discusses.

[5]The Stratal Uniqueness Law (SUL) of Relational Grammar can be said to apply to the level of GRs in Mapping Theory. In causatives and other structures with relationally embedded clauses, each equal sign will introduce a new domain for the application of the SUL.

[6]The terms inside and outside are used since the order of the morphology conforms to the Satellite Principle (Gerdts 1988), the relational equivalent of the Mirror Principle (Baker 1985).

(see 12a); three-MAP languages (12b) may use (11b) for causatives of intransitives but use another pattern, not discussed here, for causatives of transitives.

(12) a. Two-MAP languages (A, B): causee of transitive causative mapped to B.
     Arabic, Blackfoot, Chamorro, Halkomelem, Ilokano, Nubian, Tzotzil
   b. Three-MAP languages (A, B, C): causee of a transitive causative mapped to C.
     Albanian, Georgian, Polish, Southern Tiwa, Turkish, Warlpiri

Furthermore, I claim that many two-MAP languages, including Halkomelem, have the following condition on causative structures:

(13) **Mapped Causee Condition:**
     The 2=1 nominal must be mapped.

This condition requires that the causee be mapped, i.e. be assigned a MAP in the causative construction.

The Mapped Causee Condition, taken together with the claim that Halkomelem is a two-MAP language, accounts for the prohibition of causatives formed on transitives, as in (*14):

(14) *ni   can   q'ʷál-ət-stəxʷ   kʷθə səplíl   ʔə ɬə sɬéniʔ
     aux   1sub   bake-tr-cs+tr+3obj   det   bread   obl det woman
     'I had the woman bake the bread.'

As seen in the analysis for (14) given in (15), there are three nominals competing for two MAPs.

(15)   1   2=1 _____ 2
                        | ╱
                        A   B

If the theme is assigned the B MAP and the causer the A MAP, then the causee will fail to map, given the biuniqueness principle in (9). The structure in (15) violates the Mapped Causee Condition (13).[7]

Causatives of transitives are also ungrammatical in Halkomelem if the causee is mapped and the 2 is not :

(16) *ni   can   q'ʷál-ət-stəxʷ   ɬə sɬéniʔ   ʔə kʷθə səplíl
     aux   1sub   bake-tr-cs+tr+3obj   det woman   obl det   bread
     'I had the woman bake the bread.'

(17)   1   2=1   2
                        | |
                        A   B

---

[7]Structure (18) will, however, be possible in languages without the Mapped Causee Condition, provided that the language has some means for licensing a 2=1 that is not linked.

Such data are ruled out because, as Gerdts (1993) discusses, the transitive marker *-t* signals that the 2 is linked. Since *-t* appears inside the causative, the inside 2 must be linked. It is not, so the form is ungrammatical.

In summary, we see a difference between intransitives and transitives inside causatives. This difference is explored further in the following sections.

2.2 Passives and Causatives

The crux of a universal rule for passives (Gerdts 1993) is that the first GR, typically a 1, is not linked. In addition, one or more MAPs may be cancelled, as specified in the grammars of individual languages. In Halkomelem, an A MAP is generally cancelled:

(18) **Passive:** do not link the 1, and, in Halkomelem, cancel an A MAP under the 1, if there is one.

Thus, in the Halkomelem passive, the sole argument is linked to the B MAP, as represented in (19); GRs that are not linked and MAPs that are cancelled are in shadow style.

(19)   1   2

                             |

          A   B

For example, (20) shows a transitive clause with the 2nd person theme as an objective suffix, and (21) shows its passive.

(20)   ni   cən   ləm-əθamə
       aux   1-sub   look-tr+2obj
       'I looked at you.'
(21)   ni   ləm-əθa·m   ʔə ɫə   sɫeniʔ
       aux   look-tr+2obj+intr   obl det woman
       'You were looked at by the woman.'

In the passive in (21), the 2nd person theme, which tests to be the sole direct argument of the clause, likewise appears as an objective suffix. This fact is accommodated by the structure in (19).

This analysis of the passive, together with the analysis for the causative given above, would yield a structure for a passive inside a causative as in (22).

(22)   1   2=1   2   *passive + causative

             | ⟋

          A   B

The inside 1 is not linked. No MAPs are cancelled, however, since there is no A

MAP under the inside 1. The 2 links to B and the causer links to the A MAP, as expected. The structure in (22), however, does not obey the Mapped Causee Condition, and, as (23) shows, therefore is not allowed in Halkomelem.

(23)   *ni cən   q'ʷəl-ət-əm-stəxʷ   t⁰ə səplíl   ʔə θə sɬéniʔ
       aux 1sub   bake-tr-intr-cs+tr+3obj   det bread   obl det woman
       'I made the bread be baked by the woman.'

In contrast, it is possible to have a passive outside of a causative, as in (24).

(24)   ʔi   ʔəmʔí-st-əm   t⁰ə swiwʔləs
       aux   come-cs+tr-intr   det boy
       'The boy was made to come.'

As seen in the representation in (25), the outside 1 is not linked and the A MAP below it is cancelled.

(25)   1   2=1   *causative + passive*

                              |
                  A   B

The causee is free to link to the B MAP, thus satisfying the Mapped Causee Condition.

2.3 Antipassives and Causatives
The effects of antipassive can be seen by comparing the transitive clause in (6) with the antipassive in (26).

(26)   ni   q'ʷəl-əm θə sɬeniʔ   ʔə t⁰ə sceɬtən
       aux   cook-intr det woman   obl det salmon
       'The woman cooked the salmon.'

The transitive clause in (6) has transitive marking on the verb, ergative agreement, and two plain nominals. The antipassive in (26) has intransitive morphology, no ergative agreement, and the patient nominal is presented with a preposition.

The Mapping Theory rule for antipassive is given in (27), and (26) is represented as in (28).

(27)   **Antipassive**: do not link the 2, and, in Halkomelem, cancel the MAP below the 2, if there is one.

(28)   1   2

                  |
                  A   B

We see in the structure for the antipassive in (28) that the 2 is not linked and that furthermore the B MAP is cancelled .

In (29), we see data involving antipassive inside causative in Halkomelem.

(29)   ni cən   q'ʷəl-əm-stəxʷ   θə sɬéni?   ?ə tθə səplíl
       aux 1sub   bake-intr-cs+tr+3obj   det woman   obl det bread
       'I made the woman bake the bread.'

As can be seen in the structure in (30), the inside 2 is not linked, as required by the antipassive rule.

(30)   1   2=1   2   *antipassive + causative*

                 | |
                 A   B

Since there is no MAP under this GR, no cancellation is necessary. Other linkings proceed in the expected fashion, and, crucially, the causee is linked to a MAP. Thus the structure satifies the Mapped Causee Condition and the sentence in (29) is correctly predicted to be grammatical.

In contrast, sentences like (31), which involve an antipassive outside causative, are ungrammatical in Halkomelem.

(31)   *?i   cən   ?iməš-s(t)-əm   ?ə tθə swiw?ləs
       aux   1sub   walk-cs(+tr)-intr   obl det boy
       'I made the boy walk.'

This is expected given the Mapped Causee Condition and the rule of antipassive. The former requires the mapping of the causee, but the latter requires that the causee, since it is the outside 2, not be linked, as in (32).

(32)   1   2=1   *causative + antipassive*

                 |
                 A   B

Both requirements cannot be simultaneously satisfied by the same nominal.
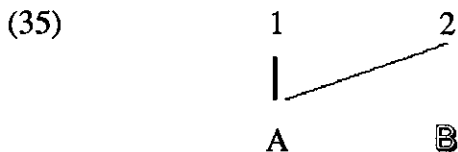
2.4 Reflexives and Causatives

In Halkomelem, as in many languages, reflexives show detransitivization effects (Gerdts 1989). For example, there is no ergative agreement in a reflexive clause like (33).

(33)   ni   k'ʷələš-θət   ɬə Mary
   aux   shoot-tr+ref   det M.
       'Mary shot herself.'

To account for the semantic transitivity of (33), we posit two GRs—1 and 2. To account for its intransitive final structure, we posit multiattachment (following Rosen 1988): the 1 and 2 both link to the A slot. In addition, the B-slot is cancelled.

(34) **Reflexive**: link both a 1 and a 2 to the same MAP and, in Halkomelem, cancel the MAP below the 2, if there is one.

Thus, (33) would be represented as in (35).

(35)

$$
\begin{array}{cc}
1 & 2 \\
| & \diagup \\
A & B
\end{array}
$$

This analysis of reflexives, together with the analysis proposed for causatives, predicts that reflexives inside causatives should be possible. The inside 2 and the inside 1 link to the same MAP—the B MAP:

(36)

$$
\begin{array}{cccc}
1 & 2{=}1 & & 2 \\
| & |\diagup & & \\
A & B & &
\end{array}
$$
reflexive + causative
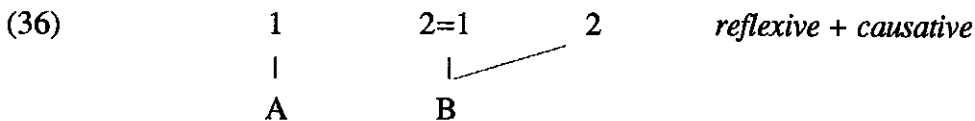
The causee is linked and therefore the Mapped Causee Condition is satisfied. The grammatical data in (37) show the correctness of this prediciton.

(37) ni   cən   k'ʷələš-θət-stəxʷ   łə Mary
     aux   1sub   shoot-tr+ref-cs+tr+3obj   det M.
     ' I made Mary shoot herself.'

Furthermore, reflexive outside causative is also possible, as (38) shows:

(38) ni   cən   ʔitət-stənámət
     aux   1sub   sleep-cs+l.c.tr+refl
     ' I managed to make myself sleep.'/'I pretended to sleep.'

Here the causer and the causee are coreferent and are linked to the same MAP—the A MAP—and the B MAP is cancelled:

(39)

$$
\begin{array}{cc}
1 & 2{=}1 \\
|\diagup & \\
A & B
\end{array}
$$
causative + reflexive
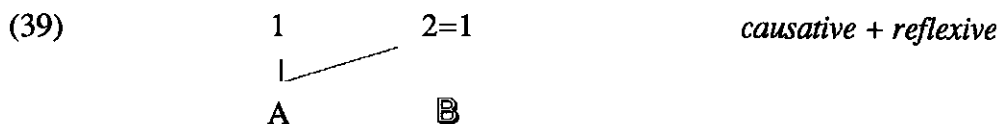
The Mapped Causee Condition is satisfied since the causee is linked to some MAP.

2.5 Applicatives and Causatives

Gerdts (1993) suggests the following universal linking rule for applicatives:

(40)   **Applicative**: add a MAP (up to threshold) and link the 3 or oblique to the lowest MAP.

Take the Halkomelem example in (41), which involves a benefactive applicative.

(41)   niʔ   q'ʷəl-əɬc-θámʔš-əs   ʔə   kʷθə   sce-ɬtən
       aux   bake-ben-tr+1obj-3erg   obl   det   salmon
       'He baked the salmon for me.'

Since (41) is lexically transitive and Halkomelem is a two-MAP language, MAPs A and B are available for linking. The applicative cannot add a MAP, since the threshold in Halkomelem is two. Nonetheless, the oblique links to the lowest MAP, i.e. B, as (42) shows.

(42)   1   2   OBL

                   | ⟋
                   A   B

In sum, the crucial feature of an applicative is that some oblique nominal will be mapped. Given this, we do not expect causative and applicative to be compatible in a language like Halkomelem, which requires the causee to be mapped, since three nominals—the causer, the causee, and the oblique—would be competing for two MAPs. Sentences such as (43) are, in fact, ungrammatical.

(43)   *niʔ   q'ʷəl-əɬc-stámʔš-əs   ɬə Mary   ʔə   kʷθə   sce-ɬtən
       aux   bake-ben-cs+tr+1obj-3erg det M.   obl   det   salmon
       'He made Mary bake the salmon for me.'

Since the rule for applicative requires the oblique to be mapped, as in (44), the causee will fail to link, in accordance with biuniqueness (9), and the Mapped Causee Condition will be violated.

(44)   1   2=1   2   OBL   *applicative + causative*

          | ⟋
          A   B

2.6 Other Combinations

Of course, other rule combinations will satisfy the requirements of more than one marked association without violating the linking principles of (9) or the Mapped Causee Condition. These are too numerous to detail here, but, to give two examples, (45) involves antipassive, causative, and passive, as represented in (46), and (47) involves antipassive, causative, and reflexive, as represented in (48).

(45)   ni   q'ʷəl-əm-st-əm   θə sɬeniʔ   ʔə tθə səplíl
       aux   bake-intr-cs+tr-intr   det woman   obl det bread
       'The woman was made to bake the bread.'

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(46)　　　　1　　2=1　　2　　　　　*antipassive + causative + passive*

　　　　　　　　　　|

　　　　　　A　　B

(47)　ni　　cən　　qaʔ-stənə́mət　　　　ʔə　kʷθə　qaʔ
　　　aux　1sub　drink(intr)-cs+l.c.tr+refl　obl det　water
　　　'I managed to make myself drink the water.'
　　　/'I pretended to drink the water.'

(48)　　　　1　　2=1　　2　　　　　*antipassive + causative + reflexive*

　　　　　　A　　B

In (46), the 2 is not linked, as required by antipassive, and the 1 is not linked, as required by passive. Furthermore, as appropriate for Halkomelem, the A MAP cancels and the causee links to the B MAP. In (48), the 2 is not linked, as required by antipassive, and the outside 1 and 2 are multiattached to the A MAP, as required by reflexive. In these examples, all of the appropriate conditions for marked associations—antipassive, passive, or reflexive—as well as the Mapped Causee Condition are satisfied.

In sum, the Mapping Theory account of Halkomelem causatives not only accommodates the basic data but also correctly predicts the range of co-occurrence of the causative and other marked associations of the language.

3. The Mapped Causee Parameter

Given the Mapping Theory rules for marked association in Halkomelem, interactions of causatives with passives, antipassives, reflexives, and applicatives were predicted by means of two key devices. First, I have claimed that Halkomelem is a two-MAP language. This claim is quite independent of the present discussion on causatives. Halkomelem has the inflectional features, accessibility to rules, and marked associations that typify a two-MAP language (cf. Gerdts 1992). Because only two MAPs are available in causative structures, structures that require the linking of several nominals will necessarily be prohibited from being expressed as causatives.

Second, I have claimed that Halkomelem is subject to the Mapped Causee Condition: one MAP in a causative is necessarily assigned to the causee. Thus, the various marked associations that require that other nominals must be linked to a MAP or that the causee must not be linked will be blocked from co-occurring with the causative.

The effect of this condition is best illustrated by comparing the pattern of causatives found in Halkomelem with those found in another two-MAP language, Ilokano, which is not subject to the Mapped Causee Condition. Of course, it is outside the scope of the present paper to give a full Mapping Theory analysis of

Ilokano (see Gerdts 1987, in prep.). However, it can be mentioned that the rules of passive, antipassive, and applicative in Ilokano are essentially identical to those of Halkomelem, since they are both two-MAP languages. In (49), I summarize the interaction of causatives and marked associations in Ilokano and Halkomelem.

(49)

	Halkomelem	Ilokano
a. transitive/passive inside causative	no	yes
b. passive outside causative	yes	yes
c. antipassive inside causative	yes	yes
d. antipassive outside causative	no	yes
e. applicative and causative	no	yes
f. double causatives	no	yes

Ilokano data corresponding to (49) are given in (50).

(50) a. P-in-a-basa   ni Juan   ti historia   kaniak.[8]
            cs-pst-read   det John det story   1OBL
            'John let me read the story.' (lit: 'John let the story be read by me.')

      b. Na-pa-birok   ti ubing.
            pst+**pas-cs**-look det child
            'The child was made to look.'

      c. P-in-ag-basa   nak   ni Juan   i-ti   historia.
            cs-pst-**intr**-read   3GEN+1NOM det John obl-det story
            'John let me read the story.'

      d. N-ag-pa-basa   ni Juan   kaniak i-diay historia.
            pst-**intr-cs**-read det John 1OBL   obl-det story
            'John let me read the story.'

      e. Pa-basa-an   ti babai   i-ti   libro   ken-ni Juan ti lalaki.
            cs-read-**appl** det woman obl-det book obl-det John det man
            'The woman had John read the book to the man.'

      f. P-in-a-pa-turog ko diay ubing i-ti   daydiay taraken.
            cs-pst-**cs**-sleep 1GEN   child obl-det   det   maid
            'I had the maid put the child to sleep.'

What is notable about Ilokano causatives is that all combinations of marked associations and causatives are allowed, as seen in the chart in (40). Reviewing the relevant analyses above, we find that all are well-formed according to the general mapping principles in (9). Those that were ruled out for Halkomelem were violations of the Mapped Causee Condition. By proposing that Ilokano is not subject to this condition, we correctly predict that data corresponding to these structures will be allowed.

Furthermore, double causatives, as in (50f), are also possible. These are represented as in (51).

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[8]The passive -ma does not appear inside the causative pa- for morphological reasons.

(51)   1   2=1   2=1   *causative + causative*

              | /
              A   B

Since at most one of the 2=1 nominals is mapped in a double causative, corresponding Halkomelem data (*52) are correctly predicted to be impossible:

(52) *ni cən   nəʔém-stə-stəxʷ   ɬə Mary (ʔə) kʷθə   púkʷ-s
      aux1sub go-cs+tr-cs+tr+3obj   det M.   obl   det   book-3pos
      'I had Mary take her book.'

We see then that the Mapped Causee Condition should be parameterized across languages. Halkomelem is subject to this condition but Ilokano is not.

4. Previous treatments

Having laid out a Mapping Theory treatment of Halkomelem causatives, I will briefly compare this treatment to previous relationally-based analyses. In the standard RG account of Halkomelem causatives proposed in Gerdts (1988), no single condition can rule out all the unacceptable combinations in (49). For example, Gerdts (1988) proposed that causatives can only be built on intransitive forms. Thus antipassive and reflexive morphology can appear inside causative, but transitive and applicative morphology cannot. Furthermore, double causatives are predicted to be impossible. However, the transitivity restriction does not explain why passives cannot appear inside causative. Thus, Gerdts (1988) also posits a downstairs freeze in Halkomelem causatives: the final downstairs 1 must also be the downstairs initial 1. A further restriction is necessary, however, to rule out antipassive outside causative. Thus, three restrictions are required to accommodate the range of data given in (49). Since each of these constraints is stipulated and does not follow from any general properties of languages like Halkomelem, the Relational Grammar treatment misses generalizations available in the Mapping Theory treatment.

A lexicalist account of Halkomelem is also possible (see especially Farrell 1992). We might posit a division of the rules of Halkomelem into two types—lexical and syntactic. Derivational rules such as antipassive would be regarded as lexical, while inflectional rules such as passive would be taken as syntactic. This would allow the statement of a restriction that only lexical rules can appear before causative and only syntactic rules can appear after it. However, this would not account for reflexive (since it can appear either before or after causative) nor for the incompatibility of applicative and causative. Thus, further ad hoc stipulations would be necessary to account for the data. These stipulations would basically amount to a list of forms that can and cannot combine.

I conclude that the Mapping Theory account, which makes crucial reference to the available inflectional positions in Halkomelem—the MAPs—and to the Mapped Causee Condition, provides an insightful analysis of causatives. Futhermore, in

keeping with the spirit of Mapping Theory, my analysis of causatives involves only one level of grammatical relations. The GRs are mapped to a single level of argument structure. The combinations of causative with passive, antipassive, reflexive, and antipassive are also analysed with only two levels of structure. Therefore, I have provided an essentially bistratal account of structures that would involve three or more strata under a standard Relational Grammar treatment.

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