Some issues in the structure and interpretation of clefts in Nłeʔkepmxcin (Thompson River Salish)*

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Clefts in Nłeʔkepmxcin contain a cleft predicate, a focused DP, and a cleft residue. The residue is introduced by a determiner-like element, and its predicate is marked with subordinating morphology; thus, it appears on the surface to be a headless relative clause nominal (a DP). In this paper, I show that cleft residues and headless relative clauses are syntactically distinct. I propose that cleft residues are bare clauses (CPs), and are of semantic type <e,t>. I use these findings to motivate a semantic denotation for the cleft predicate itself. Finally, comparison across the Salish language family provides further support for the proposed analysis.

1 Introduction

In Thompson River Salish, clefts are used to narrowly focus Determiner Phrases (DPs) such as proper names (1). The term “cleft” as I employ it refers to a biclausal structure containing the cleft predicate, čé or ʔe (Kroeber 1997, 1999; Davis et al. 2004 on St’át’imcets and Straits Salish; Koch 2008). In (1), čé introduces the focus (‘FOC’) ɗ Ross. This is followed by a cleft residue e pintəməs, which contains a subordinated clause. In example (1), subordination is indicated by the presence of the special –(ə)məs suffix on the verb (see Kroeber 1997 for further discussion). The cleft residue is introduced by what appears to be a determiner, e, which I gloss as ‘DET’ for now.¹

(1) čé [ɗ Ross]FOC e pint-ə-t-Ø-mus.
CLEFT DET Ross DET paint-DRV-TR-3O-SUBJ.EXTR²
“It was [Ross]FOC that painted it.”

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¹ As we shall see, however, determiners also act as complementizers and as relative pronouns in Nłeʔkepmxcin.
² See Appendix A for a key to abbreviations and symbols used in this paper.
Kroeber (1997:389) claims that “what follows the focus of the cleft is a headless relative clause.” I will challenge this analysis of cleft residues in this paper.

Kroeber has good reason to argue that cleft residues and headless relative clauses are synonymous. Both appear to be introduced by a determiner, and both generally share the same range of subordinating morphology on their verb. For example, the headless relative clause e punmne in (2) is introduced by the determiner e, like the cleft residue in (1).

(2) ?úpi-Ø-Ø-ne xe? [DP e [NP [NP Ø] [CP pún-m-Ø-Ø-ne]]].
    eat-TR-3O-1SG.TS DEM DET Ø find-REL-TR-3O-1SG.TS
    “I ate the (thing that) I found.”

The headless relative analysis of cleft residues is attractive because, as Kroeber (1999: 261-262) has noted, headless relative clause DPs are possible as arguments in non-cleft constructions (eg. 2). Therefore, we don’t have to say anything special about residues in cLEFTs; they are simply another nominal argument. Moreover, there are cases where the cleft predicate can take what are clearly two DP arguments (3a, 3b).

(3) a. če [DP † Éddy]FOC [DP e sisqe?-kt].
    CLEFT DET Eddy DET uncle-1PL.POSS
    “[Éddy]FOC’s our uncle.”

b. če ň xe? [DP k e?-snúkwe?]FOC [DP † Kríš].
    CLEFT Q DEM IRL 2SG.POSS-friend DET Kris
    “Is Chris your friend?”

Thus, the most straightforward analysis of the cleft predicate če or ňe is that it always takes two DP arguments. Under this account, (1) can be restructured as (4).

(4) Cleft residue as a headless relative clause DP (to be rejected)

če [DP † Róss]FOC [DP e [NP [NP Ø] [CP pint-Ø-t-Ø-mus]]].
    CLEFT DET Ross DET Ø paint-DRV-TR-3O-SUBJ.EXTR
    “It was [Ross]FOC that painted it.”

Under this analysis, cleft residue clauses have the same structure as relative clauses: they are headed by an NP (eg. Partee 1975), which, independently, can be null in Salish (Kroeber 1997, Koch 2004, 2006; Davis 2004 on Stát’ (imc)ets). Thus, cleft residue clauses would be argument DPs with a null nominal head (NP), as shown in (4) and figure 1 (Percus 1997 on English
clefts; Davis et al. 2004 on St’át’imcets and Straits Salish nominal predicate constructions).\(^3\)

![Cleft residue clauses as DP subjects (headless relative clauses) (to be rejected)](image)

Figure 1.\(^4\) Cleft residue clauses as DP subjects (headless relative clauses) (to be rejected)

However, in Nłe?łį̓xw̱sncin, cleft residue clauses differ from headless relative clauses in standard verb-argument structures. In the remainder of this paper, I examine the following differences in cleft structures:

(i) cleft structures do not bear transitive marking,
(ii) clefts have rigid post-predicative word order,
(iii) cleft residues are not introduced by the full range of determiners, and
(iv) cleft residues do not have overt NP heads.

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\(^3\) Relative clauses contain a DP gap corresponding to the head of the relative clause. The clause-internal DP fronts (Kroemer 1997, Koch 2004, 2006, 2008; Davis 2004 on St’át’imcets), to the specifier of CP. This movement creates an operator-variable configuration that allows the relative clause to be interpreted as a type $<e,t>$ predicate, via lambda abstraction (Heim and Kratzer 1998; Koch 2008). In figure 1, the gap is the trace of the subject DP. In headless relative clauses, the fronted DP is not visible, but the determiner is spelled out in headed relative clauses. Thus, determiners in Nłe?łį̓xw̱sncin headed relative clauses act like relative pronouns in English.

\(^4\) Tree diagrams are drawn using TreeForm software (Derrick 2006).
These facts suggest that cleft residues are bare clauses (CPs), not nominal arguments (eg. Determiner Phrases).

I then use these findings to motivate a semantics for the cleft predicate in Thompson River Salish, and conclude with a brief comparative look at cleft residue clauses across the Salish family as a way to support the proposed analysis.

2 No transitive marking

As Gerdts (2006) and Gerdts and Hukari (to appear) note, “all syntactically transitive constructions in Salish, i.e. those with two direct nominal or pronominal arguments, take transitive marking.” In this section, I show that clefts do not take transitive marking; I return to the issue in section 6.5.

If clefts take two direct nominal arguments (DPs), then they are the only such Salish construction that does so in the absence of transitive marking.

In Ntle?kepmxcin, transitive verbs are marked with transitivity (eg. TR ‘transitive’ -t- or Ø, or the DRV ‘directive transitive’ -m-, -e- or -ø-) and subject/object agreement morphology (eg. –es in 5a; Thompson and Thompson 1992). Typical transitive verbs can take two overt DP arguments that are introduced by non-oblique determiners e, t, or k. In constructions not marked as transitive, additional DPs are introduced using the oblique marker t(e).

Cleft predicates also take two arguments. The first argument, the focus, is introduced by the determiners e or t, while the second argument, the cleft residue, is introduced by the (apparent) determiners e or k. However, unlike standard transitive structures, cleft predicates bear no transitive morphology (Kroeber 1997). Yet, the arguments of cleft predicates are not introduced by the oblique marker t(e), despite the lack of overt transitive marking.

Example (5a) shows a standard transitive clause, with both subject and object introduced by the determiner e. In the parallel cleft case, both arguments (the focus and the residue clause) are also introduced by e, but the cleft structure is ungrammatical with transitive suffixes (5b). Finally, introducing the cleft clause with oblique t-, like a typical oblique DP argument, is also ungrammatical (5c).

(5) STANDARD TRANSITIVE
a. cu-t-Ø-és e Péter e kāh-s.
   fix-TR-3O-3TS DET Peter DET car-3SG.POSS
   “Peter fixed his car.”

CLEFT [no transitive morphology]

b. * cē-t-Ø-(e)s e Monique e wík-t-Ø-ne.
   CLEFT-TR-3O-3TS DET Monique DET see-TR-3O-1SG.TS
   intended: “It was Monique that I saw.”
CLEFT [no oblique marking]
c.  cē e Monique (*t)e wík-t-Ø-ne.  
   CLEFT DET Monique (*OBL)DET see-TR-3O-1SG.TS
   “It was Monique that I saw.”

However, clausal arguments can be introduced by e or k without
transitive marking on the matrix predicate (Gerdts p.c.; Kroeber 1997; see also
section 6.5). Example (6) shows a clausal argument of the formally intransitive
verb cut ‘think’ being introduced by k, and not by oblique t. I gloss k here as a
complementizer, then, since it heads a clausal argument.

(6) Clausal argument introduced by k

cút k̓n [CP k s-xʍúy-s ték̓t].
think 2SG Q COMP NOM-FUT-3POSS rain
“Do you think it’s going to rain?”  [Kroeber 1997:382, 10b]

While Kroeber (1997:382) reports that he has not found any
complement clauses introduced by e in oblique contexts, I have turned up a few
cases. In (7), the matrix verb sew̓ln ‘ask’ is formally intransitive, and the
following clausal argument is introduced by e.

(7) Clausal argument introduced by e

?e̱ uʔéx kn xeʔ séw-łn e, ...
and PROG 1SG DEM ask-inquire COMP, ...
  [CP e swé̱t us [CP k txʷ-úp
  COMP who 3CONJ COMP buy-INCH
  te cíciʔ te káḥ]].
  OBL new OBL car

“I asked him who bought a new car.”

In (8) and (9), the verbs are formally transitive, but are marked for a
2sg subject and a 1sg object. That is, the complement clauses in these examples
are not marked as arguments of the verb, yet they surface introduced by e and
not oblique t.

(8) piláx-t-sm-e [CP e stéʔ us
tell-TR-1SG.O-2SG.IMP COMP what 3CONJ
  [CP k š-zéy-tn-s ne téwn]].
  COMP NOM-do-INSTR-3POSS in.DET town

“Tell me what’s been going on in town.”
cuném-x-t-sm-e & CP e cí? us thén
say-APPL-TR-1SG.O-02SG.IMP COMP similar 3CONJ how
[CP e x"ú?y us kéx̂om e sʔ"fyt].
COMP FUT 3CONJ dry-TR-3O-IDF.TS DET fruit
“Show me how we’re gonna’ dry the fruit.”

Thus, cleft residues pattern with clausal arguments: both can surface introduced by e or k, and not oblique t, even when they are not formally marked as arguments on a matrix verb. This fact suggests that cleft residues are clauses (CPs) rather than nominal arguments (DPs).

3 Rigid post-predicative word order in clefts

Standard transitive word order in N̓l̓čəʔekpmx̣c̣in is verb-subject-object, or VSO (Koch 2006b). Second position clitics follow the first prosodic word, typically the verb, or an auxiliary of the verb. In “out-of-the-blue” contexts, sentences like (10) are given a VSO interpretation, and VOS interpretations are rejected.

(10) V [2nd pos. clitic] S O
kən-t-Ø-és xeʔ e skíxzeʔ-kt e sínciʔ-kt
help-TRANS-3O-3TS DEM DET mother-1PL.POSS DET brother-1PL.PS
“Our mother helped our brother.” (*Our brother helped our mother.”)

But, post-predicative word order is quite flexible (Thompson and Thompson 1992). Where context or pragmatics allow, a VOS interpretation is readily available. Example (11) thus easily gets a VOS interpretation, since the standard VSO reading would be pragmatically odd (dogs are not in the habit of giving people medicine).

(11) V [2nd pos. clitic] O S
molám-Ø-Ø-és xeʔ ְ sqáqxa ְ Jéssica
heal-TR-3O-3TS DEM DET dog DET Jessica
"Jessica gave the dog medicine.” (#The dog gave Jessica medicine.”)

Clefts, on the other hand, have a rigid post-predicative word order, unlike standard transitive sentences. I follow Kroeber (1997) in assuming that the residue clause is the syntactic subject of the cleft predicate. This gives us a VOS order for cleft structures (12a). Cleft sentences in which the cleft residue clause precedes the focus are not attested, making *VSO an ungrammatical order for clefts (12b).

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5 The demonstrative xeʔ(e) is the most ubiquitous 2nd position clitic, and appears to act as a situational deictic (Thompson and Thompson 1992: 135, 142; Koch 2008). For the purposes of the present paper, I do not deal with its syntax or semantics.
(12) Clefts are VOS word order
a. grammatical: VOS clefts
   če xe? [e Monique]_{FOC} [e wîk-t-Ø-ne].
   CLEFT DET Monique DET see-TR-3O-1SG.TS
   “I saw [Monique]_{FOC}.”
   (more literally “It is [Monique]_{FOC} that I saw.”)

b. ungrammatical: *VSO clefts
   * če xe? [e wîk-t-Ø-ne] [e Monique]_{FOC}
   CLEFT DET see-TR-3O-1SG.TS DET Monique
   intended “I saw [Monique]_{FOC}. / It was [Monique]_{FOC} I saw.”

4 Cleft residue clauses are not introduced by all determiners

Table 1 summarizes the elements of the determiner system in Nîe?kepmxcin (see Thompson and Thompson 1992, Kroeber 1997, and Koch 2008 for further discussion).

Table 1. The determiner system in Nîe?kepmxcin

| (h)e / ə / Ø | specific; present, visible (DET) |
| ź(e) | remote (in space or time) (DET) |
| k | unrealized / irrealis (IRL) |
| ź(e) | oblique (OBL) |

Cleft residues are introduced by (h)e (13b) or k (13c), and not by the remote determiner ź (13a) (Kroeber 1999: 365).

(13) a. * če e Monique [ź wîk-t-Ø-ne].
   CLEFT DET Monique DET see-TR-3O-1SG.TS
   intended: “It was Monique that I saw.”

b. če e Monique [e wîk-t-Ø-ne].
   CLEFT DET Monique DET see-TR-3O-1SG.TS
   “It was Monique that I saw.”

c. če ekʷu e Patrícia [k ñaʔxáns
   tk seplɪl [ź snwénwen].
   OBL.IRL bread DET morning
   “It was Patricia who ate some bread this morning.”

The determiners introducing cleft residue clauses pattern with complementizers in this regard: ź is rare or absent as a complementizer (Kroeber 1997: 381), and it is similarly absent in cleft residues. This further differentiates cleft residues from headless relative clauses, again suggesting that cleft residues
are bare clauses (CPs), not DPs. This distinction is further revealed in locative structures, to which I now turn.

4.1 Aside: residue clauses in locative focus structures are not introduced with a preposition

Standardly, headless locative relative clauses are introduced by a preposition from inside the relative clause (Kroeber 1997). In (14), the preposition *n ‘in’ is generated inside the relative clause containing the verb *míqeʔq ‘sit,’ yet it surfaces at the start of this relative clause.

(14) Locative relative clauses are introduced by the clause-internal preposition

\[
\text{cu-t-Ø-és \hspace{1cm} [DP \hspace{0.5cm} \textbf{ni}, \hspace{0.5cm} \textbf{t} \hspace{0.5cm} x^w ú\acute{y} \hspace{0.5cm} \text{un} \hspace{0.5cm} \textbf{míqeʔq} \hspace{0.5cm} \text{ti} \hspace{0.5cm} \text{fix-TRANS-3O-3TS}]}
\]

\text{in\text{\_i} DET FUT 1SG.CONJ sit \hspace{0.5cm} \text{ti} \hspace{0.5cm} \text{“S/he fixed what I was going to sit in.” (Kroeber 1997: 397) \hspace{0.5cm} \text{more literally: “She fixed [in the], I was going to sit \hspace{0.5cm} \text{ti.}”} \hspace{0.5cm}}} \]

In locative focus structures, however, the residue is not typically introduced by a preposition (Kroeber 1999: 397; Kroeber 1997: 403; the residue of wh-questions may be an exception – see Kroeber’s [1997] 45c, 45d).

(15) \text{?e wk\textasciitilde{u} ne\textasciitilde{e} \hspace{1cm} [(*ni) k \hspace{0.5cm} s-?éx-s \hspace{0.5cm} \text{ti}]}

\text{CLEFT EVID there \hspace{0.5cm} [(*in\text{\_i}) IRL NOM-PROG-3.POSS \hspace{0.5cm} \text{ti}]}

\text{n-?i\text{k}-?i\text{k}=\text{ni-n-cút \hspace{0.5cm} LOC-AUG-press.straight=ear-DRV-REFL \hspace{0.5cm} \text{“It was said that he lived there, Push-Back-Sides-of-his-Hair.” \hspace{0.5cm} \text{more lit.: “It was there that he lived, Push-Back-Sides-of-his-Hair.”} \hspace{0.5cm}}} \]

\text{(adapted from Thompson and Egesdal 1993:286)}

Locatives are rarely clefted when focused as in example (15); indeed, it’s not clear that the cleft analysis I have given (15) is correct.\(^6\) When focused, locatives are generally generated as the predicate themselves, and followed by a residue introduce by \(e\) or \(k\). The preposition \(n\) is absent preceding the residue of (16).

(16) \text{[ne sxíč\textasciitilde{k\textasciitilde{n}}-s]_{\text{FOC}} \hspace{0.5cm} ek\textasciitilde{u} \hspace{0.5cm} \text{\textasciitilde{x}u}} \hspace{1cm} [(*ni) k \hspace{0.5cm} \text{\textasciitilde{?}ow\acute{y}-t \hspace{0.5cm} us \hspace{0.5cm} \text{ti}]}

\text{in.DET back-3SG.POSS EVID PERS [(*in\text{\_i}) IRL sleep-IM 3.CONJ \hspace{0.5cm} \text{ti} \hspace{0.5cm} \text{“She slept [on her back]_{\text{FOC}.}” \hspace{0.5cm} \text{more literally: “The (way) she slept was [on her back]_{\text{FOC}.}”} \hspace{0.5cm}}} \]

\(^6\) Typically, subordinated clauses with a gap corresponding to a locative expression are marked with conjunctive (eg. subjunctive) morphology, as in (14) or (16). In (15), however, the predicate ?ex is marked with nominalization. I do not have an explanation for this; nominalization is employed to indicate a nonlocative oblique gap, but I do not know what that would be in this example.
Absence of prepositions in locative focus residues suggests that focus residues have a different structure from headless relatives. While it is not clear that we can equate cleft residues and the residue of locative focus structures like (16), the parallels noted in this section are at least suggestive.

5 No overt nominal heads in cleft residue clauses

If cleft residues are headless relatives, then they contain an NP head (as in figure 1). If so, then it should be possible to have residue clauses with overt NP heads. However, consultants regularly reject sentences with an overt nominal in the residue clause (eg. *spzupzúʔ in 17a), instead producing the intended head inside the focus DP (17b).

(17) Nteʔkepmxcin: Cleft residue clauses lack an overt nominal head
   a. *če xeʔ [e heléw]_FOC
      CLEFT DEM [DET eagle]
      [e spzupzúʔ t-eʔ wʔéx n-xʷá-l-ix tk].
      [DET bird OBL-DET PROG LOC-fly-AUT tk]
      intended: “The eagles are the birds that are flying.”

   b. če xeʔ [e heléw]_FOC tk spzupzúʔ]
      CLEFT DEM [DET eagle OBL.IRL bird ]
      [e wʔéx nxʷálix].
      [DET PROG LOC-fly-AUT]
      “The eagles are the birds that are flying.”
      (more literally: “It is the eagle birds that are flying.”)

It is the determiner morphology that is crucial in allowing us to draw these conclusions here. In the attempted (17a), both the focus e heléw and the residue clause are introduced by determiner e; thus, each constitutes its own DP. Crucially, the NP head spzupzúʔ is introduced by e, and followed by oblique te which introduces relative clauses. In the actually produced (17b), spzupzúʔ is preceded by the what Thompson and Thompson (1992) call the “descriptive” tk, which occurs inside of complex DPs. This allows us to conclude that e heléw tk spzupzúʔ in (17b) is a single complex DP. The residue clause, on the other hand, is introduced by e, and contains no nominal head.

It should be noted that consultants are very aware of the structure of these examples, since they provide the literal translation given in (17b). The translation is very awkward in English, yet matches the Thompson structure closely.

The lack of overt NP heads in cleft residues is unexpected under an account where residues act like typical nominal arguments. Rather, it suggests that residues in clefts are bare clauses, with no nominal head (Davis et al. 2004 on St’át’imcets and Straits clefts, Hedberg 2000 on English).

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7 This literal translation was the first one provided by the consultant.
5.1 Summary of findings

Table 2 gives an interim summary of the syntactic differences between cleft structures on the one hand, and standard predicate-argument structures containing a headless relative clause argument on the other.

Table 2. Differences between residues in clefts, and relative clauses in standard verb-argument structures

<table>
<thead>
<tr>
<th></th>
<th>Clefts</th>
<th>Relative clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) transitive marking on matrix predicate</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>(ii) rigid post-predicative word order</td>
<td>√</td>
<td>X</td>
</tr>
<tr>
<td>(iii) full range of introducing determiners</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>(iv) overt NP heads possible</td>
<td>X</td>
<td>√</td>
</tr>
</tbody>
</table>

Points (i), (iii) and (iv) in particular suggested that clefts pattern with bare CP clauses rather than with headless relative clauses introduced by a determiner. I exploit these facts in the next section, where I give a semantics for the cleft predicate.

6 A semantics for the cleft predicate

6.1 Semantics of the cleft residue

We have seen that cleft residues are introduced by either $e$ or $k$. I’ve been glossing this element as a determiner ‘DET,’ but we saw in the previous sections that it in fact patterns with complementizers rather than determiners. In particular, not all determiner-like elements appear in this position: $f$ and $t$ are ruled out, similar to before clausal arguments. If cleft residues are introduced by a complementizer, then we conclude that cleft residues are bare clauses (Davis et al. 2004 on St’át’imcets and Straits Salish).

The semantic type of the cleft residue clause is $<e,t>$. This is because it contains a gap corresponding to the focus, or head of the cleft. Inside the clause, the gapped DP moves to the specifier of CP. This results in an operator-variable configuration which turns the clause into a type $<e,t>$ predicate, via predicate (or lambda) abstraction (Heim and Kratzer 1998; Davis 2004 on St’át’imcets, Koch 2006, 2008, Krooher 1997 on Nl’é?kepmxcin relative clauses). In figure 2, the gap corresponds to the subject DP. The raised operator is not pronounced, presumably through some version of the Doubly-filled Comp Filter (eg. Chomsky & Lasnik 1977: 446), which prevents both the head of CP ($e$) and the specifier ($O_{P_{sbjDP}}$) from being simultaneously pronounced.
Figure 2. Residue clauses as bare CPs with no nominal head; Operator-variable configuration creates a type $<$e,$t>$ predicate

(18) Predicate (lambda) abstraction:
If $\alpha$ is a branching node whose daughters are a relative pronoun $^8$ and $\beta$, then $[[\alpha]] = \lambda x \in D_e. [[\beta]]^x$. (Heim and Kratzer 1998: 96)

6.2 Semantics of the cleft predicate

We are now in a position to work out the semantic type of the cleft predicate $\acute{c}e$ or $?e$. I use the standard type theory notation, where ‘e’ refers to an entity, and ‘t’ to a truth value, 0 (false) or 1 (true). The first argument of the cleft predicate is the focused DP, which is an entity of semantic type e. In section 6.1, I argued that the second argument of the cleft predicate, the CP residue clause, is itself a predicate of type $<$e,$t>$.

(19) $\acute{c}e$ $^\text{DP}$ Ross $^\text{FOC}$. $^\text{CP}$ pint-Ø-t-Ø-mus].
CLEFT DET Ross COMP find-REL-TR-3O-1SG.TS
“It was [Ross]FOC that painted it.”

That leaves us with the following denotation for the cleft predicate itself (see Shank 2003 for a similar treatment of the cleft predicate $nìt$ in Straits Salish).

$^8$ In the present example, the raised DP (the operator in the specifier of CP) corresponds to the relative pronoun.
A predicative denotation for the cleft predicate
\[ \lambda x. \lambda P. \text{P}(x) \quad [\text{of semantic type: } \text{<e, <<e, t>, t >}] \]
where x is from the domain of entities \( D_e \), P from the domain of predicates \( D_{<e, t>} \)

implicature: there exists some x such that \( \text{P}(x)=1 \)

The implicature associated with the cleft predicate is, roughly, that there exists some entity to satisfy the predicate of the residue clause; that is, in (19), there exists someone who painted it (‘it’ refers here to a house under discussion). However, this implicature is cancellable (Koch 2007, 2008; Davis et al. 2004 on Stát’imcets and Straits Salish), unlike in English clefts where it is an existential presupposition (Percus 1997). This means that Salish clefts can be used at the beginnings of discourses (Davis et al. 2004, Koch 2008), though this is dispreferred in typical conversational contexts in N̓aʔk̓emux sx̱ákmx at least. The implicature captures the fact that the use of clefts is dispreferred when \( \text{P}(x) \) is not under discussion; but the use of clefts at the start of a discourse can cancel this implicature.

The exact nature of the implicature deserves further work. Something along the lines of “there exists in the Common Ground (of preceding discourse) some x such that \( \text{P}(x)=1 \),” or perhaps “there exists in the Common Ground some set \( \text{P}(x) \) that is under discussion,” may be more accurate, but I leave this for future research.

The denotation is shown again schematically in (21), this time with an object focus example: e Monique is the object focus, the DP head of the cleft, and e wíktne is the residue clause.

(21) \([\text{[cē]}] = \begin{align*}
\lambda x \in D_e. \\
\lambda P \in D_{<e, t>}. \\
1 \text{ iff } \text{P}(x)
\end{align*}\)
\[ \begin{array}{|c|c|c|}
\hline
\text{cē xe?} & \text{e Moníque} & \text{e wíktne.} \\
\text{CLEFT DEM} & \text{DET Moníque} & \text{that I see} \\
\text{“It was} & \text{Monique} & \text{that I saw.”} \\
\text{implicature: there exists some x such that I saw x} \\
\end{array} \]

6.3 Results of this denotation

This semantic denotation captures several aspects of the meaning of Thompson Salish clefts. First, quantified DPs are not clefted (Koch 2008). Since quantified DPs are of type \( <<e, t>, t > \) (Barwise and Cooper 1981), and not of type e as required by the cleft predicate, this is expected under the present analysis. In ungrammatical (22), the head of the cleft is the quantified \( x”\text{ít tk seytknmx} \) ‘many people.’ Since it is not of type e, the result is a type mismatch when we attempt to combine the quantified DP with the cleft predicate.
(22) *čé xe? xw?ít tk sêytnknmx e wíktne.
CLEFT DEM many OBL.IRL people that I see

!1st argument is not of type e!

(intended interpretation: “It was many people that I saw.”)

Secondly, the proposed semantic analysis can capture the non-exhaustivity effect found in Salish clefts (Davis et al. 2004 on St’át’imcets and Straits Salish; Koch 2007, 2008 on N̓l̓eʔkepmxcin). That is, Salish clefts like (23) do not presuppose, unlike English clefts, that Monique is the only person that I saw. The present account captures this fact, since the second argument of the cleft predicate is of type <e,t>; that is, it is predicative, and does not designate a unique individual. This means that other individuals can also satisfy this predicate (eg. other individuals that I saw).

(23) čé xe? e Moníque e wíktne.
CLEFT DEM DET Monique that I see that I saw.”

not type e; does not designate unique individual

Thirdly, the implicature of existence is also part of the denotation of the cleft predicate itself. And, we have just seen that the non-exhaustivity effect of clefts can be captured by making the second argument in the denotation of type <e,t>. This means that the semantics of the cleft structure stem from the cleft predicate itself. This is rather different from the well-known account of the existential and exhaustive presuppositions associated with English clefts, which are proposed to be derived from the semantics of the determiner the (Percus 1997, Hedberg 2000). In contrast, I have concluded that the determiner-like element introducing Salish cleft residue clauses is a complementizer, and not a determiner at all. Despite surface similarities, then, the clefts of Salish and those of English appear to have different structures, and different sources for their semantics.

6.4 Results of the syntactic account: locatives

In section 4.1, we saw that locative relative clauses are introduced by the preposition stemming from inside the relative clause. On the other hand, locative focus residue clauses are not. In this section, I explore how these facts are explained under the proposed analysis, whereby focus residue clauses are bare CPs. This assumes a parallel between true clefts introduced by the cleft
predicate če or će, and locative focus structures in which the focused Prepositional Phrase (PP) is itself a predicate.

Let us start with locative focus structures. The derivation of locative focus residues is the same as that of non-locatives proposed in section 6.1 (figure 2). The preposition is raised along with its DP to the specifier of CP, bringing it into an operator-variable configuration with the gap inside the clause. However, because there is already a complementizer in the C-head, the preposition and its DP are not spelled out, to satisfy the Doubly-filled Comp Filter. Example (24) shows the derivation of the cleft residue clause in (16): while the preposition has fronted, it is not spelled out (indicated by strikethrough) because the IRL complementizer k occupies the C-head.

(24) Prepositions raised in cleft residue clauses are not spelled out [ne sxjčkn-s]Foc ekwšu ću? [CP [ne—]i k řwóy-t us t1] in.DET back-3SG.POSS EVID PERS in1 DET IRL sleep-IM 3.CONJ t1

“She slept [on her back]Foc.”

(more literally: “The (way) she slept was [on her back]Foc.”)

For headless relative clauses, the preposition is fronted and is pronounced. I propose that the fronting has two components, a syntactic one of the sort already discussed, and a phonological one. First, the preposition raises along with the clause-internal DP to create an operator-variable gap configuration, by now familiar, inside the relative clause (eg. ne in 25.1). This whole structure is introduced by a determiner (ť in 25.1), and a null NP, to create a DP argument (see also figure 1). Because there is no overt complementizer in the relative clause, the preposition is free to be spelled out in the specifier of CP. However, as a proclitic, it is spelled out all the way to the left of the preceding determiner (itself a clitic); this is a phonological, not syntactic, operation. The determiner that, along with the preposition, raised from inside the relative clause is not spelled out (indicated by strikethrough in 25.2); I will assume that this is due to an independent restriction against the spellout of two determiners in sequence (similar issues arise in the derivation of English relative clauses – see Borsley 1997, Bianchi 2000).

(25) Prepositions in headless locative relative clauses are spelled out at the left edge of DP

1. raising of ne to the CP specifier of the relative clause

$$\text{cu-t-Ø-és} \quad \text{[DP ť \ [NP Ø \ [CP [ne]i \ Ø \ xwúy űn}$$

$$\text{fíx-TRANS-3O-3TS} \quad \text{DET NP in.DETi COMP FUT 1SG.CONJ}$$

$$\text{míče?q t1]}]$$

$$\text{sit t1}$$
2. phonological procliticization of $n$ to left edge of DP

cut-Ø-és  [DP n ⌢ [NP Ø] [CP [ne]; Ø xwúẙ un
fix-TRANS-3O-3TS in DET NP in.DET, COMP FUT 1SG.CONJ
míceʔq tₐ]

“S/he fixed what I was going to sit in.” (Kroeber 1997: 397)
(more literally: “She fixed in the I was going to sit.”)

In headed locative relative clauses (26), the preposition does not undergo phonological movement to the far left edge of the entire DP, since a phonological word intervenes (the NP npuyn ‘bed’ in 26). Thus, it is spelled out, along with its determiner from inside the relative clause, at the left edge of the relative clause. Because there is no overt complementizer in the relative clause, the Doubly-filled Comp Filter does not prevent the raised preposition and determiner from being spelled out.

(26) Prepositions in headed locative relative clauses are spelled out after the head NP
?éx kn xwíʔ-m
PROG 1SG look.for-MDL

[DP te [NP npuyn] [CP [ne]; Ø xwúẙ wn ꩦwóẙ tₐ]
OBL bed in.DET COMP FUT 1SG.CONJ sleep tₐ

“I’m looking for a bed where I’m gonna’ sleep.”

6.5 Results of the syntactic account: absence of transitive marking

In section 2, we saw that clefts do not take transitive marking. This fact suggested that they were different from standard transitives with two nominal arguments. If cleft residues are in fact clausal arguments as proposed, and not headless DP relatives, then clefts pattern at least partially with other Nfeʔkepmx verbs which take one nominal and one clausal argument.

Predicates like say, think, hear also take one nominal argument (the agent or experiencer) and one clausal argument. The clausal arguments are also introduced by e or k, like in cleft residue clauses (we already saw some examples in section 2). Moreover, these predicates do not need to be marked with transitive morphology. The examples in (27) are all morphologically intransitive; the nominal argument is marked DP (Determiner Phrase), and the clausal argument as CP (Complementizer Phrase).
Morphological intransitive verbs with one DP and one CP argument

a. cú-t xe? me† [DP e Nátalie] say/think-IM DEM CNSQ DET Natalie
[CP k s-k^n-n-ó-m-s tk cíyci
IRL NOM-grasp-MDL-3SG.POSS OBL.IRL new
tk sqéyus-c].
OBL.IRL pants-3SG.POSS

“Natalie said that she got new pants.”

[CP k s-ó^n-y-ó-p-s k cítxw].
IRL NOM-burn-INCH-3SG.POSS IRL house

“I heard someone’s house burned down.”

c. pák⁸w[u]? xe? [DP e Bill] afraid DEM DET Bill
[CP k s-x⁸w[úy-s mi?x-e-t-Ø-éx⁸w].
IRL NOM-FUT-3SG.PS kick-DRV-TR-3O-2SG.TS

“Bill was scared that you were going to kick him.”

However, unlike cleft predicates, these verbs often do carry intransitive marking, such as the “immediate” im – t suffix in (27a).

Moreover, these forms also have transitive variants, which are often produced in free variation with intransitive versions during elicitation sessions:

Morphologically transitive verbs with one DP and one CP argument

a. cú-n-Ø-s ek⁸w[u] [DP e Bill] say/think-TR-3O-3TS EVID DET Bill
[CP k s-x⁸w[úy-s mi?x-e-t-Ø-éx⁸w].
IRL NOM-FUT-3SG.POSS kick-DRV-TR-3O-2SG.TS

“Bill thought that you were going to kick him.”

[CP k s-cu-xí-t-Ø-x⁸w te cítx⁸w-s].
IRL NOM-fix-APPL-TR-3O-2SG.TS OBL house-3PS

“John heard that you fixed his house.”

c. ?éx xe? ncé? pák⁸w[u]=s-m-Ø-Ø-ne PROG DEM 1SG.EMPH afraid=face-REL-TR-3O-1SG.TS
[CP k ... mástén-Ø-Ø-e ³xíw[es e s-³a?xán].
IRL ... try-TR-3O-1SG.TS different DET NOM-eat

“I’m afraid of trying different kinds of food.”

⁹ I mark the 1st person subject clitic as DP here merely to illustrate that the verb ‘hear’ takes a DP and a CP argument, and not to commit to the position that kn is itself a DP.
Thus, the analysis of cleft residues as clausal arguments only partially reconciles the absence of transitive marking on cleft predicates with other verbs in the language. There are other predicates which can take one DP and one CP argument without transitive marking; yet these same predicates can also take transitive or intransitive morphology, neither of which may appear suffixed to the cleft predicate.

7 Problems with this account

A second type of focus structure is a nominal predicate construction, or NPC (Kroober 1997, 1999 on “bare clefts;” Davis et al. 2004 on NPCs). In these constructions, a bare noun (like sqaqqa ‘dog’ in 29) acts as the main predicate of the sentence, and also the focus. Like in clefts, it is followed by a residue that is introduced by a determiner-like element (e in 29) and contains a subordinated predicate (punmne in 29).

(29) \[ [sqaqqa]_{FOC} \quad xe? \quad e \quad p\text{\`u}n\text{-m-}\text{\`O-}\text{\`O-ne}. \]

\begin{tabular}{llll}
\text{dog} & DEM & DET & find-REL-TR-3O-1SG.TS
\end{tabular}

“I found a [dog]_{FOC}.”

(more literally “The (thing that) I found was a [dog]_{FOC}.”)

Residues in nominal predicate constructions pattern with cleft residue clauses in terms of their subordinating morphology. In addition, they also resist overt nominal heads (Koch 2008). Given these parallels, it would be ideal to treat the residues of clefts and of nominal predicate constructions with the same semantic analysis. That is, what I have glossed as the determiner ‘DET’ e in (29) should be treated as a complementizer in these cases as well. The syntactic type of the residue in (29) would be a bare clause (CP), and the semantic type of this residue clause would be, again, of type \(<e,t>\).

However, treating residues in NPCs as type \(<e,t>\) gives us a type mismatch, since the nominal predicate is by hypothesis also of type \(<e,t>\). The two predicates are unable to combine. It is therefore best to treat the introducing element of NPC residues as a true, non-vacuous determiner, which creates an argument of type e.

(24) \[ <e,t> \quad e \]

\begin{tabular}{llll}
\text{sqaqqa} & [DP e] & p\text{\`u}n\text{-m-}\text{\`O-}\text{\`O-ne}. & \text{[\text{\`O-}\text{\`O-ne}].}
\end{tabular}

\begin{tabular}{llll}
\text{dog} & DET & find-REL-TR-3O-1SG.TS
\end{tabular}

“I found a dog.”

However, such an approach fails to explain the morphological and syntactic parallels between residue clauses in clefts and the residues in nominal predicate constructions.
A look across other Salish languages (Kroeber 1999)

Clefts and nominal predicate constructions are common throughout the Salish language family (Kroeber 1999, Nater 1984, Suttles 2004, Kuipers 1967, Gerdts 1988, van Eijk 1997, Thompson and Thompson 1992, etc.). In this section, I review Kroeber’s (1999) findings on cleft morphology across Salish to determine if there is any comparative evidence for the proposed analysis of clefts and their residue clauses in N̓teʔkepmxcin.

If the determiner-like elements introducing cleft residue clauses are indeed complementizers, while the determiner-like elements introducing NPC residues are true determiners, then we might expect clefts and NPCs to be marked differently in languages across the family.

The general trend is as follows. Bella Coola, the Northern Interior (excepting St’át’imcets) and the Southern Interior languages broadly pattern together: determiners or determiner-like elements introduce both cleft and NPC residues, so it is difficult to distinguish the two morphologically. On the other hand, Coast Salish languages and St’át’imcets broadly pattern together in having determiners introduce residues in NPCs, but crucially not in clefts. Thus, residue clauses in clefts in these latter languages are clearly treated differently morphologically, as well as syntactically (at least in the two languages, St’át’imcets and Straits, that have been investigated in detail on this point – see Davis et al. 2004). This latter development is expected from the current analysis of residues in N̓teʔkepmxcin focus structures, where clefts and NPCs are treated differently.

The results are summarized in more detail in table 3 on the following page. The term “determiners” should be understood as “determiner or determiner-like,” since some are better analyzed as complementizers.
Table 3. Residue morphology in clefts and NPCs across Salish (Kroeber 1999)

Bella Coola (Kroeber 1999: 371-376)
- patterns similar to Thompson Salish, with determiners introducing both cleft and NPC residues

Coast Salish
- Comox, Squamish (Kuipers 1967), Halkomelem (Gerdts 1988), Straits (Davis et al. 2004, Shank 2003)
  - determiners introduce NPC residues, but not typically cleft residues (Kroeber 1999: 378-379)
- Lushootseed (Kroeber 1999: 376, 379-380),
  - cleft residue clauses can be introduced by determiners

Upper Chehalis
- not enough information, though determiners appear to be possible

Tillamook
- not clear what or if there is a cleft predicate;
- determiners introducing residue clauses appear to have been reinterpreted as agreement markers (Kroeber 1999: 386-389)

Northern Interior Salish
- St’át’imcets (Lillooet)
  - nominal predicate constructions have a determiner introducing the residue, while clefts do so only sporadically (Davis et al. 2004)
- Nte?kepmxcin, Shuswap
  - residues in both NPCs and clefts are introduced with a determiner-like element
  - exception: the “determiner” is often absent in the presence of an auxiliary (Kroeber 1999:390, Koch 2008)

Southern Interior Salish
- Okanagan, Kalispel
  - both languages have determiners introducing residues in both clefts and NPCs (Kroeber 1999:401)
  - both may also allow absence of determiners in both constructions (Kroeber’s “unmarked fronting,” 401-402), though lack of verbal morphology makes this possibility unclear
Conclusion

Residue clauses in N̓iʔkepmx̱c̓in cleft constructions superficially look like headless relative clause nominals (DPs). However, because they fail to have overt nominal heads and because their introducing determiners pattern with complementizers, they act like bare clauses (CPs) with an internal gap. The resulting semantic denotation of the cleft predicate explains the absence of quantified DPs in cleft structures, and the lack of exhaustivity effects. There is some support for this analysis as we look across the family: in St’át’imcets and Coast Salish, cleft residue clauses are generally not introduced by determiners at all, expected if they are not Determiner Phrases at all.
### Appendix A: Abbreviations and symbols

Abbreviations used in the glosses (based on Thompson and Thompson 1992, 1996, Kroeber 1997) are as follows:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘-’</td>
<td>affix or clitic</td>
</tr>
<tr>
<td>‘=’</td>
<td>lexical suffix</td>
</tr>
<tr>
<td>*</td>
<td>ungrammatical structure or interpretation</td>
</tr>
<tr>
<td>#</td>
<td>pragmatically infelicitous structure or interpretation</td>
</tr>
<tr>
<td>APPL</td>
<td>applicative</td>
</tr>
<tr>
<td>AUG</td>
<td>augmentative reduplicant</td>
</tr>
<tr>
<td>AUT</td>
<td>autonomous,</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative</td>
</tr>
<tr>
<td>CNSQ</td>
<td>consequential</td>
</tr>
<tr>
<td>COMP</td>
<td>complementizer</td>
</tr>
<tr>
<td>CONJ</td>
<td>conjunctive (i.e. subjunctive)</td>
</tr>
<tr>
<td>DEM</td>
<td>demonstrative</td>
</tr>
<tr>
<td>D, DET</td>
<td>determiner</td>
</tr>
<tr>
<td>DIM</td>
<td>diminutive</td>
</tr>
<tr>
<td>DRV</td>
<td>directive transitivizer</td>
</tr>
<tr>
<td>DVL</td>
<td>developmental</td>
</tr>
<tr>
<td>EMPH</td>
<td>emphatic</td>
</tr>
<tr>
<td>EVID</td>
<td>evidential</td>
</tr>
<tr>
<td>ek‘u</td>
<td>‘reportive, hearsay’</td>
</tr>
<tr>
<td>nke</td>
<td>‘conjunctural, I guess, apparently’</td>
</tr>
<tr>
<td>nuk‘w</td>
<td>‘perceptual, usually other than sight’</td>
</tr>
<tr>
<td>FUT</td>
<td>future</td>
</tr>
<tr>
<td>IM</td>
<td>immediate</td>
</tr>
<tr>
<td>IMP</td>
<td>imperative</td>
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<tr>
<td>INCH</td>
<td>inchoative</td>
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<tr>
<td>INSTR</td>
<td>instrumental</td>
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<tr>
<td>CLEFT</td>
<td>cleft predicate</td>
</tr>
<tr>
<td>IRL</td>
<td>irrealis</td>
</tr>
<tr>
<td>LOC</td>
<td>locative</td>
</tr>
<tr>
<td>MDL</td>
<td>middle</td>
</tr>
<tr>
<td>NCM</td>
<td>non-control middle</td>
</tr>
<tr>
<td>NCT</td>
<td>non-control transitivizer</td>
</tr>
<tr>
<td>NEG</td>
<td>negation</td>
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<tr>
<td>NOM</td>
<td>nominalizer</td>
</tr>
<tr>
<td>O</td>
<td>object</td>
</tr>
<tr>
<td>OBL</td>
<td>oblique</td>
</tr>
<tr>
<td>PERF</td>
<td>perfective</td>
</tr>
<tr>
<td>PERS</td>
<td>persistent (emphatic particle)</td>
</tr>
<tr>
<td>PL</td>
<td>plural</td>
</tr>
<tr>
<td>POSS, PS</td>
<td>possessive</td>
</tr>
<tr>
<td>PROG, PRG</td>
<td>progressive</td>
</tr>
<tr>
<td>PRP</td>
<td>proportional</td>
</tr>
<tr>
<td>Q</td>
<td>y/n question marker</td>
</tr>
<tr>
<td>RED</td>
<td>reduplicant</td>
</tr>
<tr>
<td>REFL</td>
<td>reflexive</td>
</tr>
<tr>
<td>REL</td>
<td>relational</td>
</tr>
<tr>
<td>RFM</td>
<td>reaffirmative</td>
</tr>
<tr>
<td>RPT</td>
<td>repetitive</td>
</tr>
<tr>
<td>SG</td>
<td>singular</td>
</tr>
<tr>
<td>STAT</td>
<td>stative prefix</td>
</tr>
<tr>
<td>SUBJECT</td>
<td>subject extraction suffix</td>
</tr>
<tr>
<td>TRANS/TR</td>
<td>control transitivizer</td>
</tr>
<tr>
<td>TS</td>
<td>transitive subject</td>
</tr>
</tbody>
</table>

For reasons of space and clarity, I often do not provide full morphological breakdowns for nouns, adjectives, adverbs, and so on.
Data are presented in the orthography developed in Thompson and Thompson (1992, 1996), and Kroeber (1997). I use acute accent´ on vowels to indicate word-level stress. The phonemic key to the orthography is as follows; symbols not listed have the standard IPA interpretation:

c = [tʃ] or [c̪]
cê = [ts]
c = [ts´]
e = [e, æ, a, ɛ, ə]
ṣ = [ʌ]
i = [i, ei, ai]
o = [o, ɔ]
s = [ʃ] or [ʂ]
s = [s]
u = [u, o, ɔ]
x = [x]
y = [y, i].

See Thompson and Thompson (1992) in particular for the phonetic realizations of phonemic vowels across contexts.

Nte?kpmxcin [z] is more lateral than English [z], though there may be considerable regional or speaker variation.

**Appendix B: Phonemic inventory (Thompson and Thompson 1992)**

<table>
<thead>
<tr>
<th>CONSONANTS</th>
<th>labial</th>
<th>alveolar</th>
<th>alveo-palatal</th>
<th>velar</th>
<th>uvular</th>
<th>pharyngeal</th>
<th>glottal</th>
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<tbody>
<tr>
<td>Stops</td>
<td>p</td>
<td>t</td>
<td>k ḳ</td>
<td>q q̣</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ejectives</td>
<td>ʰp</td>
<td>ʰt</td>
<td>ʰk ʰḳ</td>
<td>ʰq ʰq̣</td>
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<tr>
<td>Lateral Eject.</td>
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<td>n</td>
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<tr>
<td>Glottalized</td>
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<td>ʰn</td>
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<tr>
<td>Affricates</td>
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<td>c [tʃ]</td>
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<tr>
<td>Ejective</td>
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<tr>
<td>Fricatives</td>
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<td>x x̣</td>
<td>x̣ x̣</td>
<td>h</td>
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<tr>
<td>Lateral</td>
<td>ʰ ʰ̄</td>
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<tr>
<td>Approximant</td>
<td>(w)</td>
<td>z</td>
<td>y [j]</td>
<td>w</td>
<td>ʰj ʰj̣</td>
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<tr>
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<table>
<thead>
<tr>
<th>VOWELS</th>
<th>front</th>
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<th>back</th>
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<tr>
<td>high</td>
<td>i</td>
<td>ɻ</td>
<td>u</td>
</tr>
<tr>
<td>mid</td>
<td>e</td>
<td>ə</td>
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<tr>
<td>low</td>
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