

Three types of polar questions, and an answer to the monopolar/bipolar debate

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Polar question meaning[s] across languages

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A debate

- Do polar questions present two alternative answers (= **bipolar**), or do they semantically denote only a single proposition (= **monopolar**)?
- No consensus!

H1: All PQs are **bipolar**.

e.g., Farkas & Roelofsen (2017); Ciardelli (2021)

H2: All PQs are **monopolar**.

e.g., Roberts (2012); Biezma & Rawlins (2012); Krifka (2021)

H3: PQs can be **either bipolar or monopolar**.

e.g., Bartels (1999); Krifka (2015; 2017); Kamali & Nakamura (2024)

- A lot of the formal research on PQs focuses on English data.

English is a confusing language

- Plain PQs are acceptable in a wide range of contexts!
- Contexts where there is **evidence for the truth** of the prejacent:
 - (1) *Rose is working in an office with no windows. Bob enters the office wearing raingear and carrying an umbrella. Rose says:*
 - It's raining? ✓ **DQ (declarative question)**
 - Is it raining? ✓ **PQ**
- Contexts which are **neutral** with respect to the truth of the prejacent:
 - (2) *Question on an exam.*
 - # Bears eat potatoes? ✗ **DQ**
 - Do bears eat potatoes? ✓ **PQ**
- The pragmatic flexibility of English plain PQs has fueled the debate about their underlying semantics.

Preview of proposals

Overall claim:

- Ntəʔkepmxcín (Salish) settles the debate:
 - PQs in natural language can be **either bipolar or monopolar**.

Specific claims:

- Ntəʔkepmxcín morpho-syntactically distinguishes **bipolar from monopolar** PQs.
- It also morpho-syntactically distinguishes **bipolar non-exhaustive PQs** from **bipolar exhaustive PQs**.

Preview of implications

A core argument for monopolarity:

- Pragmatic differences between plain PQs and explicitly bipolar *or not?* PQs (Bolinger 1978, Biezma & Rawlins 2012)
- (3) a. Will you marry me?
b. # Will you marry me or not? (Biezma 2009; Krifka 2021)
- The pragmatic inequality of (3a) and (3b) is argued to derive from a semantic distinction between **monopolar** PQs (3a) and **bipolar** PQs (3b).
- Ntɛʔkepmxcín weakens this argument.

Preview of implications

- English *or not* PQs are not only bipolar, but also crucially **exhaustive**. The Bolinger/Biezma & Rawlins contexts all rule out exhaustive PQs.
- Ntɛʔkepmxcín's **bipolar non-exhaustive** PQs are **acceptable in a (predictable) subset** of the Bolinger/B&R contexts.
- Bolinger's and Biezma & Rawlins's data:
 - Prove that English plain PQs are not exhaustive
 - **Do not prove** they are always monopolar (cf. also Bartels 2014)

	MONOPOLAR	BIPOLAR NON-EXHAUSTIVE	BIPOLAR EXHAUSTIVE
Ntɛʔkepmxcín	<i>ń</i>	<i>keʔ</i>	<i>e témus</i>
English	DQ, PQ	PQ	<i>or not</i>

The plan

§1 Language background and methodology

§2 Data 1: Two types of PQ

§3 Analysis 1: Monopolar vs. bipolar

§4 Data 2: The Bolinger contexts

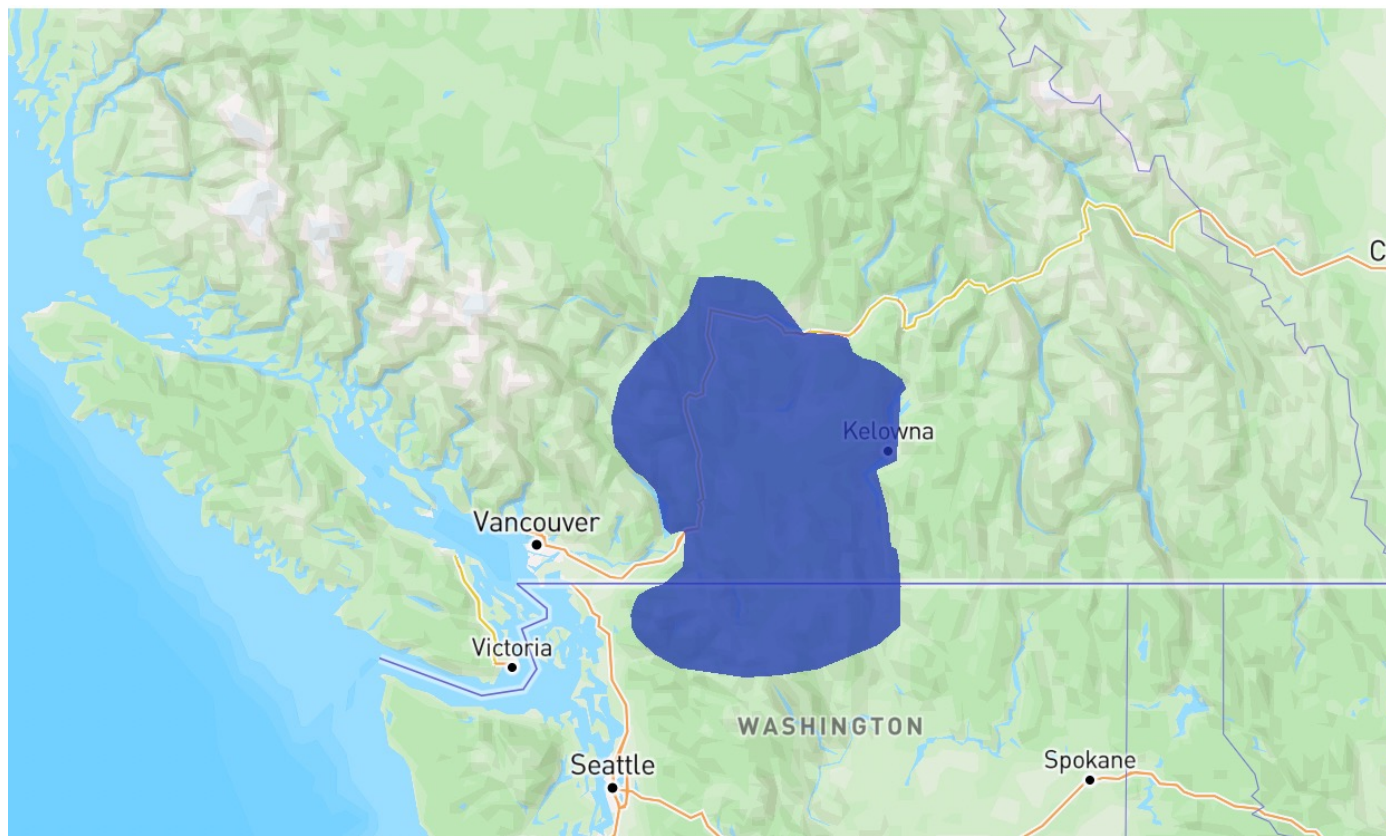
§5 Analysis 2: Exhaustivity

§6 Conclusions; implications; a bit about 'declarative questions'

Language background and methodology

Ntəʔkepmxcín

- Salish family, Northern Interior branch.
- a.k.a. Thompson River Salish; ISO thp.
- British Columbia, Canada and Washington, USA.
- 105 first-language speakers according to Gessner et al. (2022).



<https://native-land.ca/maps/territories/nlakapamux/>

Methodology

- Fieldwork with four speakers:

Bev Phillips (Lytton; Lytton dialect)

k^wəłtèzetk^wuʔ / Bernice Garcia (Coldwater; Nicola Valley dialect)

ćúʔsinek / Marty Aspinall (Coldwater; Nicola Valley dialect)

Gene Moses (Logan Lake; Nicola Valley dialect)

- Translations of utterances in discourse contexts.
- Acceptability judgments of sentences in discourse contexts.
- Storyboard-based translation: The consultant views the pictures, and then produces a translation of the final utterance.

Example storyboard 





Hi
Bob! Is it
raining?



On the status of the judgements

- The distinction between the different types of question is subtle and very discourse-dependent.
- One option is usually preferred, but there are not always clear rejections of the other forms (same in English; Domaneschi et al. 2017; Beltrama et al. 2020).
- Since I can't use Likert scales or even ask consultants directly for judgments like ✓, ?, #, I use the following methods to arrive at generalizations:
- Forms which are volunteered (as opposed to just accepted) are interpreted as being fully felicitous.
- Forms which are accepted but never, or rarely, volunteered are interpreted as less felicitous than volunteered forms.
- Speaker comments are taken seriously, not as a direct line to analysis, but as a clue about felicity. Comments are part of the empirical evidence; they show how I arrived at the diacritics I use.

Data 1: Two types of PQ

One way to form PQs: using *keʔ(e)*

- *keʔ(e)* is an intransitive predicate. It is followed by a nominalized subordinate clause, introduced by the ‘unrealized’ determiner/complementizer *k*.

(4) **kéʔe** k=eʔ=s=x^wuʔ nés?
Q D/C=2SG.POSS=NMLZ=PROSP go
‘Will you go?’ (Thompson & Thompson 1992:166)

(5) **keʔ** k=s=wik-t-∅-x^w u cíʔ e helewʔ?
Q D/C=NMLZ=see-TR-3OB-2SG.ERG to there DET eagle
‘Do you see the eagle over there?’ (Koch 2008:285)

- I will cite *keʔ(e)* henceforth as *keʔ*. The final *e* is optional and partly dialect-driven.

Another way to form PQs: using *ń*

- *ń* is a second-position clitic.

(6) q^wnóx^w=k^w=ń?

sick=2SG.SBJ=Q

'Are you ill?'

(Thompson & Thompson 1992:24)

(7) ńe xé?e k=e?-n-tíy-tn?

CLEFT=Q DEM DET=2SG.POSS-NMLZ-tea-INS

'Is that your teapot?'

(Thompson & Thompson 1992:163)

Will be important later:

- No studies yet on Ntɛʔkepmxcín intonation, but Salish languages for which we have information **do not have a final rise** in PQs (Jacobs 2007; Caldecott 2016).
- There are **no 'declarative questions'** in Ntɛʔkepmxcín, but I will argue that *ń*-questions have a semantics and pragmatics essentially identical to English DQs.

Contexts to compare, and the empirical generalizations

1. **Neutral** contexts. No epistemic bias, no contextual evidence. Both p and $\neg p$ are possible next commitments of the addressee.

→ *ke?* is the preferred strategy.

2. Contexts where the speaker cannot commit to p , but believes that the addressee will commit to p .

(Rudin 2018; 2022 on English declarative questions)

→ *ṅ* is the preferred strategy.

Neutral contexts – *keʔ* is most commonly volunteered

(8) *[Storyboard] Rose is at work. Her colleague Bob walks in and they greet each other. Rose immediately says:*

a. **kéʔe** x^wuý k=s=n-ǰ^wəy-énk=s ʔe=spiʔxáwt=us?
Q PROSP D/C=NMLZ=LOC-cook-belly=3POS COMP=day.away=3SBJV
'Is it going to be sunny tomorrow?' (KBG; volunteered)

b. # x^wuý=**ń** n-ǰ^wəy-énk ʔe=spiʔxáwt=us?
PROSP=**q** LOC-cook-belly COMP=day.removed=3SBJV
'Is it going to be sunny tomorrow?' (KBG)

KBG's comment on *ń*-version: "Well it hasn't happened yet."

Exam questions – *keʔ* is preferred

(9) *Question on a test in school.*

- a. **keʔ** k=s=ʔúpis he=paták he=spéʔec?
Q D/C=NMLZ=eat+TR-3ERG DET=potato DET=bear
'Do bears eat potatoes?' (CMA; volunteered)
- b. **keʔ** k=ex s=ʔúpi-s ʔe=spéʔec ʔe=stak^wóls?
Q D/C=IPFV NMLZ=eat+TR-3ERG DET=bear DET=potato
'Do bears eat potatoes?' (BP; volunteered)
- c. ʔex=**ń** ʔúpi-s ʔe=spéʔec ʔe=stak^wóls?
IPFV=**Q** eat+TR-3ERG DET=bear DET=potato
'Do bears eat potatoes?' (BP; volunteered after prompting to use ń)

Debate topics – *keʔ* is preferred

(10) *A teacher is setting her students some debate topics.*

- a. **keʔ** k=s=ʔe=s ʔe=wʔéx=əx^w we=ʔ=pankúpa?
q D/C=NMLZ=good=3POSS COMP=live=2SG.SBJV PREP=DET=Vancouver
'Is Vancouver a good place to live?' (KBG; volunteered)
- b. **keʔ** k=s=ʔe=s tə=k=s=wʔex e=Vancouver?
q D/C=NMLZ=good=3POSS OBL=D/C=NMLZ=live DET=Vancouver
'Is it good to live in Vancouver?' (BP; volunteered)
- c. **keʔ** k=s=ʔe=s e=ʔéx^wux^w=kp e=Vancouver?
q D/C=NMLZ=good=3POSS COMP=live=2PL.SUBJ DET=Vancouver
'Is it ok if you all lived in Vancouver?' (GM; volunteered)
- d. ʔe=ḥ tə=k=s-wʔéx ne=Vancouver?
good=**q** OBL=DET-NMLZ=live PREP=Vancouver
'Is it good to live in Vancouver?' (BP; volunteered after prompting to use ḥ)

Job interviews – *keʔ* conveys neutrality

- In job interview contexts, some speakers always prefer *keʔ*. Others are fine with *ń* when the prejacents are viewed as positive, but switch to *keʔ* when neutrality is important.

(11) [Storyboard] Interviewing someone for a job working at an animal shelter.

- a. $cuk^w=k^w=ń$ $təx^w=ʔe=sk^wúlʔ$
finish=2SG.SUBJ=**q** PREP=DET=school
'Have you finished school?' (CMA; volunteered)
- b. $ʔe-mín=x^w=ń$ $ʔe=ʔéx^w=ux^w$ $cwuw-m$ $we=séytknmxʔ$
good-RLT=2SG.ERG=**q** D/C=be=2SG.SBJV work-MID PREP=people
'Do you like working with people?' (CMA; volunteered)
- c. **kéʔe** $pistéʔus$ $k=eʔ=s=heszúsʔ$
q whenever D/C=2SG.POSS=NMLZ=tie
'Have you ever been to jail?'
[literally: Were you ever tied up?] (CMA; volunteered)

Job interviews – *keʔ* conveys neutrality

(12) [Storyboard] Interviewing someone for a job working at an animal shelter.

- a. nweń=ń cuk^wst=x^w nťéwec cuném-ec?
already=Q finish-CTR.TR=2SG.ERG where teach-2SG.OBJ
'Have you finished school?' (GM; volunteered)
- b. ʔex=ń ýe-mín=əx^w aws kən-t=éx^w e=seytknmx?
IPFV=Q good-RLT=2SG.ERG ? help-CTR.TR=2SG.ERG DET=people
'Do you like working with (helping) people?' (GM; volunteered)
- c. kéʔe k=s=nqəminc e=sqač wəť e=nzúsmən?
Q DET=NMLZ=throw-RLT-2SG.OBJ DET=hawk PREP DET=LOC-tie-INSTR
'Has a policeman [lit. hawk] ever thrown you in jail?' (GM; volunteered)

Job interviews – *keʔ* conveys neutrality

(13) *Interviewing someone for a job working at an animal shelter.*

- a. naʔʔíp=k^w=**ń** zu~zúw-t ʔe=ʔéx=əx^w cwuw-m?
always=2SG.SBJ=**Q** AUG-slow-IMM D/C=IPFV=2SG.SBJV work-CTR.MID
'Are you always late when you go to work?' (BP; volunteered)

BP's comment: "This could get insulting."

- b. **keʔ** k=s=naʔʔíp=s k=eʔ=s=zu~zúw-t
Q D/C=NMLZ=already=3POSS D/C=2SG.POSS=NMLZ=AUG~slow-IMM
 ʔe=ʔéx=əx^w cwuw-m?
 D/C=IPFV=2SG.SBJV work-CTR.MID
'Are you always late when you go to work?' (BP; semi-volunteered)

LM: "Is that insulting?"

BP: "No, it's just saying 'Are you?'."

Summary so far

- When the context is fully **neutral** (no speaker bias, no contextual evidence about the truth of the prejacent), there is a strong tendency to prefer *ke?*.

Contextual evidence the addressee believes p

- In contexts where the speaker cannot commit to p , but has reason to believe that the addressee will commit to p :
 - Speakers volunteer \acute{n} , and prefer it over $ke?$.

Contextual evidence the addressee believes *p*

(14) *[Storyboard] Rose is working in an office with no windows. She thinks “I wonder what the weather is like?” Just then, Bob enters the office wearing raingear and carrying an umbrella. Rose says:*

a. ʔex=ḥ tekʔ?
IPFV=Q rain
'Is it raining?'

(BP; volunteered)

b. # keʔ k=s=tekʔ=s?
Q D/C=NMLZ=rain=3POSS
'Is it raining?'

(BP)

BP's comment on (b): “I don't know if she would say *keʔ ks tekʔs*, unless there's a way he got wet otherwise (laughs).”

(adapted from Gunlogson 2008)

Contextual evidence the addressee can commit to *p*

(15) [Storyboard] Bob is going for a walk and runs into Mary, a friend he hasn't seen for a while. He notices that her hair is shorter than usual and he says:

a. ník'-n=əx^w=ń eʔ=sqáppqən?
cut-CTR.TR=2SG.ERG=Q 2SG.POSS=hair
'You had a haircut?' (CMA; volunteered)

b. ʔes=ʈóq^w-qn=k^w=ń?
STAT-strip-head=2SG.SBJ=Q
'You had a haircut?' (BP; volunteered)

c. # keʔ k=eʔ s=es=ʈóq^w-qn?
Q D/C=2SG.POSS NMLZ=STAT-strip-head
'Did you have a haircut?'
(BP; volunteered when asked to use keʔ, but context changed)

BP's comment on (c): "Maybe, yes. Maybe they're talking on the phone."

(adapted from Gunlogson 2008)

Contextual evidence the addressee can commit to *p*

(16) *Your friend applied for a job but you have no idea if she was successful. You get to her place and she is celebrating. You say:*

- a. $k^w e[n] - nwé\acute{t}\acute{n}[-t] = k^w = \acute{n}$ †e=s-cúw?
grasp-NCTR.MID=2SG.SBJ=Q DET=NMLZ-work
'You got the job?' (KBG; volunteered)
- b. $k^w \acute{a}[n] - nwé\acute{n}[-t] = x^w = \acute{n}$ †=s-cuw?
grasp-NCTR[-TR]=2SG.ERG=Q DET=NMLZ-work
'You got the job?' (BP; volunteered)
- c. **ke?** $k=s=k^w e[n] - nwé\acute{n}[-t] = x^w$ †=s-cuw?
Q D/C=NMLZ=grasp-NCTR[-TR]=2SG.ERG D/C=NMLZ-work
'Did you get the job?' (BP; volunteered after prompting to use ke?)

BP's comment about (b) vs. (c) in this context: "I would use $k^w enwé\acute{n}x^w \acute{n}$ †scuw. But they're both totally correct. I would use $k^w enwé\acute{n}x^w \acute{n}$."

Greetings: There is only one option for answering

(18) *Greeting someone.*

a. $\acute{y}e=k^w=n\acute{}$, Lisa?
 good=2SG.SBJ=**q** Lisa
 ‘How are you, Lisa?’

(BP; volunteered)

b. # **ke?** $k=e?=s=y\acute{e}?$
 q D/C=2SG.POSS=NMLZ=good
 ‘Are you good?’

(KBG; BP)

BP’s comment on (b): “No I wouldn’t. But I would use it if I was fishing for information ... If a person is not well, then somebody might say that, *ke? ke? sye* ... Maybe you saw something or something happened and you wanna know how they are but you don’t wanna assume.”

KBG’s comment on (b): “For me, you’re asking a direct question. And maybe you know an incident that happened.”

Summary so far

- When the context is fully **neutral** (no speaker bias, no reason to assume the addressee believes the proposition to be true), there is a strong tendency to prefer *ke?*.
- When the speaker has reason to believe the addressee can commit to p , *ṅ* is preferred.

Analysis 1: Monopolar vs. bipolar

Analysis of *ke?*

- *ke?* introduces a **bipolar** question. Two options are offered to the addressee: p and $\neg p$.
- Precise formalization is not important to me – choose your favourite framework. A simple option:

$$(19) \llbracket ke? \rrbracket = \lambda p_{\langle s,t \rangle} . \{p, \neg p\}$$

Effects on the discourse:

- Following Farkas & Bruce (2010), the question denotation is placed on the Table. ‘Placing a question on the Table steers the conversation towards a state in which the question is resolved’ (Farkas & Bruce 2010:94).
- Correctly predicts that *ke?* will be an excellent option when the speaker has no bias about the answer, and has no strong reason to assume that the addressee believes p to be true.

Analysis of \acute{n}

- \acute{n} is **monopolar**: It introduces a single proposition p .
- \acute{n} 's only effect is a discourse effect, parallel to the effect that is often assigned to **rising intonation** in English DQs.
- Many authors (e.g., Rudin 2018, 2022):
L* H-H% in English indicates that the speaker's discourse commitments do not change by means of the utterance.

Effects on the discourse:

- The speaker puts p on the Table, but p does not enter the speaker's discourse commitments.

Analysis of \acute{n}

(20) Contribution of \acute{n} (adapted from Rudin's 2018:20 analysis of English L* H-H%):

For any utterance $u: \langle sp, \acute{n}(p), c_n \rangle \rightarrow c_{n+1}$

$$T_{n+1} = T_n + \llbracket p \rrbracket$$

$$DC_{sp,n+1} = DC_{sp,n}$$

- For any utterance of the form $\acute{n}(p)$, the proposition denoted by p is added to the Table.
- The discourse commitments of the speaker do not change.

Analysis of \acute{n}

Pragmatic reasoning (following Rudin 2018):

- The speaker of a \acute{n} -PQ didn't use either a plain declarative, or a *ke?*-PQ.
 - This means that:
 - i. The speaker can't commit to p (if they could, they would have used a declarative).
 - ii. The speaker doesn't expect a $\neg p$ answer (if they thought $\neg p$ was a possible answer, they would have used *ke?*).
- Result: \acute{n} -PQs are correctly predicted to be used when the speaker believes the addressee will commit to p .

Further predictions of the analysis

1. \acute{n} should be the preferred option in:

Incredulity contexts, where the speaker has *bias against p* , but believes the addressee will commit to p .

- cf. English DQs: Good when the speaker is skeptical of the truth of p , as long as the speaker believes the addressee believes p (Farkas & Roelofsen 2017; Rudin 2018, among many others).

2. \acute{n} should be dispreferred in:

Metalinguistic uncertainty ('unsure of move') contexts (Malamud & Stephenson 2015), because here the speaker is able to commit to p .

ṇ is the volunteered option in incredulity contexts

(21) *A mother asks her child to set the table, and he does a really bad job before announcing he is done. The mother says:*

a. *ʔes-cq-áyq^w=ṇ xʔe tə=k=tápəl?*
STAT-set-tree=**Q** DEIC OBL=DET=table
'This table is set?' (BP; volunteered)

b. **keʔ** k=e=s=ʔes-cq-áyq^w xʔe tə=k=tápəl?
Q D/C=IPFV=NMLZ=STAT-set-tree DEIC OBL=DET=table
'Is this table set?' (BP; volunteered when asked to use keʔ)

BP's comment on (b): "It's pretty much saying the same thing [as (a)], but it's asking the air. She's not directing the comment to anybody."

(adapted from Farkas & Roelofsen 2017)

ń is the volunteered option in incredulity contexts

(22) *Person A is complaining. They say “My life is bad. I work a lot and I’m the boss of many people.” Person B replies:*

a. *kes-t-ń* *xé?e?*
bad-IMM=**Q** DEIC
‘That’s bad?’ (BP; volunteered)

b. ? **ke?** *k=s=kes-t=s* *xé?e?*
Q D/C=NMLZ=bad-IMM=3POSS DEIC
‘Is that bad?’ (BP)

BP’s comment on (b): “That one you’re asking them. But you could have also said *kest ń meʔ xe?e?*.”

(adapted from Rudin 2018; 2022, who cites Donka Farkas, p.c.)

Metalinguistic uncertainty contexts

- English DQs are acceptable when the speaker is sure p is true, but is unsure whether asserting p is the right conversational move to make. (Malamud & Stephenson 2015)

(23) *'Unsure of move': B hasn't met A's neighbour, and asks, 'What do you think of your new neighbour?' A isn't sure if B wants to know about neighbourliness or suitability for dating. A replies:*

He's good looking?

- Following Jeong (2018), Rudin (2018; 2022) assumes a **different intonational tune** to the unsure-of-move cases, and they will therefore receive a different analysis.
- My analysis (following Rudin's) does not predict \acute{n} -questions to be good in these contexts. \acute{n} is for when the speaker is unable to commit to p .

ń is not for metalinguistic uncertainty

(24) [Storyboard] ‘Unsure of move’: B hasn’t met A’s neighbour, and asks, ‘What do you think of your new neighbour?’ A isn’t sure if B wants to know about neighbourliness or suitability for dating. A replies:

- a. $\dot{y}eh\text{-}\acute{u}s?$ [uttered with rising intonation]
 good-face
 ‘He’s good looking?’ (BP; volunteered)
- b. # $\dot{y}eh\text{-}\acute{u}s=\acute{n}?$
 good-face= q
 ‘Is he good looking?’ (BP)

BP’s comment on (b): “No, ‘cause [the answerer has] never seen him. No you can’t.”

Summary so far

- Nte?kepmxcín overly encodes the distinction between:
 - PQs that are neutral (in the sense that the addressee has two options in their reply, p or $\neg p$) (*ke?(e)*)
 - PQs that are used when the speaker believes the addressee will commit to p (*n'*)
- Analysis:
 - *ke?*-questions denote a bipolar set $\{p, \neg p\}$
 - *n'*-questions denote a monopolar proposition p but do not add p to the speaker's commitments

Data 2: The Bolinger contexts

Bolinger contexts as a diagnostic for monopolarity?

- A core argument for the unambiguous monopolarity of English PQs:
→ Pragmatic contrasts with explicitly bipolar PQs formed with ... *or not*?
- Bolinger (1978), Biezma & Rawlins (2012): The non-equivalence of plain PQs and *or not* PQs is evidence that plain PQs are monopolar.

(25) **Invitations/offers:** Your friends just arrived at your house.

a. Do you want some water?

b. # Do you want some water or not?_{H*L-L%} (B&R:400)

(26) **Conversation starters:** Trying to start a casual conversation.

a. Do you like to play golf?

b. # Do you like to play golf or not?_{H*L-L%} (B&R:400)

→ N_te?k_ep_mx_cín weakens this argument for unambiguous monopolarity.

B&R's analysis in a nutshell

Plain PQs:

- **Monopolar**. Semantically denote a singleton set.
- ≠ allowing only one possible answer. PQs 'leave[] open what other alternatives there might be, allowing the answerer a wide range of freedom in responding.' (B&R:400-401)

'Or not' PQs:

- **Bipolar**. Semantically denote $\{p, \neg p\}$.
- Presuppose only two salient alternative propositions in the context. Therefore, they place the discourse into a '**conversational cul-de-sac**' (Biezma 2009), which is inappropriate in Bolinger-type contexts.

Deconstructing B&R's argument

- ‘the difference between PolQs and [*or not* PQs] follows from a crucial linguistic difference in their respective structures: the presence/lack of an **exhaustivity operator** at LF indicated by final falling intonation.’ (B&R:366)
 - I agree. But B&R go further:
 - ‘we propose ... a semantics of PolQs that differs from the semantics of AltQs in the presence/lack of an exhaustivity operator at LF, **and in the alternative structure of the two types**. When the exhaustivity operator is present, a question presents an exhaustive list of alternatives, but when it is not, the question presents a **non-exhaustive list (or singleton)**.’
- My claim: **Non-exhaustive** PQs (the PQs that are good in Bolinger contexts) are **not necessarily monopolar**.

A thought experiment that will become real

- English *or not* PQs are not only bipolar, but also exhaustive.
- These two properties are in principle separable (see also Beltrama et al. 2020).
- ? What if a language morpho-syntactically distinguished **bipolar non-exhaustive** PQs from **bipolar exhaustive** PQs? What would we expect for the Bolinger-style cases?
- **All** the Bolinger cases favour **non-exhaustive** readings. Bipolar exhaustive PQs should be dispreferred in all of them.
- However, **only some** of the Bolinger cases **require monopolar** PQs. The rest of the Bolinger cases should be good with bipolar non-exhaustive PQs.

Ntɛʔkɛpmxcín has explicit or not PQs

(27) [Storyboard] A salesman comes to the door wanting to sell tools. After the resident waffles indecisively for a while, the salesman asks her:

keʔ k=s=aʒ-memən=əx^w eʔ e=tém=us?
Q D/C=NMLZ=buy=DESID=2SG.ERG and COMP=NEG=3SBJV
'Do you want to buy them or not?' (GM; volunteered)

(28) [Storyboard] A mother asks her children if they washed their hands before eating, but they don't answer her. She asks again:

ćew-kst-əm=kp=ń e=tém=us?
wash-hand-MID=2PL.SUBJ=Q COMP=NEG=3SBJV
'Did you wash your hands or not?' (BP; volunteered)

→ Hypothesis: Ntɛʔkɛpmxcín *e témus* PQs are **bipolar and exhaustive**, just like English *or not* PQs.

Predictions for *Nt̥eʔkepmxcín* for Bolinger contexts ('B-contexts')

P1: *e témus* PQs should be **dispreferred in all** B-contexts (since all B-contexts require non-exhaustivity).

P2: *ń* PQs should be **felicitous** in B-contexts.

However, they may be **less preferred than *keʔ*** in cases where the speaker wishes to avoid conveying bias towards the prejacent.

P3: *keʔ* PQs should be **felicitous in a subset** of B-contexts: those in which the speaker wishes to leave open the possibility of a $\neg p$ answer.

B-contexts that allow the possibility of a $\neg p$ answer

Predictions for this set of contexts:

<i>e témus</i>	#	(context is non-exhaustive)
<i>ń</i>	?	(<i>ke?</i> would better convey neutrality)
<i>ke?</i>	✓	($\neg p$ answer is a live option)

Predictions:
ke? > ń > e témus

Conversation starters allow $\neg p$

Predictions:
keʔ > ń > e témus

(29) [Storyboard] Mary and Toby meet for the first time at a party. After they greet each other and Toby says he just moved into town yesterday, Mary asks:

a. **keʔ** iʔ k=eʔ=s=nes wəʔ e=q^wuʔmiyx?
Q yet D/C=2SG.POSS=NMLZ=go PREP DET=river
'Have you been to the river yet?' (GM; volunteered)

b. **ʔ** nes=k^w=ń wəʔ e=q^wuʔmiyx?
go=2SG.SUBJ=**Q** PREP DET=river
'Have you been to the river?' (GM)

GM's comment on (a) vs. (b): "Well [(b)] is a proper way to ask him a question, except that ... you could say [(a)]."

c. **#** keʔ iʔ k=eʔ=s=nes wəʔ e=q^wuʔmiyx eʔ **e=tém=us?**
Q yet D/C=2SG.POSS=NMLZ=go PREP DET=river and **COMP=NEG=3SBJV**
'Have you been to the river yet or not?' (GM)

GM's comment on (c): "No, no *témus*."

Requests allow $\neg p$

Predictions:
ke? > n' > e témus

(30)

a. **ke?** k=s=x^wu^ʔ=s melíy=kt?
Q D/C=NMLZ=PROSP=3POSS marry=1PL.SUBJ
 'Will you marry me?'

(BP; volunteered)

b. x^wu^ʔ=**n'** melíy=kt?
 PROSP=**Q** marry=1PL.SUBJ
 'Will you marry me?'

(BP)

c. **??** ke? k=s=x^wu^ʔ=s melíy=kt **e=tém=us?**
Q D/C=NMLZ=PROSP=3POSS marry=1PL.SUBJ **COMP=NEG=3SBJV**
 'Will you marry me or not?'

(BP)

BP's comment on (c): "Yeah, it still works. [laughs] I mean it works [laughs]. I guess you could say that. No *nke* ['maybe'] on the end?"

Offers allow – p

Predictions:
keʔ > ń > e témus

(32) *You have a Saskatoon berry bush in your back yard with some nice-looking berries on it. A friend admires the berries. You ask them:*

- a. **keʔ** x^wúʔ k=eʔ=s=q^wiyew̓s-cín?
Q PROSP D/C=2SG.POSS=NMLZ=pick.berries-mouth
'Will you pick berries?' (KBG; volunteered)
- b. x^wuʔ=k^w=ń q^wiyew̓s-cín?
PROSP=2SG.SUBJ=Q pick.berries-mouth
'Will you pick berries?' (KBG; volunteered)
- c. ? x^wuʔ=k^w=ń q^wiyew̓scín **e=tém=us?**
PROSP=2SG.SUBJ=Q pick.berries-mouth **COMP=NEG=3SBJV**
'Will you pick berries or not?' (KBG)

LM: Which would be the best way?

KBG: **kéʔe** x^wuʔ keʔs q^wiyew̓scín?

Summary so far

- All B-contexts are **non-exhaustive**. This correctly predicts that *e témus* ('or not') questions are rejected.
- A subset of B-contexts are **neutral** in the sense that a $\neg p$ answer is felicitous. These include **conversation starters, requests, and offers**.
- We correctly predict that *ke?* questions are the **best option** in such cases, with *n'* questions also acceptable but not as preferred.

B-contexts that disallow a $\neg p$ answer

- A subset of B-contexts do not pragmatically allow a $\neg p$ answer.

Predictions for this set of contexts:

<i>e témus</i>	#	(context is non-exhaustive)
<i>ń</i>	✓	(<i>ń</i> indicates expected addressee commitment to <i>p</i>)
<i>ke?</i>	#	($\neg p$ is not a viable answer)

Predictions:
ń > *ke?*, *e témus*

Obvious truths disallow a $\neg p$ answer

Predictions:
 $\acute{n} > ke?$, $e\acute{t}\acute{e}mus$

(33) *Somebody in your house has announced that they're leaving. A little while later you run into them in the kitchen and you are very surprised and you say:*

a. $\acute{\lambda}u?$ $ex=k^w=\acute{n}$ $n?eye?$
EXCL IPFV=2SG.SUBJ=**Q** DEIC
'Are you still here?'

(BP; volunteered)

b. **?** **ke?** $k=e?s=ex$ $n?eye?$
Q D/C=2SG.POSS=NMLZ=IPFV DEIC
'Are you still here?'

(BP)

BP's comment on (b): "Yeah (sounds skeptical). You could, but then you're gonna have to explain."

c. **#** $\acute{\lambda}u?$ $ex=k^w=\acute{n}$ $n?eye$ **e=tém=us=nke?**
EXCL IPFV=2SG.SUBJ=Q DEIC **COMP=NEG=3SBJV=EVID**
'Are you still here or not?'

(BP)

Obvious truths disallow a $\neg p$ answer

Predictions:
 $\acute{n} > ke\text{?}, e\text{ t\u00e9mus}$

(34) *You think nobody is in your sister's bedroom but when you go in to fetch something, you see her lying in bed. You ask:*

a. $q\text{?it}=\text{k}^w=\acute{n}\text{?}$

awake=2SG.SUBJ=**Q**

'Are you awake?'

(KBG; volunteered)

b. # **k\u00e9\text{?}e** $\text{k}=\text{e}\text{?}=\text{s}=\text{q}\text{?it}\text{?}$

Q D/C=2SG.POSS=NMLZ=awake

'Are you awake?'

(KBG)

c. # $q\text{?it}=\text{k}^w=\acute{n}\text{?}$

e=t\u00e9m=us\text{?}

awake=2SG.SUBJ=**Q**

COMP=NEG=3SBJV

'Are you awake or not?'

(KBG)

Idiot questions¹ disallow a $\neg p$ answer

Predictions:
 $\acute{n} > ke?$, $e \acute{t}emus$

(35) *Your friend, who you know hates big cities and loves living close to the land, suddenly tells you she's moving to Vancouver. You say to her:*

- a. $k^w a \zeta = k^w = \acute{n}?$
crazy=2SG.SUBJ=Q
'Are you crazy?' (BP; volunteered)
- b. ? $ke?$ $k=e? = s=k^w a \zeta?$
Q D/C=2SG.POSS=NMLZ=crazy
'Are you crazy?' (BP)
- c. # $k^w a \zeta = k^w = \acute{n}$ $e=\acute{t}em=us?$
crazy=2SG.SUBJ=Q COMP=NEG=3SBJV
'Are you crazy or not?' (BP)
- The $ke?$ -version was judged to be not as good as the \acute{n} -version.

¹ Name taken from Eckardt's talk at this conference.

Summary so far

- All B-contexts are **non-exhaustive**. This correctly predicts that *e témus* ('or not') questions are rejected.
- A subset of B-contexts are **neutral** in the sense that a $\neg p$ answer is felicitous. These include **conversation starters, requests, and offers**.
- We correctly predict that *ke?* questions are the **best option** in such cases, with *ń* questions also acceptable but not as preferred.
- A subset of B-contexts disallow a $\neg p$ answer. These include **obvious truths** and **idiot questions**.
- We correctly predict that *ń* questions are the **best option** in such cases, with *ke?* and *e témus* questions being degraded.

B-contexts that favour open sets of alternatives

(36) A: I can't sleep in the same room with that fellow.

B: Does he always snore (#or not)?

(Bolinger 1978:89)

- 'The speaker is not interested in a possible denial. He wants his supposition either confirmed or replaced.

The alternatives are not *He snores* and *He doesn't snore*, but ***He snores, He stays up too late, He talks in his sleep, He grinds his teeth, He thrashes around in his bed***, or any other possible explanation of the fact that he is a hard fellow to sleep in the same room with.' (Bolinger 1978:89)

B&R, who assume a monopolar analysis for plain PQs:

- 'A polar question ... identifies one alternative that is salient and is silent about the others.' e.g., in *Are you making pasta?*, 'the questioner leaves open the full range of dishes B could be cooking, and hence a perfectly fine answer ignores the mentioned alternative. The polar question simply indicates that they take the mentioned alternative to be one of the possible alternatives.' (B&R:398-399)

B-contexts that favour open sets of alternatives¹

Predictions for this set of contexts:

<i>e témus</i>	#	(context is non-exhaustive)
<i>ń</i>	✓	(<i>ń</i> expects a <i>p</i> answer, but leaves other answer options open)
<i>ke?</i>	?✓	($\neg p$ is a possible answer, but <i>ke?</i> restricts alternatives)

Predictions:
ń > *ke?* > *e témus*

¹ cf. Kamali & Nakamura (this conference): ‘Try out’ questions

Open alternatives contexts prefer *ń*

Predictions:
ń > *ke?* > *e témus*

(37) [Storyboard] Mary and Bella run into each other and Bella looks tired. Mary asks 'Are you ok?' And Bella replies 'I'm so tired. I can't sleep in the same room as my husband any more.' Mary asks:

a. ex=*ń* *χ^woq^w-y-əqs?*
IPFV=*Q* snore-EXT-nose
'Does he snore?'

(BP; volunteered)

c. *??* ex=*ń* *χ^woq^w-y-əqs* *e=tém=us?*
IPFV=*Q* snore-EXT-nose *COMP=NEG=3SBJV*
'Does he snore or not?'

(BP)

Open alternatives contexts prefer *n̩*

Predictions:
n̩ > *keʔ* > *e témus*

(38) *Your colleague is very grumpy today and they look not great. You ask them:*

- a. kén-əm? qáʔəʒ=k^w=*n̩*?
what.happen-MID tired=2SG.SUBJ=*q*
'What's the matter? Are you tired?' (BP; volunteered)
- b. ? kén-əm? *keʔ* k=eʔ=s=qáʔəʒ?
what.happen-MID *q* D/C=2SG.POSS=NMLZ=tired
'What's the matter? Are you tired?' (BP)

BP's comment: “[a] is just I’m saying ‘Are you tired?’ and I’m probably gonna go through a whole list of stuff. Like *Kenem*, qáʔəʒ k^w *n̩*? *Kénəm*, q^wənu^w k^w *n̩*? [What’s the matter, are you tired? What’s the matter, are you sick?] ... So you could add, it’s easier to add stuff in.”

Open alternatives contexts prefer *ń*

Predictions:
ń > *ke?* > *e témus*

(38) *Your colleague is very grumpy today and they look not great. You ask them:*

- a. kén-əm? qáʔə́ʔ=kʷ=ń?
what.happen-MID tired=2SG.SUBJ=Q
'What's the matter? Are you tired?' (BP; volunteered)
- b. ? kén-əm? ke? k=eʔ=s=qáʔə́ʔ?
what.happen-MID Q D/C=2SG.POSS=NMLZ=tired
'What's the matter? Are you tired?' (BP)
- c. # kén-əm? qáʔə́ʔ=kʷ=ń e=tém=us?
what.happen-MID tired=2SG.SUBJ=Q COMP=NEG=3SBJV
'What's the matter? Are you tired or not?' (BP)

BP's comment on (c): "I would never ever say that. Unless something gave me reason to. Like all of a sudden if the person was jumping up and I'd be like there should be *témus* because obviously something changed."

Summary of B-context data

- Three sub-types of B-context:
 1. $A \rightarrow p$ answer is allowed (conversation starters, requests, offers)
 2. $A \rightarrow p$ answer is disallowed (obvious truths, idiot questions)
 3. Open sets of alternatives

CONTEXTS	\acute{N} AND $KE?$ PREDICTIONS	\acute{N} AND $KE?$ RESULTS	E $TÉMUS$ PREDICTIONS	E $TÉMUS$ RESULTS
$\rightarrow p$ answer ok	$ke? > \acute{n}$	$ke? > \acute{n}$	#	#
$\rightarrow p$ answer bad	$\acute{n} > ke?$	$\acute{n} > ke?$	#	#
open sets	$\acute{n} > ke?$	$\acute{n} > ke?$	#	#

When are *e témus* questions ever good?

- When there is cornering!

(27) [Storyboard] A salesman comes to the door wanting to sell tools. After the resident waffles indecisively for a while, the salesman asks her:

keʔ k=s=až-memən=əx^w e† e=tém=us?
Q D/C=NMLZ=buy=DESID=2SG.ERG and **COMP=NEG=3SBJV**
'Do you want to buy them or not?' (GM; volunteered)

(28) [Storyboard] A mother asks her children if they washed their hands before eating, but they don't answer her. She asks again:

ćew-kst-əm=kp=ń e=tém=us?
wash-hand-MID=2PL.SUBJ=Q **COMP=NEG=3SBJV**
'Did you wash your hands or not?' (BP; volunteered)

Analysis 2: Exhaustivity

Analysis of exhaustivity from B&R

- ‘Following Zimmermann (2000, Sect. 2.3), we take it that closure intonation generally applies to a list, and indicates that “nothing but the list items has the property in question”.

We propose that the “property in question” for alternative questions is **being one of the salient alternatives** in the context of utterance, one of the possible answers to the QUD.’

(39) **Closure operator:** $\llbracket \llbracket \llbracket [Q] \alpha \rrbracket_{H*L-L\%} \rrbracket^c =_{\text{def}} \llbracket \llbracket [Q] \alpha \rrbracket \rrbracket^c$

defined only if $\text{SalientAlts}(c) = \llbracket \llbracket [Q] \alpha \rrbracket \rrbracket^c$

Constraint: α must contain a disjunction.

Definition: $\text{SalientAlts}(c)$ is the set of propositional alternatives that are salient in the context of interpretation c . (The possible answers to the QUD).

(B&R:388; based on Zimmermann 2000; Biezma 2009))

- The presupposition that there are only two possible answers leads to the ‘cornering’ effect (Biezma 2009). The addressee can only answer p or $\neg p$. 70

Analysis of exhaustivity in Nteʔkepmxcín

- There is no acoustic work on the intonation of Nteʔkepmxcín questions, but Salish languages differ from English in the intonation they use for focus and for polar questions (Jacobs 2007; Koch 2008; Caldecott 2016).
- Since there is no evidence for a H*L-L% intonation contour, I assign the closure meaning to a null element.
- Minimally adapting from B&R:

(40) **Closure operator:** $\llbracket \llbracket [_{[Q]} \alpha \text{ CLOS}] \rrbracket \rrbracket^c =_{\text{def}} \llbracket [_{[Q]} \alpha] \rrbracket^c$

defined only if $\text{SalientAlts}(c) = \llbracket [_{[Q]} \alpha] \rrbracket^c$

Constraint: α must contain *e témus*.

- The closure operator applies only in *e témus* questions. I have shown that *keʔ questions, although bipolar*, are pragmatically different from *e témus* questions and are *non-exhaustive*.

Conclusions; implications; a bit about
'declarative questions'

The semantics and pragmatics of the three PQ-types

n questions:

- For any utterance $u: \langle sp, \acute{n}(p), c_n \rangle \rightarrow c_{n+1}$
 $T_{n+1} = T_n + \llbracket p \rrbracket$
 $DC_{sp,n+1} = DC_{sp,n}$
- The speaker does not commit to p , but places only p on the Table. The speaker expects the addressee to commit to p , but other answers are also felicitous.

ke? questions:

- $\llbracket ke? \rrbracket = \lambda p_{\langle s,t \rangle} . \{p, \neg p\}$
- No presupposition that these are the only two salient alternatives. Licit answers include p , $\neg p$, or another proposition.

The semantics and pragmatics of the three PQ-types

e témus questions:

- Closure operator: $\llbracket \llbracket \llbracket \llbracket [Q] \alpha \text{ CLOS} \rrbracket \rrbracket \rrbracket^c =_{\text{def}} \llbracket \llbracket [Q] \alpha \rrbracket \rrbracket^c$
defined only if $\text{SalientAlts}(c) = \llbracket \llbracket [Q] \alpha \rrbracket \rrbracket^c$
Constraint: α must contain *e témus*.
- ‘Corner’ the addressee by presupposing that the only two felicitous answers are p and $\neg p$.

Comparison with English (a.k.a. Ntɛʔkepmxcín is very revealing)

- Forms used for each of the three question types:

	MONOPOLAR	BIPOLAR NON-EXHAUSTIVE	BIPOLAR EXHAUSTIVE
Ntɛʔkepmxcín	<i>n̄</i>	<i>keʔ</i>	<i>e témus</i>
English	DQ, PQ	PQ	<i>or not</i>

This table tells us:

monopolar/bipolar
split actually here!

monopolar/bipolar
split here?

- English could mislead** us into thinking that the monopolar/bipolar split is encoded by the difference between plain PQs (which cover the whole space to the left of the dotted arrow) and PQs with *or not* (cf. Bolinger, B&R).
- But, Ntɛʔkepmxcín *keʔ* questions are **bipolar but non-exhaustive**.
Ntɛʔkepmxcín reveals that the monopolar/bipolar split is at the solid arrow.
- Ntɛʔkepmxcín evidence suggests that English plain PQs are ambiguous.

Comparison with English (a.k.a. Ntɛʔkepmxcín is very revealing)

	MONOPOLAR	BIPOLAR NON-EXHAUSTIVE	BIPOLAR EXHAUSTIVE
Ntɛʔkepmxcín	<i>ń</i>	<i>keʔ</i>	<i>e témus</i>
English	DQ , PQ	PQ	<i>or not</i>

This table tells us:

2. Ntɛʔkepmxcín *ń*-questions are felicitous whenever English DQs are, and vice versa (setting aside the cases with a different intonational tune).
- But, it would not make sense to call *ń*-questions ‘declarative questions’.
 - In fact, Ntɛʔkepmxcín leads me to claim that DQs need to be re-examined.

About declarative questions

- Farkas & Roelofsen (2017): DQs and PQs have the same bipolar semantic denotation. Bolding indicates highlighting; the up arrow shows intonation:

(41) a. Did Amalia leave? = Amalia left[↑]?

b. $\{\{\mathbf{w} : \mathbf{Amalia\ left\ in\ w}\}, \{w : \text{Amalia didn't leave in } w\}\}^{\downarrow}$ (F&R:263)

- Assumption underlying F&R's proposal that DQs have the same semantics as ordinary PQs: **DQs are a 'marked' sentence type.**
- Marked forms are allowed to have special discourse effects.
- **Extra discourse effects of English DQs:** The speaker has some evidence for the highlighted alternative, but has a credence level in this alternative between zero and low (F&R:269).
- Works fine for English, but Ní Chiosáin offers a different perspective ...

Re-thinking 'declarative questions'

- In Ntɛʔkepmxcín, *n̄*-questions are not more marked than *keʔ*-questions.

F&R's (263) definition of markedness:

- 'If two forms have the same semantic content, one may be considered more marked than the other because it is **formally more complex**, or because it is **more prone to misinterpretation** and therefore less likely to ensure communicative success.'
- *n̄*-questions are **not formally more complex** than *keʔ*-questions. If anything, it's the reverse: *keʔ* embeds a subordinate clause and *n̄*-PQs are monoclausal.
- *n̄*-questions are **not more prone to misinterpretation**. They are not marked only by intonation, but by an overt morpheme.

Re-thinking 'declarative questions'

- *ṇ*-questions are not a 'hybrid' between declaratives and questions.
- **No syntactic distinction** between sentences that have the default force of asserting and sentences that have the default force of asking.
- No declarative vs. interrogative syntax: no verb or auxiliary movement in any kind of question. Word order is identical in declaratives, *keʔ*-questions, and *ṇ*-questions.
- Probably no intonational distinction between declaratives and interrogatives.

- cf. Kamali & Nakamura (this conference): 'clause type is not a reliable cue to define Ev+ forms.'

Re-thinking 'declarative questions'

- Since Ntɛʔkepmxcín *n̄*-questions are not marked utterance types, there is no reason they would be subject to extra discourse effects, as in F&R's approach to English DQs.
- This removes one of the conceptual arguments for F&R's approach.
- Instead, it appears preferable to assign *keʔ*-questions and *n̄*-questions **different semantic denotations**, within a theory of discourse that derives their respective pragmatic effects from those denotations (as I have given).
- This might not be a strong argument for the analysis of English, **but** Ntɛʔkepmxcín at least shows that languages exist in which there is no reason to assign DQ-like utterances the same semantic denotations as bipolar questions.

Re-thinking 'declarative questions'

- *n*-questions are not 'declarative questions', but they have basically **identical semantics and pragmatics to English DQs**.
- The semantic analysis of DQ-like utterances cross-linguistically does not have to be derived from, or pay attention to, or take into account, the fact that in English, DQs have non-canonical properties.

k^wuk^wstéyp!

I am very grateful to Nt̓eʔkepmxcín speakers Bev Phillips, k^wəʔt̓èzetk^wuʔ (Bernice Garcia), cúʔsinek (Marty Aspinall) and Gene Moses. Bernice wishes it to be acknowledged that she is a Kamloops Indian Residential School speaker, who is re-learning her language. She introduces herself thus: *ʔes ʔúm̓acms k^wəʔt̓èzetk^wuʔ t̓aw ʔe c̓əʔétk^wu wéʔe n̓citx^w. ʔuʔ wéʔec ʔex n̓et̓íyxs scwew̓xm̓x, ʔuʔ tékm xéʔe ne n̓t̓eʔkepm̓x e tmix^ws*, ‘My traditional name is k^wəʔt̓èzetk^wuʔ, my home is in Coldwater of ‘Nicola’ of Nlaka’pamux lands.’

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