Locative demonstratives in nłeʔkepmxcín: a vector space semantics

Although demonstratives are some of the most frequently used words in nłeʔkepmxcín (Northern Interior Salish, ISO 639-3: thp), their semantic properties and the basic organization of the paradigm is not well understood in the literature on the language. I argue the paradigm is divided into two subcategories: demonstrative pronouns (DemPNs), which refer to individuals, and locative demonstratives (LocDems), which refer to locations. I also argue that LocDems are reduced and lexicalized prepositional phrases (PPs).

There are two tests that distinguish LocDems from demonstrative pronouns (DemPN). The first test involves predication. DemPNs can never be predicates (1), but speakers who accept PP Predicates (2a) also accept LocDem predicates (2b) (see also Koch 2008).

(1) Context: *A twin points at themselves in a photo to identify which one they are.*

a. ***xéʔe**=kn
DEM.PN=1SG.SBJ
Intended: 'I am that one.' (SF | KBG 7 May 2025)

b. cə̓e **xéʔ** ncéweʔ
COP DEM.PN 1SG.INDEP
'That one is me.' (VF | KBG 7 May 2025)

(2) Context: *A map of a building has a marker that indicates where you're standing.*

a. **n=ʔéye**=kʷ
at=here=2SG.SBJ
'You are here.' (VF | KBG 12 Nov 2025)

b. **nʔé**=kʷ
LOC.DEM=2SG.SBJ
'You are here.' (SF | KBG 12 Nov 2025)

The second test involves focus. When a constituent is focused, its extraction site determines the form of the subject agreement clitic (Kroeber 1997, 1999). Core argument DemPNs trigger indicative clitics (3a) and obliques trigger possessive clitics, consistent with determiner phrases (DPs). LocDems trigger subjunctive clitics (3b), consistent with locative adjuncts.

(3) a. cə̓e **xéʔe** s-qá<q>x̣aʔ e=pún-m[i]n-[t]-∅-ne=**∅**
COP DEM.PN NMLZ-dog<DIM> D/C=find-RLT-TR-3OBJ-1SG.ERG=IND
'It was the dog I found' (Koch 2008b: 58)

b. **téʔe** [e]=xʷúy̓=**wt** móqʷ-ix
LOC.DEM D/C=PROSP=1PL.SBJV gather-body
'Where we'll gather is that area' (VF | BP 17 Jul 2025)

The six LocDems (**bolded**) are presented in Table 1. LocDems with stress after the glottal stop characterize a proximal location. LocDems with stress before the glotal stop characterize a distal location. *w*-initial LocDems characterize a direction; *t*-initial LocDems characterize an area; *n*-initial LocDems characterize a point. Note that each consonant resembles a preposition.

Table 1. Possible combinations of prepositions and evidence-neutral DemPNs

	w= 'to, toward'	*t*= 'by, about'	*n*= 'at, on, in'
Proximal	***wʔé*** 'this way'	***tʔé*** 'about here'	***nʔé*** 'right here'
Distal	***wéʔe*** 'that way'	***téʔe*** 'about there'	***néʔe*** 'right there'

I argue that LocDems have the semantics of PPs, whose complement is a DemPN. For proximal LocDems, the preposition's complement is the proximal DemPN *xʔé* 'this, these'. For distal LocDems, the preposition's complement is the distal DemPN *xéʔe* 'that, those'.

Support for this analysis comes from the preposition *tu*= 'from', which does take *xʔé* or *xéʔe* as its complement. As the complement of *tu*=, DemPNs *xʔé* and *xéʔe* are ambiguous between an individual reading, e.g. 'from those' in (4), and a location reading, e.g. 'from there' in (5). The location reading of a DemPN is not available outside of a prepositional phrase.

(4) héǹ **tu=xʷéʔe** t=k=cy̓ě k=ex=∅ cún-[t]-∅-[e]xʷ
WH from=DEM.PN OBL=DET=basket D/C=IPFV=3SBJ say-TR-3OBJ-2SG.SBJ
'From which of those baskets did you mean?' (Thompson and Thompson 1996:360)

(5) **tu=xʷéʔe** e=s=n-kʷúme=s ɬ=qəɬmín
from=DEM.PN D/C=NMLZ=LOC-go.upriver=3.POSS DET=old.one
'From there, Old One went north up the river.' (BP in Hall and Phillips 2024:137)

Building on the vector space semantics of Zwarts (1997) and Zwarts and Winter (2000), I argue that the locative interpretation of a preposition's DemPN complement arises when the DemPN has an empty eigenspace. An individual's eigenspace is its spatial representation modeled as a set of located vectors (see Wunderlich 1991). For instance, in (4), the eigenspace of the preposition's complement is a set of vectors forming a basket shape, like a 3D-mesh. An empty eigenspace, then, would contain only the zero-vector, i.e. a point. This predicts that when a preposition's complement has an empty eigenspace, the location that the PP characterizes is generated from a single point, as in (5).

This analysis explains the semantics of LocDems without any additional components. *wʔé* 'this way' is underlyingly *w=xʔé* 'to here', *wéʔe* 'that way' is *w=xʔé* 'to there', *tʔé* 'about here' is *t=xʔé* 'by here', *téʔe* 'about there' is *t=xéʔe* 'by there', *nʔé* 'right here' is *n=xʔé* 'at here', and *néʔe* 'right there' is *n=xéʔe* 'at there'. There is no synchronic phonological process to delete the /x/, so I suggest these PPs were phonetically reduced in rapid speech before they lexicalized.

References

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