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Polar questions in nɬeʔkepmxcín: monopolar, bipolar, and exhaustive

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Abstract
There is debate about whether polar questions (PQs) have bipolar semantics (e.g., denoting a set of propositions $\{p, \neg p\}$), monopolar semantics (a singleton set $\{p\}$), or both. The issue is difficult to settle using English data alone. In this paper I bring new data to bear on the debate from nɬeʔkepmxcín (Salish). I argue that natural language has both bipolar and monopolar questions, and that nɬeʔkepmxcín morphosyntactically distinguishes the two. I further argue that bipolar questions come in two types, which are also morphosyntactically distinguished in nɬeʔkepmxcín: exhaustive (presupposing that p and $\neg p$ are the only two answer options), and non-exhaustive (allowing answers beyond p and $\neg p$). I thus argue that nɬeʔkepmxcín's three-way morphosyntactic contrast in polar question forms reflects a three-way semantic contrast. The nɬeʔkepmxcín data have implications for the analysis of other languages. I argue against existing analyses of English plain PQs as either uniformly bipolar or monopolar, and in favour of an ambiguity analysis. The nɬeʔkepmxcín data further support a distinction in at least some languages between so-called inquisitive and assertive declarative questions (DQs), rather than a unified analysis of these. Finally, nɬeʔkepmxcín provides evidence that declarative-question-like or monopolar questions cross-linguistically need not be non-canonical, and their properties should therefore not be derived via markedness.

Keywords nɬeʔkepmxcín · Salish · Polar questions · Semantics · Pragmatics · Fieldwork

1 Introduction

1.1 Overview

This paper addresses a debate about the semantic denotation of polar questions (henceforth PQs). The issue is whether PQs like (1a) have *bipolar* denotations, including both positive and negative answer propositions as in (1b) (Hamblin 1973,

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among others), *monopolar* denotations as in (1c) (Bolinger 1978; Biezma and Rawlins 2012, among others), or allow both bipolar and monopolar denotations (Krifka 2015, among others).

(1) a. Is it raining?
b. {it is raining, it is not raining}
c. {it is raining}

This paper's contribution relies on new data from the Salish language nɬeʔkepmxcín. nɬeʔkepmxcín has two canonical ways to form a polar question, illustrated in (2).[1]

(2) a. **kéʔ=Ø** k=s=tékɬ=s
Q=3SBJ D/C=NMLZ=rain=3POSS
'Is it raining?' (BP)
b. tékɬ=Ø=**ṅ**
rain=3SBJ=**Q**
'Is it raining?' (BP)

Neither (2a) nor (2b) is more "interrogative" in its syntax than the other, and neither can be classified as a declarative question (henceforth DQ) like English (3).

(3) It's raining?

I will show that (2a) and (2b) have distinct pragmatic profiles. Following the spirit of Biezma and Rawlins's (henceforth B&R) (2012) discussion of English PQs, I will argue that the divergent pragmatic behaviour of the two nɬeʔkepmxcín PQ forms results from different semantic denotations. On the basis of nɬeʔkepmxcín, I will argue that (a) natural language allows both bipolar and monopolar question denotations; (b) these two question types are empirically distinguishable and are morphosyntactically distinct in some languages; and (c) plain bipolar and monopolar questions are both semantically and pragmatically distinct from a third type of PQ, illustrated in (4).

(4) [*Storyboard:*] *A grandmother has already asked her granddaughter twice whether it's raining. The third time, she asks:*
n-ʔímc tékɬ=Ø=ṅ **ʔe=tém=us**
1SG.POSS-grandchild rain=3SBJ=Q **COMP=NEG=3SBJV**
'Grandchild, is it raining or not?' (BP)

I will show that just like in English, nɬeʔkepmxcín 'or not' questions are *exhaustive*: they offer the addressee only two possible answering options and thus have a "cornering" effect (Biezma 2009).

[1] Unless otherwise stated, all data come from my fieldwork. Speakers are identified by initials on each data point. Phonologically elided material is enclosed in square brackets. Abbreviations not in the Leipzig Glossing Rules: 2CL: second-position clitic; ADD: additive; AUG: augmentative; CTR: control; D/C: determiner/complementizer; DESID: desiderative; DIM: diminutive; EMPH: emphatic; EXCL: exclusive; IMM: immediate; INCH: inchoative; IND: indirective applicative; INFER: inferential; INS: instrumental; LC: limited control; MID: middle; OOC: out of control; PREP: preposition; PROSP: prospective; REM: remote; RLT: relational applicative; SENSE: sensory evidential; TAG: tag question.

Table 1 Three question types in nɬeʔkepmxcín

Question type	Example
Monopolar	(2b)
Bipolar, non-exhaustive	(2a)
Bipolar, exhaustive	(4)

The nɬeʔkepmxcín PQ system is summarized in Table 1. The different morphosyntactic forms convey a three-way distinction between monopolarity, bipolarity without an exhaustivity inference, and bipolarity plus exhaustivity.

These results have broader implications. In particular, they cast doubt on claims by Bolinger (1978) and B&R (2012) that English plain PQs are exclusively monopolar. A core argument these authors propose for uniform monopolarity is that there are pragmatic differences between plain PQs and explicitly bipolar 'or not' questions. This is illustrated in (5) (judgments are crispest in an out-of-the-blue context).

(5) a. Will you marry me?
b. #Will you marry me or not? (Biezma 2009, p. 38; Krifka 2021a, p. 77)

B&R argue that the pragmatic inequality of (5a) and (5b) derives from a semantic distinction between monopolar (5a) and bipolar (5b) questions.

However, one problem with English as a data source is that two semantic properties are morphosyntactically collapsed in this language. As B&R themselves point out, English 'or not' questions are not only bipolar but also exhaustive: they not only denote $\{p, \neg p\}$, but also presuppose that there are no other salient propositions that could serve as answers. Closer examination reveals that a subset of the discourse contexts that Bolinger and B&R claim rule out bipolar questions actually only exclude *exhaustive* questions but allow non-exhaustive bipolarity. The predictions of this point of view are validated by the pragmatic distribution of the three nɬeʔkepmxcín question-types. The consequence of this is that contrasts like in (5) do not prove that English plain PQs are exclusively monopolar, but only that they are non-exhaustive.[2]

In the remainder of the introduction, I provide background on nɬeʔkepmxcín, my methodology, and the bipolar/monopolar debate. Section 2 overviews the syntax of nɬeʔkepmxcín PQs. Section 3 provides evidence that the two PQ-types in (2) differ in their pragmatic effects. Section 4 presents my analysis of these two question types. In Sect. 5, I turn to the contexts discussed by Bolinger (1978) and present data and analysis for the third type of PQ, exhaustive bipolar questions. Section 6 argues against potential alternative analyses of the nɬeʔkepmxcín data, and Sect. 7 discusses implications.

1.2 Language background

nɬeʔkepmxcín (a.k.a. Thompson River Salish; ISO 639-3: thp) is a Northern Interior Salish language, spoken along the Fraser Canyon and the Nicola and Thompson

[2]Bartels (1999) also argues that English PQs are not proven by Bolinger's (1978) data to be monopolar. However, she correlates bipolar questions with an obligatory falling intonation. See fn. 32.

Rivers in British Columbia, Canada. A map of the traditional territory can be found at https://native-land.ca/maps/territories/nlakapamux/. The language comprises several dialects; the Spuzzum and Lytton dialects are the most well-documented, with the Nicola Valley dialect less well-studied. According to Gessner et al. (2022), the language had approximately 105 fluent speakers in 2022. There are active community efforts towards language retention and revitalization.

Data are presented in a variant of the North American Phonetic Alphabet, used in Thompson and Thompson's (henceforth T&T) 1992 grammar and 1996 dictionary and in Jimmie (1994). This is one of the orthographies used by community members,[3] but other writing systems are in use as well. Neither capitalization nor punctuation are used in the nɬeʔkepmxcín data.

1.3 Methodology

The data presented here result from the author's fieldwork with four speakers of nɬeʔkepmxcín: Bev Phillips (Lytton; Lytton dialect), kʷəɬtèzetkʷuʔ/Bernice Garcia (Coldwater; Nicola Valley dialect), ċúʔsinek/Marty Aspinall (Coldwater; Nicola Valley dialect) and Gene Moses (Shulús; Nicola Valley dialect).[4] As the consultants speak different dialects, I will sometimes give more than one version of the same utterance. Unless noted, the speakers' judgments agree on all the empirical generalizations presented.

The two main data collection methodologies were translation tasks and acceptability judgment tasks. In translation tasks, consultants are asked to produce an nɬeʔkepmxcín utterance after being exposed to a discourse context paired with an English utterance. Discourse contexts were presented either verbally or via connected strings of pictures, known as storyboards (Burton and Matthewson 2015). Figure 1 gives an example of a storyboard. The consultant views the pictures and then translates either the whole story, or only the final utterance. English translations presented with the data in this paper represent either the English prompt that was given to elicit an nɬeʔkepmxcín utterance, or the consultants' volunteered translations of nɬeʔkepmxcín utterances.

Acceptability judgment tasks involve the consultant evaluating nɬeʔkepmxcín utterances in discourse contexts, again presented either verbally or with the help of pictures. Consultants were not given a strict response scale but simply responded about whether the sentence sounded acceptable in the context. See Matthewson (2004) and the papers in Bochnak and Matthewson (2015), among others, for details of these methodologies.

It is important to note that the distinctions between different PQ forms in nɬeʔkepmxcín are subtle and extremely discourse dependent. One form is usually preferred by speakers, but other forms are not always clearly rejected. This is the case in English too, as shown by Domaneschi et al. (2017) and Beltrama et al. (2020), among

[3] See https://www.firstvoices.com/nlekepmxcin.

[4] kʷəɬtèzetkʷuʔ 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 ʔúməcms kʷəɬtèzetkʷuʔ təw ɬe ċəɬétkʷu wéʔe ncítxʷ ƛuʔ wéʔec ʔex netíyxs scwéẇxmx ƛuʔ tékm xéʔe ne nɬeʔképmx e tmíxʷs* 'My traditional name is kwəɬtèzetkwuʔ, my home is in Coldwater of 'Nicola' of nlaka'pamux lands.'

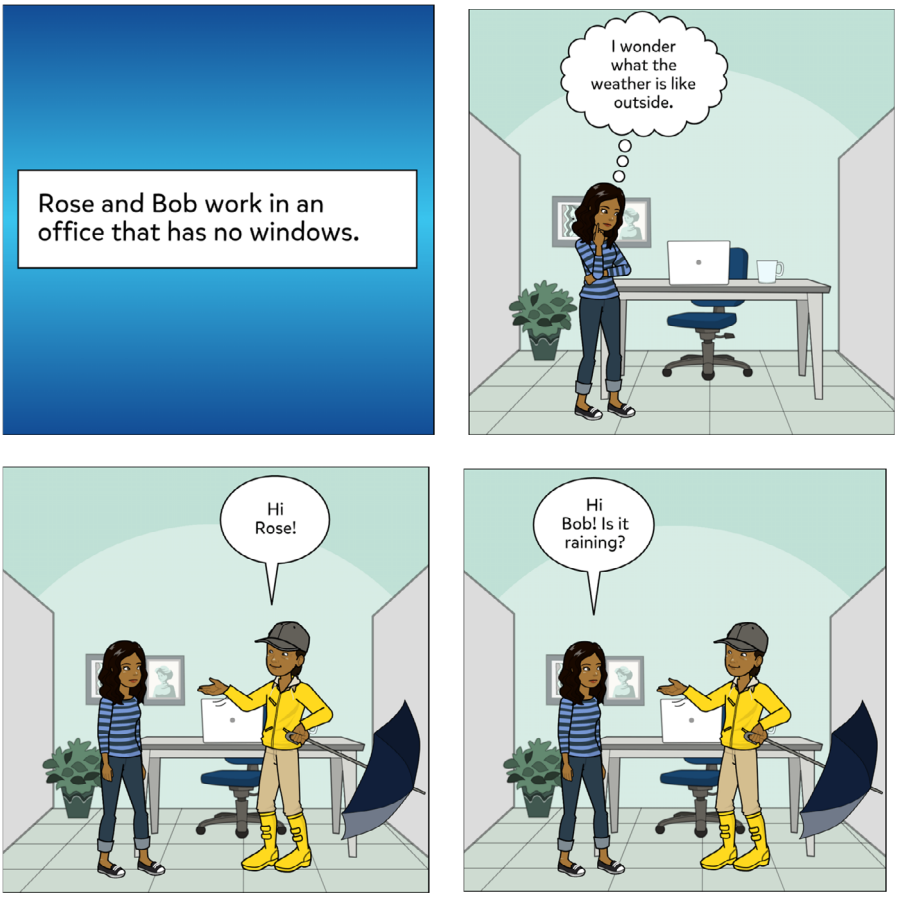

Fig. 1 Example storyboard (images created using pixton.com)

others. For example, in English there is only a subtle acceptability difference between *Is it raining?* and *It's raining?* in a context where one's addressee has just walked in wearing wet raingear.

For languages with large numbers of speakers, these issues can be somewhat alleviated by conducting experiments with large numbers of participants. This allows researchers to establish overall preferences between different question forms; see, for example, Roelofsen et al. (2012), Domaneschi et al. (2017) for English, or Liu et al. (2021) for German.[5] In the nɬeʔkepmxcín context, however, a large-scale experimental methodology is not possible.

In light of this, I use the following methods to arrive at empirical generalizations. Forms that are volunteered (as opposed to just accepted) by consultants are interpreted as being fully felicitous. Forms which are accepted but never, or rarely, volun-

[5]Conversely, there are also advantages of one-on-one semantic fieldwork over large-scale experiments; see Davidson (2020), Matthewson (2022), among others.

teered are interpreted as being less felicitous than freely volunteered forms. I report negative judgments where they are available, and I also provide consultants' comments when they are relevant to elucidating the meaning of utterances or the contexts they are felicitous in. Speaker comments are not treated as a direct line to analysis, but they provide valuable clues about pragmatic (in)felicity. As such, speaker comments are part of the empirical evidence.[6]

1.4 The bipolar/monopolar debate

Hamblin's (1973) analysis of PQs says that they denote the set of their possible answers: the prejacent proposition and its negation. This bipolar analysis may be implemented formally in different ways. For example, a bipolar question p? might be construed as a set of propositions $\{p, \neg p\}$ (Hamblin 1973), a partition of possible worlds into $p-$worlds and $\neg p$-worlds (Groenendijk and Stokhof 1984), or a set of information states (Ciardelli et al. 2019).

This analysis faces obvious empirical challenges if it is expected to account for all morphosyntactic strategies that can be used to request a 'yes' or 'no' response. The utterance-types in (6a–g), for example, each convey different pragmatic effects, and are felicitous in a different subset of discourse contexts. A simple bipolar analysis alone will not be sufficient to handle these.

(6)
a. Is it raining? POSITIVE QUESTION
b. Isn't it raining? HIGH NEGATIVE QUESTION
c. Is it not raining? LOW NEGATIVE QUESTION
d. It's raining? DECLARATIVE QUESTION
e. IS it raining? VERUM QUESTION
f. It's raining, isn't it? REVERSE-POLARITY TAG
g. It's raining, is it? SAME-POLARITY TAG

A multitude of studies have addressed these different ways of expressing the broadly defined speech act of "questioning whether p". In order to account for the different question-types, additional operators or pragmatic conditions are often proposed.[7]

However, even if we restrict attention to PQs narrowly defined—for English, simple questions with interrogative morphosyntax as in (6a)—some authors have challenged the classical bipolar viewpoint. In a series of papers, Krifka (2015, 2017, 2021a, 2021b) defends the idea that at least some questioning-whether-p utterances with interrogative syntax are monopolar: they present only one proposition to the ad-

[6] See Berthelin (2020) on the usefulness of reporting consultant responses verbatim.

[7] Some selected references not mentioned elsewhere in the paper include Ladd (1981), Han (1999), Hsieh (2001), Huddleston and Pullum (2002), Romero and Han (2004), Šafářová (2005), Beyssade and Marandin (2006), Romero (2006, 2020), Asher and Reese (2007), Reese (2007), Aihara (2009), Reese and Asher (2010), Roelofsen and van Gool (2010), Giannakidou (2013), Repp (2013), Sudo (2013), Yuan and Hara (2013), Ito (2015), Roelofsen and Farkas (2015), Gärtner and Gyuris (2017), Gyuris (2017), Xu (2017), Goodhue (2018, 2019, 2022, 2023), Frana and Rawlins (2019), Bhatt and Dayal (2020), Silk (2020), Giannakidou and Mari (2021a,b), Woods and Roeper (2021), Bill and Koev (2022, 2025), Larrivée and Mari (2022), Rawlins (2023), Mohammadi and Koev (to appear).

dressee. Other proponents of the idea that some PQs are monopolar include Bartels (1999), Kamali (2024) and Kamali and Nakamura (2024).

Some authors have even proposed that *all* PQs (narrowly defined) are monopolar; see, for example, Bolinger (1978), Gunlogson (2003, p. 36), Roberts (2012, p. 10), B&R (2012), Krifka (2021a) and Tabatowski (2022).[8] For example, B&R write that "there is no alternative-introducing item in polar questions" (2012, p. 395), and that all PQs "denote just a single Hamblin alternative" (2012, p. 366). In B&R's analysis, the question operator in a PQ simply adds a presupposition that the prejacent is one of the salient alternatives in the context.

The monopolar idea remains controversial, however. Authors in the "bipolar only" camp include Farkas and Roelofsen (2017), Ciardelli et al. (2019) and Ciardelli (2021). These authors adopt a bipolar semantics not only for PQs narrowly defined but also for at least some other questioning-whether-p speech acts.

The current paper aims to shed light on these controversies. I will argue that utterances that are used to question whether p can be either bipolar or monopolar, and that nɬeʔkepmxcín morphosyntactically encodes the difference. I will further suggest that in languages like English, PQs narrowly defined can be either bipolar or monopolar. Note that my focus here is positive PQs, and I do not address pragmatic bias in negative questions (6b-c), verum questions (6e), or tag questions (6f-g). These are left to future research.

2 Syntax of nɬeʔkepmxcín polar questions[9]

There are two canonical ways of forming a PQ in nɬeʔkepmxcín. The first involves a predicate *kéʔ* (optionally pronounced *kéʔe*).[10] T&T (1992) gloss *kéʔ* as 'is it (that) . . . ?', and Koch (2008) glosses it as 'is.it.case'.[11]

Syntactically, *kéʔ* is an intransitive predicate, with an expletive subject (phonologically null in indicative matrix clauses). *kéʔ* introduces a nominalized subordinate clause. An example is given in (7).[12]

(7) **kéʔ=Ø** [k=s=wík[-n]-t-Ø-x^{w} u=cíʔ e=heléẇ]
Q=3SBJ [D/C=NMLZ=see-CTR-TR-3OBJ-2SG.ERG to=there DET=eagle]
'Do you see the eagle over there?' (Koch 2008, p. 285)

The second PQ strategy involves the enclitic *ṅ*, which attaches after the first phonological word. PQs formed with *ṅ* are monoclausal.

[8] Tabatowski (2022) proposes that PQs convey goal-oriented modality, but his analysis is monopolar in the sense that only the prejacent appears in the denotation, not its negation.

[9] Here and for most of the paper, I focus on matrix questions. I briefly address embedded questions in Sect. 6.3.

[10] *kéʔ* also occasionally surfaces as *ckéʔ*(*e*). T&T (1992, p. 120) analyse *ckéʔ*(*e*) as containing an "emphatic" prefix *cə*.

[11] T&T (1992, p. 166) call *kéʔ* an interrogative indefinite, and state that it can also mean 'which, whichever, whatever'. They do not give examples of *kéʔ* as a *wh*-word, and I have not been able to elicit its 'which' meaning.

[12] In data from prior literature, some glosses have been added or adjusted.

(8) c?és-m=k^{w}=**ṅ** t=k-e?-x^{w}e[?]pít
bring-CTR.MID=2SG.SBJ=**Q** OBL=DET=2SG.POSS-clothing
'Did you bring some clothes with you?' (T&T 1992, p. 150)

Neither of these two strategies is syntactically more "interrogative" than the other. There is no verb or auxiliary movement in either kind of PQ; predicates are already sentence-initial. The nominalization *ké?* induces is not specialized for interrogatives: negation, for example, triggers nominalization, but *wh*-questions do not (T&T 1992, p. 166). Note also that although no formal acoustic studies have been done on nɬe?kepmxcín intonation, the Salish languages for which information is available do not have a final rise in PQs. Caldecott (2016) shows for St'át'imcets (Northern Interior Salish, closely related to nɬe?kepmxcín) that "while all speakers had increased pitch associated with yes/no questions, none signalled yes/no questions with a final rise." For Sḵwx̱wú7mesh (Central Salish), Jacobs (2007) finds that there is a final fall in both declaratives and PQs. Impressionistically this is the case in nɬe?kepmxcín as well: neither *ké?*-questions nor *ṅ*-questions end in rising intonation.

Nor can either of the two question-forms be characterized as a default. *ké?* and *ṅ*-questions are each specialized for particular pragmatic contexts, and their respective contexts are not in a subset-superset relation. This will be amply illustrated below.[13]

The third and final type of nɬe?kepmxcín PQ to be investigated is explicit 'or not' questions, as in (4), with another example in (9). Either a *ké?* or an *ṅ*-question is followed by an nɬe?kepmxcín equivalent of *or not*.[14]

(9) [*Storyboard:*] *A salesman comes to the door wanting to sell tools. After the resident waffles indecisively for a while, the salesman asks her:*
ké?=Ø k=s=?aż-méməṅ[-t]-Ø-əx^{w}
Q =3SBJ D/C=NMLZ=buy-DESID-TR-3OBJ-2SG.ERG
?eɬ ?e=tém=us
and COMP=NEG=3SBJV
'Do you want to buy them or not?' (GM; volunteered)

This third strategy is much more pragmatically restricted than either of the other two, as will be discussed in detail below.

In the next section we turn to the pragmatic distinctions between the question types.

3 The pragmatic profile of *ké?*- and *ṅ*-questions

In this section I contrast two types of discourse contexts. The first are neutral contexts in which the questioner has no prior epistemic bias (or at least, wishes to convey

[13] See Kamali (2024) for the same finding in Turkish: there are two common PQ forms, neither of which can be characterized as a default.

[14] There is no single lexical item that conveys disjunction in nɬe?kepmxcín. Speakers have several ways of expressing 'or not': *?e=tém=us* as in (4) (literally 'if it would not be'), *?eɬ ?e=tém=us* as in (9) (the same, preceded by the coordinator *?eɬ*), or *?e=ké?=us* (containing the question predicate *ké?*).

none), and there is no contextual evidence about the true answer to the question.[15] In these contexts, a question with prejacent p has both p and $\neg p$ (i.e., 'yes' and 'no') as equally possible answers, and *kéʔ* is the preferred strategy.

The second set of contexts are those where the speaker cannot commit to the question's prejacent p, but believes that the addressee will commit to p. These correspond closely to the contexts that according to Rudin (2018, 2022) characterize English DQs, and they include contexts where the speaker is sceptical of the truth of p. In these contexts, *ṅ* is the preferred strategy.[16]

3.1 Neutral discourse contexts[17]

Our first neutral example is (10). The questioner has no prior epistemic bias about the answer, and there is no contextual evidence about the truth of the prejacent. The consultant volunteers *kéʔ* in (10a), and when asked about the *ṅ*-question in (10b), corrects it to (10c), which contains an evidential. In (10c), the evidential *nukw* conveys that the speaker has evidence to suggest that it's going to be sunny. (10c) is thus no longer a neutral question in which either answer is equally expected. (For discussion of *nukw*, see Littell and Mackie 2011, 2014; Smith 2022, 2025; Hannon and Smith 2023.)

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

a. **kéʔe**=Ø xʷúẏ k=s=n-q̇ʷəy-énk=s
Q=3SBJ PROSP D/C=NMLZ=LOC-ripe-belly=3POSS
ʔe=spiʔx̣áwt=us
COMP=day.removed=3SBJV
'Is it going to be sunny tomorrow?' (KBG; volunteered)

b. #xʷúy=Ø=**ṅ** n-q̇ʷəy-énk ʔe=spiʔx̣áwt=us
PROSP=3SBJ=**Q** LOC-ripe-belly COMP=day.removed=3SBJV
'Is it going to be sunny tomorrow?' (KBG)
Consultant's comment on (b): "Well it hasn't happened yet. You have to add in something."

c. xʷúẏ=Ø=**nukʷ**=**ṅ** n-q̇ʷəy-énk ʔe=spiʔx̣áwt=us
PROSP=3SBJ=**SENSE**=**Q** LOC-ripe-belly COMP=day.removed=3SBJV
'Is it going to be sunny tomorrow?' (KBG; volunteered)
Consultant's comment on (c): "You're kinda predicting."

Example (11) is another neutral context. The consultant initially volunteered an *ṅ*-question, but then judged a *kéʔ*-question to be "way better".

[15] Büring and Gunlogson (2000, p. 7) define "contextual evidence" as "[e]vidence that has just become available to the participants in the current discourse situation."

[16] See Sect. 5 for data with explicit 'or not' questions. 'Or not' PQs are severely contextually restricted and can be assumed to be infelicitous in all the contexts in this section.

[17] In this section, when minimal contrasts are given *kéʔ*-questions are shown first, then *ṅ*-questions.

(11) [*Storyboard; adapted from Beltrama et al. (2020, supplementary file item 10):*] *Two friends run into each other while out walking. After greetings, one says, "Did I tell you I got a puppy?" and the other one replies:*

a. ẏé=Ø címe**ɬ**=Ø=**ṅ**=me**ɬ** xéʔe t=k=eʔ-sqé<q>xeʔ
good=3SBJ first=3SBJ=**Q**=2CL DEM OBL=DET=2SG.POSS-dog<DIM>
'Nice! Is it your first puppy?' (BP; volunteered)

b. ẏé=Ø **keʔ**=Ø k=s=címe**ɬ**=s=me**ɬ** xéʔe
good=3SBJ **Q**=3SBJ D/C=NMLZ=first=2CL DEM
t=k=eʔ-sqé<q>xeʔ
OBL=DET=2SG.POSS-dog<DIM>
'Nice! Is it your first puppy?' (BP)
Consultant's comment on (11b): "Yeah that sounds way better than [(11a)]."

Another set of fully neutral contexts are exam questions; the exam-giver takes care not to presuppose or suggest anything about the possible answer (AnderBois 2019). As shown in (12)-(13), exam questions prefer *kéʔ*.[18]

(12) *Question on a test in school.*
kéʔe=Ø k=s=kíʔke**ṫ**=s **ɬ**=x̌əq̇əmcín
Q=3SBJ D/C=NMLZ=close=3POSS DET.REM=Lytton
təw=**ɬ**ə=c̓ə**ɬ**-étk^{w}u
PREP=DET.REM=cold-water
'Is Lytton close to Coldwater?' (KBG; volunteered)

(13) *As in (12).*

a. **kéʔ**=Ø k=s=ʔúpi[-n][-t]-Ø-s he=pəták
Q=3SBJ D/C=NMLZ=eat-CTR-TR-3OBJ-3ERG DET=potato
he=spéʔec[19]
DET=bear
'Do bears eat potatoes?' (CMA; volunteered)

a'. **kéʔ**=Ø k=[s]=[ʔ]ex=s ʔúpi[-n][-t]-Ø-s e=spéʔec
Q=3SBJ D/C=NMLZ =IPFV=3POSS eat-CTR-TR-3OBJ-3ERG DET=bear
he=stak^{w}ól̓s
DET=potato
'Do bears eat potatoes?' (BP; volunteered)

[18]For (13), one speaker volunteered *ṅ* and accepted *keʔ*, as shown in (i). There appears to be some individual variation, as this speaker also more freely accepted *ṅ* in scenarios parallel to (10)-(11) than the speakers reported on in these examples.

(i) *As in (12).*

a. **kéʔ**=Ø k=s=ʔúpi[-n][-t]-Ø-s e=pəták e=spéʔec
Q=3SBJ D/C=NMLZ=eat-CTR-TR-3OBJ-3ERG DET=potato DET=bear
'Do bears eat potatoes?' (GM)

b. ʔex=**ṅ** ʔúpi[-n][-t]-Ø-s e=pəták e=spéʔec
IPFV=**Q** eat-CTR-TR-3OBJ-3ERG DET=potato DET=bear
'Do bears eat potatoes?' (GM; volunteered)

a''. ʔex=**ṅ** ʔúpi[-n][-t]-Ø-s e=spéʔec e=stak^{w}ól̓s
IPFV=**Q** eat-CTR-TR-3OBJ-3ERG DET=bear DET=potato
'Do bears eat potatoes?' (BP; volunteered after prompting to use *ṅ*)

A further set of neutral questions are statements of debate topics (AnderBois 2011; Gunlogson 2008 on "speculative questions"). The *kéʔ* strategy is routinely offered for debate topics; examples are given in (14)-(15).

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

a. **kéʔ**=Ø k=s=y̓é=s ʔe=wʔéx=ux^{w}
Q=3SBJ D/C=NMLZ=good=3POSS COMP=live=2SG.SBJV
wə=ɬ=pankúpa
PREP=DET.REM=Vancouver
'Is Vancouver a good place to live?' (KBG; volunteered)

a'. **kéʔ**=Ø k=s=y̓é=s t=k=s=wʔéx
Q=3SBJ D/C=NMLZ=good=3POSS OBL=DET=NMLZ=live
e=*Vancouver*
DET=Vancouver
'Is Vancouver a good place to live?' (BP; volunteered)

(15) *As in (14).*

a. **kéʔ**=Ø k=s=y̓é=s=ƛ̓uʔ ʔe=ʔéx^{w}=us
Q=3SBJ D/C=NMLZ=good=3POSS=EXCL COMP=IPFV=3SBJV
cw-ə́m e=scmé<ṁ>iʔt
do-CTR.MID DET=children<DIM>
'Is it good if children work?' (GM; volunteered)

a'. **kéʔ**=Ø k=s=y̓é=s ʔe=cw-ə́m=us
Q=3SBJ D/C=NMLZ=good=3POSS COMP=do-CTR.MID=3SBJV
e=scmé<ṁ>iʔt
DET=children<DIM>
'Is it good if children work?' (BP; volunteered)

Although *kéʔ* is standardly volunteered in debate contexts, *ṅ* is also accepted, as shown in (16).

(16) *As in (14).*

a. y̓é=Ø=**ṅ** t=k=s=wʔéx=Ø n=e=*Vancouver*
good=3SBJ=**Q** OBL=DET=NMLZ=live=3SBJ PREP=DET=Vancouver
'Is it good to live in Vancouver?'
(BP; volunteered when prompted to use *ṅ*)

[19]In nɬeʔkepmxcín, all clauses have subject agreement clitics, and in transitive clauses, these clitics are expletive and co-occur with the ergative (transitive subject) suffix. Thus, in the subordinate clause in (13a) there are actually two subject markers, one of which is expletive. However, in indicative clauses, the expletive clitic is always phonologically null, and it has been omitted from the interlinear glosses throughout for the sake of clarity. See Davis (2000) for discussion of subject positions in nɬeʔkepmxcín and other Salish languages.

b. ẏé=Ø=**ṅ** ʔe= cw-ə́m=us e=scmé<ṁ>iʔt
good=3SBJ=**Q** COMP=do-CTR.MID=3SBJV DET=children<DIM>
'Is it good if children work?' (BP)

The final set of neutral contexts tested involve job interviews. Here we see an interesting difference depending on whether the truth of the question's prejacent would positively or negatively affect the interviewee's ability to do the job. With a positively viewed prejacent, some speakers volunteer *kéʔ* first or more frequently, while others tend to volunteer *ṅ*. However, as soon as the question contains a negatively viewed prejacent, *all* speakers switch to *kéʔ* and disprefer *ṅ*. Assuming that a reasonable job interviewer will refrain from indicating bias towards a negatively viewed proposition, these facts support the idea that *kéʔ* creates neutral questions, while *ṅ* does not.

Sample data are given in (17)-(18). In (17a-b), the speaker allows either question-type when either a neutral stance or positive bias is pragmatically appropriate. With a negatively viewed prejacent, the speaker volunteers *kéʔ* (17c), calls an *ṅ*-question "insulting" (17d), and judges that the *kéʔ* version of the insulting question is not insulting (17e).

(17) *Interviewing someone for a job working at an animal shelter. The job includes keeping the animals' cages clean.*

a. **kéʔ**=Ø k=eʔ=s=ẏé n=e=c̓éx̣-əm
Q=3SBJ D/C=2SG.POSS=NMLZ=good PREP=DET=clean-CTR.MID
'Are you good at cleaning?' (BP; volunteered first)

b. ẏé=k^{w}=**ṅ** n=e=c̓ə́x̣-əm
good=2SG.SBJ=**Q** PREP=DET=clean-CTR.MID
'Are you good at cleaning?' (BP; volunteered second)

c. **kéʔ**=Ø k=s=zuʔíx-əmn[-t]-Ø-əx^{w}
Q=2SBJ D/C=NMLZ=used.to-RLT-TR-3OBJ-2SG.ERG
k=eʔ=s=zu∼zúw-t ʔe=ʔéx=ux^{w}
D/C=2SG.POSS=NMLZ=AUG∼slow-IMM COMP=IPFV=2SG.SBJV
cw-ə́m
do-CTR.MID
'Are you used to being late when you work?' (BP; volunteered)
Consultant's comment on (17c): "That's a good interview one."

d. naʕʔíp=k^{w}=**ṅ** zu∼zúw-t ʔe=ʔéx=ux^{w}
always=2SG.SBJ=**Q** AUG∼slow-IMM COMP=IPFV=2SG.SBJV
cw-ə́m
do-CTR.MID
'Are you always late when you go to work?' (BP; volunteered)
Consultant's comment on (17d): "This could get insulting."

e. **kéʔ**=Ø k=s=naʕʔíp=s
Q=3SBJ D/C=NMLZ=always=3POSS
k=eʔ=s=zu∼zúw-t ʔe=ʔéx=ux^{w}
D/C=2SG.POSS=NMLZ=AUG∼slow-IMM COMP=IPFV=2SG.SBJV
cw-ɔ́m
do-CTR.MID
'Are you always late when you go to work?'
(BP; volunteered as correction of a similar sentence offered by researcher)

Researcher, about (17e): "Is that insulting?"

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

In (18), the questions came in the order (a)-(c) in the storyboard. The speaker began by using *ṅ* (18a-b), but switched to *kéʔ* as soon as the prejacent had negative implications—i.e., as soon as it became important not to convey bias towards the 'yes' answer (18c). Another speaker (GM) offered the exact same pattern of *ṅ* vs. *kéʔ* with this storyboard (data omitted for space reasons).

(18) *[Storyboard:] Interviewing someone for a job.*

a. cúk^{w}=k^{w}=**ṅ** tɔx^{w}=e=sk^{w}úl
finish=2SG.SBJ=**Q** PREP=DET=school
'Have you finished school?' (CMA; volunteered)

b. ẏe-mín[-t]-Ø-x^{w}=**ṅ** ʔe=ʔéx^{w}=ux^{w} cw-ɔ́m
good-RLT-TR-3OBJ-2SG.ERG=**Q** COMP=IPFV=2SG.SBJV do-CTR.MID
wɔ=séytknmx
PREP=people
'Do you like working with people?' (CMA; volunteered)

c. **kéʔe**=Ø piʔ-stéʔ=us
Q=3SBJ point.in.time-what=3SBJV
k=eʔ=s=hes-zús
D/C=2SG.POSS=NMLZ=STAT-get.tied
'Have you ever been to jail?' (CMA; volunteered)

The data in this section have shown that there is a strong tendency for the *kéʔ* strategy to be preferred when the context is neutral (no speaker epistemic bias is conveyed, and no contextual evidence for the truth of the prejacent). *ṅ*-questions are often also accepted in these neutral contexts, but sometimes we see evidence that the context is subtly changed by doing so.

In the next section we turn to non-neutral contexts, and we will see an opposite data pattern. In fact, the tendency is even stronger, with *kéʔ*-questions often being outright rejected.

3.2 Contexts with contextual evidence for *p*[20]

In this section we look at cases where the speaker had no prior epistemic bias, but there is evidence in the utterance situation for the truth of the prejacent. In these contexts, the speaker expects the addressee to confirm the prejacent. These are some of the prime cases where English DQs are acceptable (e.g., Gunlogson 2003, 2008 and much subsequent research).

In these contexts in nɬeʔkepmxcín, all my consultants tend to volunteer and prefer *ṅ*, as shown, for example, in (19). Here, the speaker gains evidence for the truth of the prejacent just before the utterance time. The speaker's comment on (19b) suggests that the *kéʔ* version would leave it too open as a live possibility that it is not raining.

(19) [*Storyboard; adapted from Gunlogson (2008, p. 104):*] *Rose is working in a windowless office. She thinks, "I wonder what the weather is like outside?" Just then, Bob enters the office wearing raingear and carrying an umbrella. Rose says:*

a. ʔex=Ø=**ṅ** tékɬ
IPFV=3SBJ=**Q** rain
'Is it raining?' (BP; volunteered)

a'. *Bob*, ʔex=Ø=**ṅ** tékɬ wə=ɬe=ʔéy̓cqeʔ[21]
Bob IPFV=3SBJ=**Q** rain PREP=DET.REM=outside
'Bob, is it raining outside?' (GM; volunteered)

b. **#kéʔ**=Ø k=s=tékɬ=s
Q=3SBJ D/C=NMLZ=rain=3POSS
'Is it raining?' (BP)
Consultant's comment about (19b): "I don't know if she would say *kéʔ ks tékɬs*, unless there's a way he got wet otherwise." [laughs]

Example (20) is similar. All three consultants offered *ṅ* (20a-a'). The *kéʔ*-question is either corrected back to *ṅ* (20b), or the context is changed to one that crucially lacks positive contextual evidence (20b').

[20] In this subsection and the next, when minimal contrasts are given *ṅ*-questions are shown first, then *keʔ*-questions.

[21] A *keʔ*-question in this context was not asked from this consultant, but he rejected the very similar (ib):

(i) *Mary comes into the room completely wet. John wants to find out why she is wet and thinks that it could be because of the weather. He asks:*

a. ʔex=Ø=**ṅ** tékɬ
IPFV=3SBJ=**Q** rain
'Is it raining?' (GM; volunteered)

b. **#kéʔ**=Ø k=s=tékɬ=s
Q=3SBJ D/C=NMLZ=rain=3POSS
'Is it raining?' (GM)

(20) [*Storyboard; adapted from Gunlogson (2008, p. 127):*] *Bob is going for a walk and runs into Mary, a friend who he hasn't seen for a while. He notices her hair is shorter than usual and he says:*

a. (*Mary*) níḵ-(ə)n[-t]-Ø=əxʷ=**ṅ** eʔ-sḵép-qən
Mary cut-CTR-TR-3OBJ-2SG.ERG=**Q** 2SG.POSS-hair-head
'(Mary,) you had a haircut?' (CMA, GM; volunteered)

a'. ʔes-ɬóq̓ʷ-qn=kʷ=**ṅ**
STAT-strip-head=2SG.SBJ=**Q**
'You had a haircut?' (BP; volunteered)

b. ?**kéʔe**=Ø k=s=níḵ-n[-t]-Ø-əxʷ eʔ-sḵép-qən
Q=3SBJ D/C=NMLZ=cut-CTR-TR-3OBJ-2SG.ERG 2SG.POSS-hair-head
'Did you have a haircut?' (CMA)
Consultant on (20b): Corrects to (20a), and judges that (20a) is better.

b'. #**kéʔ**=Ø k=eʔ=s=es-ɬóq̓ʷ-qn
Q=3SBJ D/C=2SG.POSS=NMLZ=STAT-strip-head
'Did you have a haircut?' (BP; volunteered when asked to use *kéʔ*)
Consultant's comment on (20b'): "Maybe, yes. Maybe they're talking on the phone."

Example (21) also has contextual evidence that the addressee believes the prejacent. All three consultants volunteered *ṅ* (21a-a'). When one was asked about starting the question with *kéʔ*, she gave (21b), but judged it as worse than the *ṅ*-question version.

(21) *Your friend applied for a job, but you have no idea whether she was successful or not. You show up at her place and she is celebrating. You say:*

a. kwən[n]-nwéṅ[-t]-Ø-xʷ=**ṅ** (ɬəne) e/ɬəɬ=s-cə́w
grasp-LC-TR-3OBJ-2SG.ERG=**Q** DEM DET/DET.REM=NMLZ-do
'You got the job?' (CMA, BP; volunteered)

a'. kwe[n]-nwéɬṅ[-t]-Ø=kʷ=**ṅ** ɬe=s-cə́w
grasp-LC.MID-TR-3OBJ=2SG.SBJ=**Q** DET.REM=NMLZ-do
'You got the job?' (KBG; volunteered)

b. **kéʔ**=Ø k=s=kwe[n]-nwéṅ[-t]-Ø-xʷ
Q=3SBJ D/C=NMLZ=grasp-LC-TR-3OBJ-2SG.ERG
ɬ=s-cə́w
DET.REM=NMLZ-do
'Did you get the job?'
(BP; volunteered when asked about using *kéʔ*; volunteered translation)
Consultant's comment about (21a) vs. (21b): "I would use [(21a)]. But they're both totally correct. I would use [(21a)]."

Further evidence is given in (22)-(24). In all these contexts with contextual evidence for the prejacent, consultants volunteered *ṅ*-questions.

(22) *Rose left her lunch in the lounge at work and then had to answer a phone call in her office. She comes back, excited to eat, and finds that the food is gone. The only other person in the lounge is Nadia. Rose says to Nadia:*

ʔúpi-x[-t]-cem-x^{w}=**ṅ**
eat-IND-TR-1SG.OBJ-2SG.ERG=**Q**
{ɬ/t=e}=n-s-ɬaʔx̣-áns
{DET/OBL=DET}=1SG.POSS-NMLZ-eat-tooth
'Did you eat my food?' (KBG, BP; volunteered)

(23) *Your beloved pet canary was sick and had to have an operation. You are waiting while the operation takes place and then the vet comes out looking sad and guilty. You say:*

a. zúq^{w}=Ø=**ṅ**(=x̀əm̀)
die=3SBJ=**Q**(=2CL)
'It's dead?' (BP; volunteered first; KBG; volunteered)

b. **kéʔ**=Ø k=s=zúq^{w}=s
Q=3SBJ D/C=NMLZ=die=3POSS
'Is it dead?' (BP; volunteered second; KBG; accepted)
Consultant's comment about (23a) vs. (23b): "I would probably use [(23a)]."

In (24), the consultant's comments convey the neutral status of *kéʔ* as opposed to the non-neutral *ṅ*. Her comments about (24b) suggest that *kéʔ* requires a different context from the one given.[22]

(24) *A friend comes over to visit and it's about 2pm. If they were hungry, you would feed them, but you guess they've already eaten. You ask them:*

a. n-wéṅ=k^{w}=**ṅ** k=eʔ=[s=]ɬaʔx̣-áns
LOC-already=2SG.SBJ=**Q** D/C=2SG.POSS=NMLZ=eat-tooth
'You ate already?' (BP; volunteered)
Consultant's comment on (24a): "You must have already eaten? It's like a question though. It's kind of like you're assuming they already ate because it's so late."

b. #**kéʔ**=Ø k=s=n-wéṅ k=eʔ=s=ɬaʔx̣-áns
Q=3SBJ D/C=NMLZ=LOC-already D/C=2SG.POSS=NMLZ=eat-tooth
'Did you eat already?' (BP)
Consultant's comment on (24b): "Yes. But that's really asking a question … it's totally asking a question … you really just have no clue."

The data in this section have shown that when there is contextual evidence for the truth of the prejacent, *ṅ* is the preferred strategy. However, the data have not yet determined whether *ṅ*-questions require the *speaker* to have a bias towards the truth of *p*, or whether the addressee's probable commitment is good enough. In the next section I provide data that addresses this issue.

[22]Beste Kamali (p.c.) judges that in Turkish, the bipolar PQ form would be used in (24). Kamali's comments suggest that assumptions may differ about whether it being 2pm constitutes evidence that the addressee has recently eaten.

3.3 Contexts where the speaker has zero commitment to *p*

Malamud and Stephenson (henceforth M&S) (2015) offer a set of contexts to tease apart fine-grained nuances with regard to speaker and addressee commitments and projected commitments. A projected commitment to *p* means that the expected next step in the discourse is that the relevant agent commits to *p*. The nɬeʔkepmxcín data in M&S's contexts show that when the speaker cannot commit to *p*, but *p* is a projected addressee commitment, *ṅ*-questions are used.

The first case from M&S is (25). Here, the speaker is projecting addressee commitment; they expect confirmation that the neighbour is good-looking. The speaker knows nothing about the neighbour and therefore is not committing themselves to *p*. One consultant volunteered *ṅ* (25a), and the other volunteered *kéʔ* (25b), which fits with the fact that in English also, a neutral PQ is appropriate. The second consultant also judged an *ṅ*-question to be acceptable (25a'). This shows that a complete absence of speaker commitment is compatible with *ṅ*-questions.

(25) [*Adapted from M&S (2015, p. 5):*] *A. and B. are gossiping. A. doesn't know anything about B.'s neighbour. B. says, blushing, "You've GOT to see this picture of my new neighbour!" Without looking, A. replies:*

a. ném=Ø=**ṅ** ẏé s=k̇^{w}éṅ ∼ ṅ=s
very=3SBJ=**Q** good NMLZ=look∼OOC=3POSS
'Is he good-looking?' (KBG; volunteered)

a'. ẏeh-ús=Ø=**ṅ**
good-face=3SBJ=**Q**
'Is he good-looking?' (BP)

b. **kéʔ**=Ø k=s=ẏeh-ús=c
Q=3SBJ D/C=NMLZ=good-face=3POSS
'Is he good-looking?' (BP; volunteered)

The absence of any speaker commitment requirement in *ṅ*-questions is further confirmed by contexts where the speaker outright disbelieves *p*. In (26)-(27), the addressee has just asserted the prejacent—therefore is committed to it—but the speaker is sceptical. Speakers prefer *ṅ* in these incredulity contexts. Versions with *kéʔ* are less acceptable, since a neutral question *p*? is normally inappropriate when the addressee has just asserted *p*.

(26) [*Rudin (2018, p. 39/2022, p. 348); based on Farkas and Roelofsen (2017, p. 276):*] *A mother asks her child to set the table, and he does a really bad job before announcing himself to be done. The mother says to the child:*

a. ʔes-cq-áyq^{w}=Ø=**ṅ** xʔe t=k=tə́pəl
STAT-set-log=3SBJ=**Q** DEIC OBL=DET=table
'This table is set?' (BP; volunteered)

b. ?**kéʔ**=Ø k=e=s=ʔes-cq-áyq^{w} xʔe t=k=tə́pəl
Q=3SBJ D/C=IPFV=NMLZ=STAT-set-log DEIC OBL=DET=table
'Is this table set?'
(BP; volunteered when asked to use *kéʔ*; volunteered translation)
Consultant's comment on (26b): "It's pretty much saying the same thing [as (26a)], but it's asking the air. She's not directing the comment to anybody."

(27) [*Adapted from Rudin (2018, p. 38/2022, p. 37), who cites Donka Farkas, p.c.:*] *A. is complaining. They say "My life is bad. I work a lot and I'm the boss of many people." B. replies:*

a. k̓es-t=Ø=**n̓** xéʔe
bad-IMM=3SBJ=**Q** DEIC
'That's bad?' (BP; volunteered)
Consultant's comment on (27a): "Almost like sarcasm."

a'. tém=Ø=**n̓** k=s=y̓é=s
NEG=3SBJ=**Q** D/C=NMLZ=good=3POSS
'That's not good?' (GM; volunteered)

b. ?**kéʔ**=Ø k=s=k̓és-t=s xéʔe
Q=3SBJ D/C=NMLZ=bad-IMM=3POSS DEIC
'Is that bad?' (BP)
Consultant's comment on (27b): "That one you're asking them. But you could have also said [version with *n̓*]."

b'. #**kéʔe**=Ø k=s=tém k=s=y̓é=s
Q=3SBJ D/C=NMLZ=NEG D/C=NMLZ=good=3POSS
'Is that not good?'
Consultant's comment on (27b'): "Not the way to say it in this context." (GM)

In these contexts, there is evidence that the addressee believes p, but the speaker is sceptical or outright disagrees. This suggests that it would not be correct to analyse *n̓*-questions as signalling speaker contingent commitment (as, for example, in Gunlogson's 2008 analysis of English DQs).

3.4 Summary

The two core nɬeʔkepmxcín strategies for forming PQs diverge pragmatically. Section 3.1 showed that in fully neutral discourse contexts, *kéʔ* is preferred. In contrast, Sects. 3.2–3.3 showed that *n̓* is the preferred option when the speaker believes the addressee will commit to p—either because there is contextual evidence for p, or because the addressee has expressed commitment to p.

4 Analysis: monopolar vs. bipolar

In this section I provide an account for the empirical differences shown above. Following the spirit of B&R (2012), I argue that the pragmatic distinction between *kéʔ-*

and *ṅ*-questions reflects a difference in their semantics. Specifically, the question-types are bipolar vs. monopolar, respectively.

I present the analyses of *kéʔ* and *ṅ* in Sects. 4.1–4.2 and then show in Sect. 4.3 that a further prediction of the analyses is upheld.

4.1 *kéʔ* is bipolar

The analysis of *kéʔ* is simple: it creates a bipolar question. The precise formalization of this can be rendered within various frameworks. For simplicity, I adopt the Hamblin-style semantics in (28). This is parallel to Krifka's (2017, p. 382) "wh-operator", which in English surfaces as *whether* in embedded questions and is null in matrix questions.[23]

(28) $[\![\textit{kéʔ}]\!] = \lambda p_{<s,t>}. \{p, \neg p\}$

We still need to get from this semantic denotation to the discourse effect of the question, namely that the addressee is expected to commit to one of the alternative propositions. There are various proposals in the literature about this. For Farkas and Bruce (2010), the question denotation is placed on the Table (roughly, a representation of the current Question Under Discussion), and "[p]lacing a question on the Table steers the conversation towards a state in which the question is resolved" (Farkas and Bruce 2010, p. 94). For Krifka (2017), after the wh-operator creates the alternative set, an illocutionary operator QU imposes a restriction on the addressee that their next contribution will be one of the alternative answer propositions.

Since *kéʔ* questions offer both p and $\neg p$ as possible next commitments of the addressee, they are—correctly—predicted to be unbiased. In fully neutral discourse contexts, *kéʔ* should be an excellent strategy to use, and we have seen that this is the case.[24]

One outstanding question (raised by a reviewer) is whether the choice of prejacent in *kéʔ*-questions plays a pragmatic role, as it does in English PQs. For example, even though *Is the door open?* and *Is the door closed?* are truth-conditionally equivalent in a bipolar analysis, they are not felicitous in exactly the same contexts. See van Rooy and Šafářová (2003), Trinh (2014), Farkas and Roelofsen (2017), Tabatowski (2022), among others, for discussion.

These particular effects can be subtle, and empirically investigating them must await future research. I speculate that *keʔ*-questions might not show exactly the same prejacent effects as English PQs, due to the presence in nɬeʔkepmxcín of an alternative question form that is unambiguously monopolar—thereby explicitly prioritizing the prejacent—and that unlike English DQs, is no more marked than the bipolar option.

[23] Krifka later amends this (2021a, p. 60) and claims that the *whether* operator creates a singleton set from a proposition.

[24] This is not to say that p and $\neg p$ are the only possible answers to a *keʔ*-question. On the contrary, alternative propositions q, r, etc. are allowed. I return to this in Sect. 5.1.

4.2 *ṅ* is monopolar

I propose that *ṅ* questions are monopolar: they denote a single proposition *p*. To analyse them I will largely be adopting Rudin's (2018, 2022) approach to English DQs (which in turn builds, like most work in this area, on seminal ideas found in Gunlogson 2003). I will also incorporate ideas from B&R (2012) in order to derive the pragmatic effects of *ṅ*-questions.

The core idea of Rudin's analysis is that the speaker of a DQ refrains from committing to the prejacent *p*, but also offers only *p* (and not its negation) as a future addition to the Common Ground (CG). Following a long tradition of research including Truckenbrodt (2006), Rudin assigns the relevant piece of pragmatic information to the rising intonation in English DQs:

(29) L* H-H% in English indicates that the speaker's discourse commitments do not change by means of the utterance. (Rudin 2022, p. 358)

This approach can be applied to nɬeʔkepmxcín, although the relevant meaning component is conveyed not by rising intonation but instead by the morpheme *ṅ*. The idea is modelled within Farkas and Bruce's (2010) Table model in (30). T_n stands for the Table at time n, and $DC_{sp,n}$ represents a speaker's discourse commitments at n. For any utterance *u* of the form *ṅ*(*p*), clause (i) states that the proposition denoted by *p* is added to the Table. Clause (ii) says that *p* does not enter the speaker's discourse commitments (the speaker's commitments remain unchanged).

(30) Contribution of *ṅ* (adapted from Rudin's 2018, p. 20 analysis of English L* H-H%):
For any utterance *u*: $\langle sp, \dot{n}(p), c_n \rangle \rightarrow c_{n+1}$
i. $T_{n+1} = T_n + [\![p]\!]$
ii. $DC_{sp,n+1} = DC_{sp,n}$

Note that this analysis does not involve any conditions on contextual evidence, unlike many analyses of various types of PQs (e.g., Büring and Gunlogson 2000; Gunlogson 2003; Trinh 2014; Goodhue 2021; see Romero 2024 for an overview).[25] This accords with the nɬeʔkepmxcín facts: we saw in Sect. 3.3 that *ṅ*-questions are acceptable in the absence of contextual evidence for the prejacent.

This analysis derives several generalizations that hold both for English DQs (Rudin 2022, pp. 343-344) and for nɬeʔkepmxcín *ṅ*-questions. The placing of *p* on the Table accounts for the fact that the addressee is invited to weigh in on whether *p* is true (termed "answer solicitation" by Rudin). The failure to add *p* to the speaker's commitments captures the fact that the speaker does not commit to the truth of *p* ("non-assertiveness"). The fact that the speaker can have epistemic bias either towards or against *p* ("variable speaker epistemic bias") follows because the only defining feature of this question-type is a lack of speaker commitment. This is compatible with the various types of speaker epistemic bias exemplified in Sects. 3.2–3.3.

[25] Gunlogson (2008, p. 105) argues against a positive contextual evidence condition for English DQs, citing also Beun (2000) and Poschmann (2008).

So far, English DQs and nɬeʔkepmxcín *ṅ*-questions seem to be behaving alike, and Rudin's analysis is correctly predicting their behaviour. However, there is one final empirical property of English DQs that Rudin's analysis is designed to capture, and here we will discover a difference between the two languages. The final property is "invariable addressee epistemic bias": "utterance of p? is only felicitous when the speaker has reason to believe that the addressee believes p" (Rudin 2022, p. 344).

Invariable addressee epistemic bias does not follow directly from the denotation in (30), but requires pragmatic reasoning, as follows. Grice's Quantity maxim (or a version of it tailored to question speech acts called "Comprehensiveness"; Rudin 2022, p. 365) requires speakers to project as many relevant future CGs as possible. Conversely, a version of Grice's Quality maxim (called "Viability") disallows speakers from projecting future CGs that violate any interlocutor's beliefs (Rudin 2022, p. 364). Now, a question with the denotation in (30) differs from an ordinary PQ only in not offering $\neg p$ as a future addressee commitment. A question that only tables p projects fewer future CGs than one that also tables $\neg p$, and given the interaction between Comprehensiveness and Viability, the speaker must have chosen to table only p because including $\neg p$ would have violated some interlocutor's beliefs. As Rudin puts it, "the assumption that the speaker is being cooperative in uttering [a DQ] licenses the inference that they are undecided about p, but think it's probable that the addressee believes p" (2022, p. 372).

Interestingly, however, contrary to the predictions of this pragmatic reasoning, nɬeʔkepmxcín *ṅ*-questions do not exemplify invariable addressee epistemic bias. While the *ṅ*-questions shown in Sects. 3.2–3.3. are all consistent with expected addressee commitment, this is not always the case. Consider (31).

(31) [*Storyboard, adapted from Bolinger (1978, p. 89):*] *Mary and Bella run into each other and Bella looks tired. Mary asks, "Are you ok?" Bella replies, "I'm so tired. I can't sleep in the same room as my husband anymore." Mary asks:*

ʔex=Ø=**ṅ** x̣ʷóq̇ʷ-eyqs
IPFV=3SBJ=**Q** snore-nose
'Does he snore?' (BP, GM; volunteered)

Applying Rudin's pragmatic reasoning to (31), we predict that the speaker believes that the proposition that Bella's husband snores (p) is a much more likely addressee commitment than the proposition that he does not snore ($\neg p$). If $\neg p$ were a possible future addressee commitment, then a cooperative speaker should not exclude a future CG containing $\neg p$, and would instead have chosen a bipolar *keʔ*-question.

This result is intuitively too strong for the scenario in (31).[26] While Mary might believe that snoring is more likely than any other single explanation for Bella's tiredness, she surely does not have to believe that snoring is more likely than all other explanations put together. Notice also that English DQs are different; they follow Rudin's predictions much more closely, at least for many speakers. Five out of seven

[26] Thanks to a reviewer for pressing me to deal with the implications of this fact.

English native speakers I consulted judged that a DQ is less felicitous in (31) than in positive contextual evidence cases (such as Gunlogson's wet raingear case in (19)).[27]

I propose to retain Rudin's semantic analysis, and to solve the problem with the pragmatic reasoning by denying that the only answer alternatives a speaker of an *ṅ*-question takes into account are the prejacent and its negation. In fact, this was denied already by Bolinger (1978) for English monopolar PQs. In his discussion of the scenario in (31), Bolinger proposes that a monopolar PQ with prejacent p prioritizes alternative answers other than $\neg p$. He writes (1978, p. 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.

B&R (2012, p. 398) similarly write that with the question *Are you making pasta?* (which they analyse as monopolar), the alternatives are not {you are making pasta, you are not making pasta} but {you are making pasta, you are making stew, you are making fish, ... }.

Adopting these ideas, I propose that nɬe?kepmxcín *ṅ*-questions have the alternative structure $\{p, q, r\}$ rather than $\{p, \neg p\}$. This allows us to avoid the unwanted inference that p is expected to be a more likely addressee commitment than all the other options bundled together, i.e., $\neg p$. It also captures the fact that the prejacent *is* considered a more likely alternative than q or r. Recall that Comprehensiveness requires speakers to project as many relevant future CGs as possible. With an *ṅ*-question, only p is placed on the Table so only future CGs that contain p are projected (the alternatives q and r are implicit). The addressee reasons that Viability must have prevented the speaker from spelling out those alternative options, so p must be more likely than q or r.[28] This has the welcome consequence that all the data above where the speaker *does* anticipate addressee commitment to p remain non-problematic.[29]

The assumption that nɬe?kepmxcín *ṅ*-questions have an alternative structure of the form $\{p, q, r\}$ rather than $\{p, \neg p\}$ is also a reasonable assumption on language-internal grounds. A speaker who wishes to contrast p directly with $\neg p$ has the very good option of using a *ke?*-question instead, and avoiding a *ke?*-question can be taken to imply that $\neg p$ is not a relevant alternative.[30]

Where does this leave English? It seems clear that we do not want to extend the possibility of alternative sets of the form $\{p, q, r\}$ to English DQs. Doing so would

[27] One speaker commented that a DQ is better in the raingear case than in the snoring one "because he's carrying an umbrella." Two others mentioned that there is more certainty that the prejacent is true with wet raingear than with snoring.

[28] See B&R (2012, p. 398ff) for similar reasoning deriving the fact that alternative questions like *Are you making pasta, stew or fish?* are more neutral than monopolar PQs like *Are you making pasta?*

[29] A reviewer asks whether pragmatic reasoning would incorrectly predict that *ké?*-questions are biased *against* prejacent-affirming answers, since the speaker declined to use an *ṅ*-question. I do not believe this is predicted, however. If the speaker were biased towards a $\neg p$ answer, a better option would be to use an *ṅ*-question with a negative prejacent.

[30] Another route to a similar end is taken by Kamali (2024), who brings in alternative propositions in monopolar PQs by invoking the prejacent's focus semantic value in the sense of Rooth (1992).

predict that English DQs are felicitous in the snoring case, which is incorrect for most speakers. Indeed, Rudin's analysis as it stands, including his pragmatic reasoning, seems to correctly account for English DQs. The only question is how to ensure that English DQs have alternative sets $\{p, \neg p\}$, while English monopolar PQs have alternative sets $\{p, q, r\}$. Since a full account of English goes beyond the bounds of this paper, I leave this issue for future research.

4.3 A further prediction

In this section I explore a further prediction of the proposed analysis, namely that neither *kéʔ*- nor *ṅ*-questions will be felicitous when the speaker can commit to p. This is expected for *keʔ*-questions since they place $\neg p$ on the Table as a possible answer, and it is hardwired into the denotation of *ṅ*-questions in (30) following Rudin (2018, 2022). Interestingly, not all analyses of English DQs make this prediction; I return to this below.

In (32), both speaker and addressee are well-informed about the facts, but the predicate is a taste predicate, so there is still room for negotiating agreement. The consultant volunteers an utterance containing the tag-marker *nəst*. Neither *ṅ* nor *kéʔ* are appropriate in this context, as predicted since the speaker is able to commit to the proposition that Bill is good-looking.

(32) [*Adapted from M&S (2015, p. 5):*] *B. and L. are discussing various characteristics of their mutual acquaintances. L. says, "I think Bill's good point is that he is just a really nice guy." B. replies:*

a. ẏeh-ús=Ø=wiʔ ʔéɬχ̣uʔ **nəst**
good-face=3SBJ=EMPH ADD **TAG**
'He's good-looking as well, isn't he?'
(BP; volunteered; volunteered translation)
Consultant's comment on (32a): "I'm trying to get you to agree with me, *nəst*?"

b. #ẏeh-ús=Ø=**ṅ**=wiʔ ʔéɬχ̣uʔ
good-face=3SBJ=**Q**=EMPH ADD
'Is he good-looking as well?' (BP)
Consultant's comment on (32b): "I guess you could, but you're asking the other person … it's kind of like you don't know. So you're just asking. I'm asking you, 'Is he good-looking as well?'"

c. #**kéʔ**=Ø k=s=ẏeh-ús=c
Q=3SBJ D/C=NMLZ=good-face=3POSS
'Is he good-looking as well?' (BP)
Consultant's comment on (32c): "I'm really just either being sarcastic or I don't know [if he's good-looking]."

A slightly different set-up is illustrated in (33). Here, the issue is not negotiating agreement. The speaker can commit to p and the addressee cannot, since the addressee is ignorant of the facts. According to M&S the speaker is raising the metalinguistic issue of whether mentioning the neighbour's attractiveness is the right conversational move. The consultant rejects the *ṅ*-utterance and her comment reveals that it is construed as a question about whether B is good-looking.

(33) [*Adapted from M&S (2015, p. 6):*] *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. ẏeh-ús=Ø [uttered with rising intonation]
good-face=3SBJ
'He's good-looking?' (BP; volunteered)

b. #ẏeh-ús=Ø=**ṅ**
good-face=3SBJ=**Q**
'Is he good-looking?' (BP)
Consultant's comment on (33b): "No, 'cause [B. has] never seen him."

The analysis I proposed above easily accounts for (33b): the *ṅ*-question is inappropriate because the speaker can commit to the prejacent, and the analysis rules out speaker commitment.

There is an interesting implication for English here. Notice that a DQ is felicitous (at least for many speakers) in (33). There is a debate about the status of "assertive DQs" in contexts like (33): some claim that they constitute a separate phenomenon from "inquisitive DQs" (e.g., Farkas and Roelofsen 2017; Krifka 2017; Jeong 2018; Rudin 2018, 2022), while some believe both types should receive a unified analysis (e.g., M&S 2015; Goodhue 2021, 2024, 2025; Westera 2013, 2014, 2017, 2018). Unified analyses typically rely on the idea that while the speaker can commit to the prejacent in assertive DQs, something else is at play: either a metalinguistic issue is raised (M&S), some other proposition in the QUD is questioned (Goodhue), or a Gricean maxim such as Relevance is violated (Westera).

The nɬeʔkepmxcín data shed cross-linguistic light on this debate because they show that in at least some languages, inquisitive and assertive DQ contexts cannot receive a unified analysis. nɬeʔkepmxcín *ṅ* is felicitous whenever the speaker refrains from committing to p, and is rejected whenever the speaker can commit to p, even if the discourse conditions that license English assertive DQs hold.

Another example supporting this generalization is given in (34). Again, *ṅ* is infelicitous when the speaker can commit to p, even though the speaker raises a metalinguistic issue about the appropriateness of asserting p. One consultant volunteers a form with neither *kéʔ* nor *ṅ* but with rising intonation (34a), and the other volunteers a plain declarative (34b). An *ṅ*-question is rejected by both speakers (34c-c').

(34) [*Storyboard:*] *Mary introduces Bella to Charlie. Charlie asks Bella to tell him about herself, but she doesn't know what kind of thing he wants to know. She replies:*

a. téʔ n=s=sk^{w}ul-éyt [rising intonation]
DEM 1SG.POSS=NMLZ=school-person
'I'm a teacher?' (BP; volunteered)

b. kən∼kən-ékst=kn
AUG∼help-hand=1SG.SBJ
'I'm a teacher.' (CMA; volunteered)

c. #sk^{w}ul-éyt=kn=**ṅ**
school-person=1SG.SBJ=**Q**
'I'm a teacher?' (BP)
Consultant's comment on (34c): "No. I don't know if that works. 'Cause you're questioning."

c'. #kən∼kən-ékst=kn=**ṅ**
AUG∼help-hand=1SG.SBJ=**Q**
'Am I a teacher?' (CMA; volunteered translation)
Consultant's comment on (34c'): "She's asking him if she's a teacher."

A final example in (35) confirms that as predicted by my analysis, neither *ṅ-* nor *keʔ-*questions are appropriate when the speaker can commit to p but questions another related proposition (in this case, whether singing is a desired subject to teach).

(35) [*Storyboard; adapted from an idea in Ward and Hirschberg (1985, p. 765):*]
A man phones a community centre and offers to teach something. The worker says "It depends what you want to teach. What can you do?" He replies:

a. ʔiɁ̓-m-nwéɬṅ=kn [rising intonation]
sing-CTR.MID-LC.MID=1SG.SBJ
'I can sing?' (BP; volunteered)

b. #ʔiɁ̓-m-nwéɬṅ=kn=**ṅ**
sing-CTR.MID-LC.MID=1SG.SBJ=**Q**
'I can sing?' (BP)
Consultant's comment on (35b): "No, 'cause he's asking a question."

c. #**keʔ** k=n=s=ʔiɁ̓-m-nwéɬṅ
Q D/C=1SG.POSS=NMLZ=sing-CTR.MID-LC.MID
'Can I sing?' (BP)
Consultant's comment on (35c): "No, 'cause cause he's asking a question … He's asking her if he can."

These data speak against applying M&S's (2015) or Goodhue's (2021, 2024, 2025) analyses of English DQs to nɬeʔkepmxcín *ṅ*, since these analyses predict felicity in the contexts in (33)-(35). Within a Rudin-style analysis, however, these data make sense. *ṅ* is predicted to be good when the speaker cannot commit to p, but in (33)-(35) they can.[31]

4.4 Summary

I have presented evidence that nɬeʔkepmxcín morphosyntactically encodes the distinction between questions that denote a bipolar set $\{p, \neg p\}$ (marked with *kéʔ*) and questions that place a singleton proposition p on the Table, but do not add p to the speaker's commitments (marked with *ṅ*). The analysis correctly predicts that (i) *kéʔ*-questions are preferred when the speaker offers the addressee both p and $\neg p$ as responses; (ii) *ṅ*-questions are preferred when the speaker expects the addressee

[31] These data furthermore suggest that while rising intonation does not signal an information-seeking question in nɬeʔkepmxcín (as pointed out in Sect. 2), it may signal metalinguistic uncertainty. I leave this for future research.

will commit to p; (iii) *ṅ*-questions do not *require* expected addressee commitment to p, but merely that p is more likely to be committed to than alternatives q, r; (iv) *ṅ*-questions do not place any restrictions on the speaker's beliefs about p: they are acceptable both when there is contextual evidence for p, and in incredulity contexts; and (v) when the speaker *can* commit to p, both *ṅ*- and *ké ʔ*-questions are infelicitous.

In the next section we bring in the third PQ-type, explicit 'or not' questions. I provide an analysis of them that follows B&R (2012). However, I will also argue that nɬeʔkepmxcín provides cross-linguistic evidence suggesting that English PQs are not uniformly monopolar, as claimed by B&R (2012) and Bolinger (1978).

5 The Bolinger contexts

A core argument that some researchers give for the unambiguous monopolarity of English PQs relies on pragmatic contrasts with explicitly bipolar PQs formed with *or not*. Bolinger (1978) and B&R (2012) both argue that the non-equivalence of plain PQs and *or not* PQs is evidence that plain PQs are monopolar. This non-equivalence is illustrated in (36)-(37).

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

a. Do you want some water?

b. #Do you want some water or not?$_{\text{H*L–L\%}}$ (B&R 2012, p. 400)

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

a. Do you like to play golf?

b. #Do you like to play golf or not?$_{\text{H*L–L\%}}$ (B&R 2012, p. 400)

I will argue that nɬeʔkepmxcín weakens this argument for the unambiguous monopolarity of PQs.

In Sect. 5.1, I provide a brief synopsis of B&R's (2012) analysis, and preview my argument against it. In Sect. 5.2, I give my analysis of nɬeʔkepmxcín 'or not' questions, which follows B&R's analysis of English 'or not' PQs, and outline the predictions of this for nɬeʔkepmxcín. Sections 5.3–5.5 present the data, and Sect. 5.6 summarizes.

5.1 Biezma and Rawlins's (2012) analysis, and a third type of PQ

B&R argue that English plain PQs and 'or not' PQs differ from each other semantically. Plain PQs are monopolar: they semantically denote a singleton set $\{p\}$, while 'or not' PQs are bipolar and semantically denote $\{p, \neg p\}$. See also Krifka (2021b) for similar ideas, modelled within a different framework.

The pragmatic distinctions between plain PQs and 'or not' PQs are argued to follow from these denotational differences, in combination with some additional assumptions. For plain PQs, B&R propose that the presentation of a monopolar set serves to "draw attention to one alternative out of potentially many" (B&R 2012, p. 400). This "leaves open what other alternatives there might be, allowing the answerer a wide range of freedom in responding" (B&R 2012, pp. 400-401). For example, in

the offer case in (36), the plain PQ draws attention to the possibility of water, but leaves other options open that the addressee could request (see also discussion of the snoring example in (31)).

In contrast, 'or not' PQs not only present a bipolar set including the negation of the prejacent, they also presuppose that the two propositions in that set are the only salient alternatives in the context. Therefore, they place the discourse into a "conversational cul-de-sac" (Biezma 2009), which is inappropriate in contexts like (36)-(37). For example, (37b) isn't a great conversation starter because it presupposes there are only two potential responses—*yes* or *no*—and leaves no possibility for follow-up about non-golf issues.

Compositionally, B&R implement their analysis via the denotations in (38)-(39). The only contribution of the [Q] operator in (38) is to presuppose that the (monopolar) set of alternatives provided by the question is "among the set of salient alternatives in the context" (B&R 2012, p. 392). α denotes a singleton set.

(38) **Question operator:**
$[\![[_{[Q]}\ \alpha]]\!]^c = [\![\alpha]\!]^c$
defined only if
(i) $[\![\alpha]\!]^c \subseteq \text{SalientAlts}(c)$ or if $\text{SalientAlts}(c) = \emptyset$, and
(ii) $|\ [\![\alpha]\!]^c \cup \text{SalientAlts}(c)\ | > 1$. (B&R 2012, p. 392)
Definition: SalientAlts(c) is the set of propositional alternatives that are salient in the context of interpretation c. (The possible answers to the Question Under Discussion). (B&R 2012, p. 388)

The closure operator in (39) applies to PQs containing disjunction and is signalled by final falling intonation (B&R 2012, p. 366). The closure operator presupposes that the only two salient alternatives in the discourse are p and $\neg p$. This successfully captures the "cornering" discourse effect of 'or not' PQs.

(39) **Closure operator** (defined only if $\text{SalientAlts}(c) = [\![[_{[Q]}\ \alpha]]\!]^c$)
$[\![[\ [_{[Q]}\ \alpha]_{\text{H*L–L\%}}]]\!]^c =_{\text{def}} [\![[_{[Q]}\ \alpha]]\!]^c$
Constraint: α must contain a disjunction.
(B&R 2012, p. 388; based on Zimmermann 2000; Biezma 2009)

Notice that in B&R's proposal there are two differences between plain PQs and 'or not' PQs. They differ both "in the presence/lack of an exhaustivity operator at LF, and in the alternative structure of the two types" (B&R 2012, p. 366). However, these two properties are in principle separable (see also Beltrama et al. 2020). It is logically possible for PQs to exist that are bipolar, but lack the exhaustivity operator. There are thus *three* possible PQ types within a broadly B&R-style approach, as schematized in (40).

(40) **Three possible PQ types**

Monopolar:	$\{p\}$
Bipolar, non-exhaustive:	$\{p, \neg p\}$
Bipolar, exhaustive:	$\{p, \neg p\}$ + Closure

The bipolar non-exhaustive type places two options on the Table, but doesn't presuppose these are the only two salient alternatives. It thus allows alternative non-p responses.

This logically possible system is exactly what I argue is instantiated by nɬeʔkepmxcín. The three types are morphosyntactically distinguished, as in (41). The bipolar exhaustive type corresponds to explicit 'or not' questions, introduced in (4) and (9) and exemplified again in (42).

(41) **PQ types in nɬeʔkepmxcín**

Monopolar:	$\{p\}$	*ṅ*
Bipolar, non-exhaustive:	$\{p, \neg p\}$	*kéʔ*
Bipolar, exhaustive:	$\{p, \neg p\}$ + Closure	*ʔe témus*

(42) [*Storyboard:*] *A mother asks her children if they washed their hands before eating, but they don't answer her, instead saying random other things. She asks again:*

céẇ-kst-əm=kp=ṅ **ʔe=tém=us**

wash-hand-CTR.MID=2PL.SBJ=Q **COMP=NEG=3SBJV**

'Did you wash your hands or not?' (BP; volunteered)

Evidence for this three-way split in nɬeʔkepmxcín questions comes from examination of a full range of the contexts originally shown by Bolinger (1978) to disallow *or not* in English. I refer to these as "Bolinger contexts", abbreviated as "B-contexts". I will argue that a subset of the discourse contexts that Bolinger and B&R claim rule out *bipolar* questions actually only exclude *exhaustive* questions, but allow non-exhaustive bipolar questions. These contexts contrast with a subset of B-contexts that truly require monopolarity.[32]

5.2 Analysis of nɬeʔkepmxcín 'or not' PQs and predictions

I adopt B&R's analysis of 'or not' PQs for nɬeʔkepmxcín *ʔe témus*-questions. Unlike in English, however, the exhaustivity operator cannot be assumed to be tied to intonation in nɬeʔkepmxcín (see discussion of Salish intonation in Sect. 2). Since there is no evidence for a H*L−L% intonation contour, I assign the closure meaning to a null element.

(43) **nɬeʔkepmxcín closure operator** (defined only if SalientAlts(c) = $[\![[_{[Q]}\,\alpha]]\!]^c$)

$[\![[\,[_{[Q]}\,\alpha]\ \text{CLOS}]]\!]^c =_{\text{def}} [\![[_{[Q]}\,\alpha]]\!]^c$

Constraint: α must contain *ʔe témus*.

(minimally adapted from B&R 2012, p. 388)

[32] Bartels (1999, p. 139ff) already argues that only some of the Bolinger contexts require monopolar PQs. She observes that some B-contexts allow falling-intonation PQs in English, where intonation tracks the monopolar/bipolar distinction: PQs "can be either representative of only the proposition encoded in their surface structure … or they may be semantically and pragmatically equivalent to [alternative questions] … The former interpretation correlates with a final rise in intonation, the latter with a fall" (Bartels 1999, p. 140). Bartels's proposal differs from mine in that she still has a two-way split that does not tease apart bipolar non-exhaustive PQs from exhaustive ones.

Assigning *ʔe témus*-questions a closure operator predicts that these questions are acceptable when the speaker wishes to corner the addressee. This is correct; (4), (9) and (42) are all cornering contexts.[33]

Here are the predictions of my analysis for the three question-types in B-contexts. All B-contexts are non-exhaustive: it is inappropriate in all of them to corner the addressee into exclusively a p or $\neg p$ response. The first prediction is therefore that *ʔe témus*-questions will be rejected in all B-contexts. Beyond that, I claim that B-contexts can be divided into three subsets.

One set of B-contexts pragmatically disallow a $\neg p$ answer. For these, I predict that $\dot{n}$ will be strongly preferred to *kéʔ*, since *kéʔ*-questions offer the addressee a $\neg p$ alternative. These contexts include cases where p is the only answer the addressee can realistically give, and rhetorical questions where the speaker is suggesting p.

A second subset of B-contexts are cases where the speaker expects the addressee to respond with p, but alternative propositions are also possible answers. Here again, we predict that $\dot{n}$ will be the most preferred strategy. An $\dot{n}$-question places only p on the Table, but allows other salient alternatives to also serve as answers (as discussed by B&R for their monopolar analysis, and adopted for nɬeʔkepmxcín in Sect. 4.2). However, I do not predict *kéʔ*-questions to be completely infelicitous in these contexts, since *kéʔ*-questions are non-exhaustive and the speaker could view $\neg p$ as one of the contextually licensed alternatives.

The final subset of B-contexts is those in which the speaker equally expects either a p or $\neg p$ answer. Here, *kéʔ* should be the preferred option, since it is appropriate for the speaker to include $\neg p$ in a (non-exhaustive) alternative set. These contexts include conversation starters, requests, and offers.

The predictions for the three-way split in nɬeʔkepmxcín PQs are summarized in Table 2.

Table 2 Predictions for B-contexts

Type of answers expected	*ṅ*	*kéʔ*	*ʔe témus*
$\neg p$ disallowed	√	#	#
p expected	√	?	#
p or $\neg p$ equally possible	?	√	#

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

B-contexts that pragmatically disallow a $\neg p$ answer include contexts in which the addressee can realistically only answer by confirming p, and rhetorical questions (RQs) where the speaker intends to suggest that p is true. The latter include what Eckardt (2024) calls "idiot questions".[34] The predictions for these contexts are spelled out in Table 3.

Necessary p-answer contexts are illustrated in (44)-(45). As predicted, $\dot{n}$ is the only acceptable strategy.

[33] An important issue for future research is how to derive the fact that nɬeʔkepmxcín 'or not' questions can be formed either using $\dot{n}$ (as in (4) and (42)) or *keʔ* (as in (9)). It seems likely that a solution will be found,

Table 3 Predictions for necessary *p*-answers and idiot questions

PQ type	Prediction	Reason
ṅ	✓	¬*p* is not offered as a potential answer
ké?	#	¬*p* is offered, but is not a viable answer
?e témus	#	¬*p* is offered, but is not a viable answer

(44) [*Adapted from Bolinger (1978, p. 88):*] *When you go into your sister's bedroom to fetch something, you see her lying in bed. You ask:*

a. q<?>íɬ=k^{w}=**ṅ**
awake<INCH>=2SG.SBJ=**Q**
'Are you awake?' (KBG; volunteered)

a'. ?es-n-q<?>íɬ=k^{w}=**ṅ**
STAT-LOC-awake<INCH>=2SG.SBJ=**Q**
'Are you awake?' (BP; volunteered)

b. **#ké?e**=Ø k=e?=s=q<?>íɬ[35]
Q=3SBJ D/C=2SG.POSS=NMLZ=awake<INCH>
'Are you awake?' (KBG)

b'. ??**ké?**=Ø k=e?=s-n-q<?>íɬ
Q=3SBJ D/C=2SG.POSS=NMLZ=LOC-awake<INCH>
'Are you awake?' (BP)
Consultant's comment on (*b'*): "It would probably work but, I don't know. Cause you're using that one *q?iɬ* ['awake'] word so then any version of that, it'd be like 'Ok, I think they're trying to say this.'"

c. #q<?>íɬ=k^{w}=ṅ **?e=tém=us**
awake<INCH>=2SG.SBJ=Q **COMP=NEG=3SBJV**
'Are you awake or not?' (KBG)

(45) [*Adapted from Bolinger (1978, p. 88):*] *Somebody in your house has announced they're leaving. A little while later you run into them in the kitchen, and you are very surprised, and you say:*

a. ẋ̇u? ?ex=k^{w}=**ṅ** n?éye
EXCL be=2SG.SBJ=**Q** DEIC
'Are you still here?' (BP; volunteered)

a'. ?ex=k^{w}=**ṅ** i? n?éye
be=2SG.SBJ=**Q** still/yet DEIC
'Are you still here?' (GM; volunteered)

since proponents of both monopolar-only and bipolar-only analyses also have to deal with explicit 'or not' questions.

[34]The term is based on Eckardt's (2024) example in (i).

(i) A: I enrolled in linguistics.
B: Are you an idiot?

[35]This speaker on one occasion rejected (45b), and on another occasion said, after long deliberation: "Yeah, it's ok. I'd rather use *ʕʷoy̓téc̓eme kʷ ṅ* ['Are you pretending to be asleep?']" Another consultant accepted (45b) (after volunteering a version with *ṅ*).

b. ??**kéʔ**=Ø k=eʔ=s=[ʔ]ex (iʔ) nʔéye
Q=3SBJ D/C=2SG.POSS=NMLZ=be (still/yet) DEIC
'Are you still here?' (BP; GM)
BP's comment on (45b): "Yeah [sounds sceptical]. You could, but then you're gonna have to explain."
GM's comment on (45b): "I guess you could say that but [(a')] is more proper."

c. #ƛuʔ ʔex=k^{w}=ṅ nʔéye **ʔe=tém=us**=nke
EXCL be=2SG.SBJ=Q DEIC **COMP=NEG=3SBJV**=INFER
'Are you still here or not?' (BP)

Example (45) raises an interesting issue. While the unacceptability of *keʔ* and *ʔe témus* is straightforwardly predicted, the acceptability of *ṅ* seems to clash with my analysis of *ṅ* as removing speaker commitment to the prejacent.[36] English DQs pose the same puzzle under many analyses, since they are also acceptable in this type of context. I hypothesize that mirativity is critical to the licensing of *ṅ* in (45), and indeed Bolinger (1978, p. 88) categorizes this question-type as "questions that embody surprise at a self-evident fact." Thus, while the speaker can technically commit to *p*, they have not fully assimilated it into their belief state. This is supported by the contrasting data in (46), a non-mirative context.

(46) *You notice someone in your garden who shouldn't be there so you ask them to leave. Then you watch from the window and you see that they don't leave. After about an hour you go out again and say:*

???ʔex=k^{w}=**ṅ**=ƛ̓uʔ nʔeye
be=2SG.SBJ=**Q**=EXCL DEIC
'You're still here?' (BP)
Consultant's comment: "That's like you're questioning them. [Not ok] unless you use sarcastic tone."

Another set of questions that disallow a $\neg p$ answer are rhetorical questions that intend to suggest (perhaps in a joking way) that *p* is true. I will focus on Eckardt's (2024) idiot questions. As shown in (47), *ṅ* is the top choice.

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

a. k^{w}áʕ=k^{w}=**ṅ**
crazy=2SG.SBJ=**Q**
'Are you crazy?' (BP; volunteered)

a'. ʔes-n-k^{w}áʕ-qən=k^{w}=**ṅ**
STAT-LOC-crazy-head=2SG.SBJ=**Q**
'Are you crazy?' (GM; volunteered)

b. ?**kéʔ**=Ø k=eʔ=s=k^{w}áʕ
Q=3SBJ D/C=2SG.POSS=NMLZ=crazy
'Are you crazy?' (BP)

[36] Thanks to a reviewer for pointing this out.

b'.??**ké?**=Ø k=e?=s=[?]es-n-k^{w}á?-qən
Q=3SBJ D/C=2SG.POSS=NMLZ=STAT-LOC-crazy-head
'Are you crazy?' (GM)
Consultant's comment on (b'): [laughs] "Saying it that way doesn't refer to him being crazy because he's moving to the city."

c. #k^{w}á?=k^{w}=ṅ **?e=tém=us**
crazy=2SG.SBJ=Q **COMP=NEG=3SBJV**
'Are you crazy or not?' (BP)

An analysis of RQs goes beyond the bounds of this paper; see Han (1998), Caponigro and Sprouse (2007), B&R (2017), Farkas (to appear), among others, for discussion. A common idea is that RQs are used when—or even presuppose that—the answer is already in the common ground. However, Eckardt (2024) points out that the asker of an idiot question is unlikely to be presupposing that the addressee believes the prejacent.[37] Eckardt proposes that a solution lies in Esipova and Romero's (2023) category of "explanation-seeking" RQs: questions that are used to suggest that the prejacent is a possible explanation for another fact. In (47), the proposition that the addressee is crazy would explain why they are planning to move to the city.

Both Esipova and Romero (2023) and Eckardt (2024) model idiot/explanation-seeking questions as bipolar. However, the monopolar/bipolar issue is not the topic of either of these works. Moreover, since the prejacent is a crucial part of the pragmatic reasoning (and $\neg p$ plays no role), a monopolar analysis would be simpler. Furthermore, Esipova and Romero show that explanation-seeking questions can, and 'or not' questions cannot, follow *what*, as shown in (48). Questions that follow *what* are a subclass of monopolar questions that Kamali (2024) and Kamali and Nakamura (2024) call "try-out" questions, further discussed in the next section.

(48) a. What did she, pass the exam (#or not)? (Esipova and Romero 2023)
b. What's the matter, are you tired (#or not)?
(Bolinger 1978, p. 89, cited in Esipova and Romero 2023)

I therefore conclude that the fact that idiot questions only allow *ṅ* is consistent with the analysis of *ṅ*-questions as monopolar.

5.4 B-contexts in which *p* is the most likely alternative, but other alternatives are possible

As discussed in Sect. 4.2, some PQs offer only p to the addressee but are open to alternative non-p answers. Bolinger (1978), B&R (2012), Kamali (2024) and Kamali and Nakamura (2024) all provide analyses in which monopolar questions allow non-p answers—in the snoring case in (31), for example, 'No, he talks in his sleep.' My analysis of *ṅ*-questions similarly allows non-p salient alternatives as answers.

The predictions for nɬe?kepmxcín for this type of context are spelled out in Table 4.

[37] Rawlins (2023) also mentions questions of this type and remarks that the answer to an RQ may be 'sarcastically entailed' by the context.

Table 4 Predictions for contexts that favour *p* but allow other alternatives

PQ type	Prediction	Reason
ṅ	√	*p* is the most likely as it is tabled
kéʔ	?	¬*p* is a possible answer, but *ṅ* better expresses the likelihood of *p*
ʔe témus	#	context is non-exhaustive; cornering inappropriate

These predictions are borne out, as shown in (49)-(50). The speakers volunteer *ṅ*, reject *ʔe témus*, and variably accept *kéʔ*. The consultant's comment in (50a) closely parallels Bolinger's and B&R's descriptions of alternative responses to monopolar questions.

(49) [*Storyboard, adapted from Bolinger (1978, p. 89):*] *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. ʔex=Ø=**ṅ** x̣ʷóq̇ʷ-eyqs
IPFV=3SBJ=**Q** snore-nose
'Does he snore?' (BP, GM; volunteered)

b. **kéʔ**=Ø k=s=x̣ʷóq̇ʷ-eyqs[=s]
Q=3SBJ D/C=NMLZ=snore-nose=3POSS
'Does he snore?' (GM)

c. ??/#ʔex=Ø=ṅ x̣ʷóq̇ʷ-eyqs (ʔeɬ) **ʔe=tém=us**
IPFV=3SBJ=Q snore-nose (and) **COMP=NEG=3SBJV**
'Does he snore or not?' (BP; GM)
GM's comment on (c): [laughs] "No *ʔeɬ ʔe témus*." [laughs]

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

a. kén-m=Ø qáʔəż=kʷ=**ṅ**
WH-CTR.MID=3SBJ tired=2SG.SBJ=**Q**
'What's the matter? Are you tired?' (BP; volunteered)
Consultant's comment on (50a): "[It] is just I'm saying 'Are you tired?' and I'm probably gonna go through a whole list of stuff. Like *kénm qáʔəż kʷ ṅ ... kénm qʷənúxʷ kʷ ṅ* [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."

b. ?kén-m=Ø **kéʔ**=Ø k=eʔ=s=qáʔəż
WH-CTR.MID=3SBJ **Q**=3SBJ D/C=2SG.POSS=NMLZ=tired
'What's the matter? Are you tired?' (BP)

c. #kén-m=Ø qáʔəż=kʷ=ṅ **ʔe=tém=us**
WH-CTR.MID=3SBJ tired=2SG.SBJ=Q **COMP=NEG=3SBJV**
'What's the matter? Are you tired or not?' (BP)
Consultant's comment on (50c): "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."[38]

Table 5 Predictions for B-contexts that allow $\neg p$ answers

PQ type	Prediction	Reason
ṅ	?	*ké?* would better convey the neutrality
ké?	√	$\neg p$ answer is a live option
?e témus	#	context is non-exhaustive; cornering inappropriate

5.5 B-contexts where the speaker equally expects a p or $\neg p$ answer

The predictions for B-contexts that anticipate a possible $\neg p$ answer are shown in Table 5. In these contexts, the speaker has no expectations about the answer, and for politeness reasons may wish to flag $\neg p$ as a possible response.

We begin with conversation starters. As shown in (51), these obey the predicted felicity ranking, with *ké?* the best, *ṅ* marginal, and *?e témus* rejected. The three speakers who were consulted all volunteered *ké?*-questions. Note that conversation starters provide important support for my claims that *ke?*-questions are not exhaustive and do not corner the addressee, in spite of being bipolar.[39]

(51) [*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. ?nés=k^{w}=**ṅ** wə=ɬe=q^{w}u?-ṁíx
go=2SG.SBJ=**Q** PREP=DET.REM=water-extreme
'Have you been to the river?' (GM)

b. **ké?**=Ø i? k=e?=s=nés
Q=3SBJ still/yet D/C=2SG.POSS=NMLZ=go
wə=ɬe=q^{w}u?-ṁíx
PREP=DET.REM=water-extreme
'Have you been to the river yet?' (GM; volunteered)
Consultant's comment on (51a) vs. (51b): "Well [(51a)] is a proper way to ask him a question, except that ... you could say [(51b)]."

[38]This comment reveals that *?e témus* can be used if the speaker changes their mind in the middle of the question, suddenly realizing that they should explicitly mention the possibility of a negative answer. Another case of this is given in (57c) below.

[39]In the conversation starter in (i), the speaker first volunteered *ke?*, then *ṅ*.

(i) [*Adapted from B&R (2012, p. 400):*] *You are at your friend's house and she has a few people over. You try to start a casual conversation with someone you don't know.*

a. **ké?**=Ø k=s=ẏe-mín[-t]-əx^{w} ?e=q̇^{w}yéẇ-m
Q=3SBJ D/C=NMLZ=good-RLT-TR-2SG.ERG D/C=pick.berries-CTR.MID
'Do you like to go berry picking?' (KBG; volunteered first)

b. ẏe-mín[-t]-Ø-x^{w}=**ṅ** ?e=q̇^{w}yéẇ-m
good-RLT-TR-3OBJ-2SG.ERG=**Q** D/C=pick.berries-CTR.MID
'Do you like to go berry picking?' (KBG; volunteered second)

c. #kéʔ=Ø iʔ k=eʔ=s=nés
Q=3SBJ still/yet D/C=2SG.POSS=NMLZ=go
wə=ɬe=qʷuʔ-m̓íx **ʔeɬ ʔe=tém=us**
PREP=DET.REM=water-extreme **and COMP=NEG=3SBJV**
'Have you been to the river yet or not?' (GM)

Consultant's comment on (51c): "No, no *témus*."

Requests also allow $\neg p$ answers. In many request contexts it would be pragmatically odd to only offer the addressee the option of a positive answer, excluding the negative. Again, the predictions are borne out: *kéʔ* is the best option.[40]

(52) a. xʷúy̓=**n̓** melíy=kt
PROSP=**Q** marry=1PL.SBJ
'Will you marry me?' (BP)

b. **kéʔ**=Ø k=s=xʷúy̓ s-melíy=kt
Q=3SBJ D/C=NMLZ=PROSP NMLZ-marry=1PL.POSS
'Will you marry me?' (BP; volunteered)

c. ??kéʔ=Ø k=s=xʷúy̓ s-melíy=kt
Q=3SBJ D/C=NMLZ=PROSP NMLZ-marry=1PL.POSS
ʔe=tém=us
COMP=NEG=3SBJV
'Will you marry me or not?' (BP)

(53) *Someone is asking their landlord if they can pay the rent late.*

a. y̓é=**n̓**=x̌u ʔe=x̣áq̓-e-cə-n=us
good=**Q**=EXCL COMP=pay-CTR-TR.2SG.OBJ-1SG.ERG=3SBJV
t=k=sné*n̓*seʔ
OBL=DET=later
'Can I pay you later?' (GM; volunteered)

b. **kéʔ**=Ø k=s=xʷúy̓=s x̣áq̓-e-cə-n
Q=3SBJ D/C=NMLZ=PROSP=3POSS pay-CTR-TR.2SG.OBJ-1SG.ERG
ʔe=né*n̓*seʔ=us
COMP=later=3SBJV
'Can I pay you later?' (BP; volunteered)

c. #kéʔ=Ø k=s=xʷúy̓=s x̣áq̓-e-cə-n
Q=3SBJ D/C=NMLZ=PROSP=3POSS pay-CTR-TR.2SG.OBJ-1SG.ERG
ʔe=né*n̓*seʔ=us **ʔe=tém=us**
COMP=later=3SBJV **COMP=NEG=3SBJV**
'Can I pay you later or not?' (BP)

[40] Rawlins (2023, p. 183) claims that with requests for help, "it is better to choose a form that requires only that the alternative aligned with the speaker's goals is possible over one that makes both possible." I claim that what is dispreferred in requests is only cornering/exhaustivity, not bipolarity.

c'. #ké?=Ø=ɬ̓u? k=s=y̓é=s
Q=3SBJ=EXCL D/C=NMLZ=good=3POSS
?e=x̣áq̓-e-cə-n=us t=k=sənén̓se? **?eɬ**
COMP=pay-CTR-TR.2SG.OBJ-1SG.ERG=3SBJV OBL=DET=later **and**
?e=tém=us
COMP=NEG=3SBJV
'Can I pay you later or not?' (GM)

(54) [*Adapted from van Rooy and Šafářová (2003, p. 302):*] *You need to carry a lot of heavy boxes out to your car. You are struggling and you see a stranger walking by. You ask:*

a. #ken[-n]-cém-x^{w}=**n̓**
help-CTR-TR.1SG.OBJ-2SG.ERG=**Q**
'Will you help me?' (GM)
Consultant's comment on (54a): "No … You need to add some more stuff to it: [(54b)]."

b. **ké?**=Ø k=s=ken[-n]-cém-x^{w}
Q=3SBJ D/C=NMLZ=help-CTR-TR.1SG.OBJ-2SG.ERG
'Will you help me?' (GM; volunteered)

Requests for permission also prefer *ké?*.[41] Two out of two speakers volunteered *ké?* in (55).

(55) *A teenager asking their parents.*

a. **ké?e**=Ø x^{w}úy̓ k=s=q^{w}ez[-n]-t-Ø-éne
Q=3SBJ PROSP D/C=NMLZ=use-CTR-TR-3OBJ-1SG.ERG
e=nəx̣^{w}-óyen̓xw c-?éyɬ t=k=sítist
D/C=animal.run-land EMPH-now OBL=DET=night
'Can I use the car tonight?' (CMA; volunteered)

a'. **ké?**=Ø k=s=q^{w}əż-nwén̓[-t]-Ø-ne e=ká
Q=3SBJ D/C=NMLZ=use-LC-TR-3OBJ-1SG.ERG DET=car
t=k=s-ʕáp
OBL=DET=NMLZ-evening
'Can I use the car tonight? (BP; volunteered)

Finally, offers also allow a $\neg p$ answer: the addressee should be able to decline, and the speaker can express that using a bipolar question. As predicted, consultants preferentially volunteer *ké?* in offers.

(56) *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. x^{w}úy̓=k^{w}=**n̓** q̓^{w}iyew̓s-cín
PROSP=2SG.SBJ=**Q** pick.berries-mouth
'Will you pick berries?' (KBG)

[41] Kamali (2024) shows that permissions in Turkish can only take the question-type she analyses as bipolar.

b. **kéʔ**=Ø xʷúẏ k=eʔ=s=q̇ʷiyeẇs-cín
Q=3SBJ PROSP D/C=2SG.POSS=NMLZ=pick.berries-mouth
'Will you pick berries?' (KBG; volunteered)

c. ʔxʷúẏ=kʷ=ṅ q̇ʷiyeẇs-cín **ʔe=tém=us**
PROSP=2SG.SBJ=Q pick.berries-mouth **COMP=NEG=3SBJV**
'Will you pick berries or not?' (KBG)
Researcher: "Which would be the best way?"
Consultant: "[(56b)]."

(57) *Your friends have just arrived at your house. You say:*

a. x̣ʷóx̣ʷst=k̇ʷ=**ṅ** t=k=qʷú?
want=2SG.SBJ=**Q** OBL=DET=water
'Do you want water?' (BP; volunteered second)

b. **kéʔ**=Ø k=eʔ=s=x̣ʷóx̣ʷst t=k=qʷúʔ
Q=3SBJ D/C=2SG.POSS=NMLZ=want OBL=DET=water
'Do you want water?' (BP; volunteered first)

c. ??kéʔ=Ø k=eʔ=s=x̣ʷóx̣ʷst t=k=qʷúʔ
Q=3SBJ D/C=2SG.POSS=NMLZ=want OBL=DET=water
ʔe=tém=us=nke
COMP=NEG=3SBJV=INFER
'Do you want water or not?' (BP)
Consultant's comment on (57c): "I personally wouldn't use it unless they pause too long, you're reading their expression, something told you it might not be so."

5.6 Summary

B-contexts are contexts in which it is pragmatically inappropriate to "corner" the addressee, forcing them to choose only p or $\neg p$. These contexts have previously been argued to provide evidence for a split between bipolar and monopolar questions, with only the latter being acceptable (Bolinger 1978; B&R 2012). Here I have provided evidence for a *three*-way split in question-types. I argued that B-contexts include not only contexts that require a monopolar question, but also contexts that allow non-exhaustive bipolar questions where the speaker offers the possibility of a $\neg p$ answer.

The data above showed that as predicted, exhaustive *ʔe témus*-questions are rejected in all types of B-context. Section 5.3 showed that B-contexts that disallow a $\neg p$ answer require $\dot{n}$. This follows since *kéʔ* questions are bipolar. Section 5.4 looked at B-contexts in which p is the most expected answer, but other alternatives are also possible. These prefer $\dot{n}$ but marginally allow *kéʔ:* $\dot{n}$ is the optimal way to express bias towards p, but since *kéʔ* does not presuppose that p or $\neg p$ are the only options, the addressee has freedom to respond with other alternatives. Finally, Sect. 5.5 looked at cases where the speaker wishes to remain neutral with respect to p vs. $\neg p$, such as conversation starters, requests, permissions and offers. As predicted, *kéʔ* is the best option here, with $\dot{n}$ also acceptable but not as preferred. This last group provides crucial evidence for the split between bipolar non-exhaustive questions, which are acceptable, and bipolar exhaustive questions, which are not.

6 Against alternative analyses

I have shown that nɬeʔkepmxcín possesses, in addition to exhaustive 'or not' questions, two common PQ-types with differing pragmatic profiles. I have argued that the distributions of *kéʔ*- and *ṅ*-questions derive from different semantic denotations: bipolar vs. monopolar. In this section I consider whether we could derive the nɬeʔkepmxcín facts while claiming either uniform bipolar denotations or uniform monopolar ones.

6.1 Not all nɬeʔkepmxcín questions are bipolar

Farkas and Roelofsen (henceforth F&R) (2017) argue for a uniformly bipolar analysis of PQs, even proposing that polar interrogatives and DQs have the same semantics, illustrated in (58).[42] The bolded alternative is highlighted (a mechanism within inquisitive semantics for when one of the alternatives is more prominent; see also Roelofsen and van Gool 2010, among others).[43]

(58) a. Did Amalia leave? = Amalia left↑?
b. {{**w: Amalia left in w**}, {w: Amalia didn't leave in w}}$^{\downarrow}$
(F&R 2017, p. 263)

Given F&R's uniformly bipolar analysis of English PQs and DQs, it is worth asking whether a similar approach could be applied to nɬeʔkepmxcín, obviating the need to propose that *ṅ*-questions are monopolar. In this section I argue against this potential alternative analysis.

One of the main assumptions underlying F&R's proposal that DQs can be assigned the same semantic denotation as ordinary PQs is that DQs are a "marked" sentence type. The marked status of DQs means that they are allowed to have "special discourse effects", in addition to the effects that follow automatically from the semantic type of the utterance:

(59) Division of labour principle:
a. The discourse effects of unmarked forms should be fully determined by their semantic content and the basic convention of use, F_b.
b. The discourse effects of marked forms should always include the discourse effects that are dictated by their semantic content and the basic convention of use F_b. In addition, they may include special discourse effects connected to the particular sentence type involved.
(F&R 2017, p. 250)

The special discourse effect that F&R propose for DQs is that the speaker has some evidence for the highlighted alternative, but has a credence level in this alternative between "zero" and "low" (F&R 2017, p. 269).

[42] Ciardelli et al. (2019) and Ciardelli (2021) also advocate for a uniformly bipolar analysis.

[43] The up-arrow ↑ in (58) indicates rising intonation. The superscripted down-arrow $^{\downarrow}$ indicates that the denotation is a proposition, in an inquisitive semantics sense: a set of information states, where information states "are modeled as sets of possible worlds" (F&R 2017, p. 248).

An approach of this type can work for English, preserving a uniform bipolar denotation for PQs and DQs. It does involve a level of complexity in the analysis of DQs though. First, DQs have a bipolar denotation. Next, one of the alternatives is highlighted, an additional theoretical tool beyond simply having a bipolar set. Finally, a special discourse effect is stated, which is allowed to exist because of the marked status of DQs.

nɬeʔkepmxcín offers a different perspective on the relationship between neutral PQs and DQ-like questions. In nɬeʔkepmxcín, *ṅ*-questions are no more marked than *kéʔ*-questions.[44] Consider F&R's (2017, p. 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." If anything, *kéʔ*-questions are formally more complex than *ṅ*-questions, since *kéʔ* embeds a subordinate clause and *ṅ*-questions are monoclausal. Nor are *ṅ*-questions more prone to misinterpretation. For English, F&R (2017, p. 264) argue that DQs are prone to misinterpretation because in DQs, "the only formal feature that signals inquisitiveness is rising intonation … Were this signal to be missed, the conveyed proposition would not be the intended one." But nɬeʔkepmxcín *ṅ*-questions are marked by an overt morpheme; they are no more likely to be misinterpreted than any other utterance type.

Given that *ṅ*-questions are not marked utterance types and are not non-canonical, there is no principled reason why they would be subject to extra discourse effects, over the "basic" effects of *kéʔ*-questions. This removes one of the main conceptual arguments for an F&R-style approach.

Thus, while we could indeed derive the nɬeʔkepmxcín facts under the assumption that all PQs are bipolar, we would need several stipulations to derive the behaviour of *ṅ*-questions. Instead, it appears preferable to assign *kéʔ* and *ṅ*-questions differing semantic denotations, as long as these are embedded within a theory of discourse that derives their respective pragmatic effects from those denotations (as I proposed in Sect. 4).

6.2 Not all nɬeʔkepmxcín questions are monopolar

At the opposite end of the spectrum from F&R (2017) and Ciardelli (2021), B&R (2012) propose a monopolar analysis for all PQs, including even un-biased ones. According to B&R, a Q-operator applied to a proposition creates a set containing one alternative, and the addressee chooses between that and other salient alternatives.

Section 5 already presented detailed arguments against a uniformly monopolar analysis of nɬeʔkepmxcín PQs. I showed that there are systematic differences between two non-exhaustive question types (*kéʔ* and *ṅ*). This substantially weakens one of B&R's main motivations for the uniform monopolar analysis, which relies on contrasts between plain PQs and exhaustive 'or not' PQs.

A further issue with B&R's monopolar-only approach is that it begs the question of the pragmatic differences between question-types that almost everybody analyses

[44] See Kamali (2024) for a parallel point for two types of PQ in Turkish.

as monopolar (e.g., English DQs), and those which are often analysed as bipolar (English plain PQs). B&R do not provide an account of the differences between PQs and DQs; they merely affirm that both are monopolar (B&R 2012, p. 394). For nɬeʔkepmxcín, analysing both *kéʔ* and *ṅ*-questions as monopolar would raise the question of why *kéʔ*-questions, unlike *ṅ*-questions, are perfectly suited for fully neutral discourse contexts.

6.3 Support from embedded questions

In this section I argue that embedded questions provide additional support for the idea that nɬeʔkepmxcín morphosyntactically encodes a bipolar/monopolar distinction.

It is commonly assumed that embedded questions are bipolar. For example, Ciardelli et al. (2019, pp. 3-4) argue that a monopolar analysis of embedded questions would wrongly predict that *Sally knows that p* and *Sally knows whether p* were semantically identical. B&R (2012) also assume that embedded questions cannot be monopolar. They write that "when necessary, a pragmatic mechanism is available to coerce a singleton set into the … 2-alternative denotation, in order to resolve a constraint against singleton sets imposed on non-root polar questions" (B&R 2012, p. 392).

Given this, my analysis predicts that *keʔ*-questions should be perfect in embedded environments, while *ṅ*-questions should be marginal or rejected. This is largely correct. The preferred way to form an embedded PQ in nɬeʔkepmxcín is to use the "hypothetical" complementizer *ʔe* (roughly translatable as 'if') plus subjunctive marking (Kroeber 1997, p. 383).

(60) *The phone rings and I have a quick conversation with the person. It was my friend Mary who is coming to visit. You ask, "What did Mary want?" and I say:*

ʔex sέw-e-cəm-s ɬ=*Mary* [**ʔe**=ʔéx^{w}**=us**
IPFV ask-CTR-TR.1SG.OBJ-3ERG DET.REM=Mary [**COMP**=IPFV=**3SBJV**
nʔéye tékɬ]
DEM rain]
'Mary asked me if it is raining here.' (GM; volunteered)

In addition to the strategy in (60), *kéʔ* is freely accepted and sometimes volunteered in embedded questions. *ṅ* has not been volunteered, and when offered it is sometimes accepted, sometimes judged as marginal, and sometimes outright rejected. The triplet in (61) provides a sample data set. The consultant volunteers the embedded question with subjunctive marking alone, accepts it with *kéʔ*, and judges it as marginal with *ṅ*.[45]

[45] Thanks to a reviewer for suggesting that I give the *ṅ*-question a chance by using a context where a matrix *ṅ*-question is acceptable. In (61), all combinations of the hypothetical complementizer being present vs. absent, subjunctive vs. indicative marking, and *keʔ* vs. *ṅ* were tried. Options not shown here were all rejected.

(61) [*Storyboard*]*: Rose is working in a windowless office. Bob enters the office wearing raingear and carrying an umbrella. Rose says tekɬ* ***ṅ*** *('It's raining?'). Then another woman asks 'What did Rose say?'. Bob replies:*

a. séwɬn=Ø **ʔe**=tékɬ=**us**
inquire=3SBJ [**COMP**=rain=**3SBJV**]
'She asked if it was raining.' (BP; volunteered)

b. séwɬn=Ø ʔe=**ké?**=us k=s=tekɬ=c
inquire=3SBJ [COMP=**Q**=3SBJV D/C=NMLZ=rain=3POSS]
'She asked if it was raining.' (BP)

c. ʔséwɬn=Ø ʔe=tékɬ=us=**ṅ**
inquire=3SBJ [COMP=rain=3SBJV=**Q**]
'She asked if it was raining.' (BP)
Consultant's comment on (61c): "I have heard people say that. But I don't know, I don't use that."

These results make sense: since nɬeʔkepmxcín overtly encodes the bipolar/monopolar distinction, speakers can avoid applying a coercion mechanism by simply choosing bipolar *ké?* rather than monopolar *ṅ* for embedded questions. Any analysis that claimed that all nɬeʔkepmxcín PQs had a uniform semantic denotation (either all bipolar, or all monopolar) would not predict the difference in acceptability between *ké?* and *ṅ* in embedded questions.[46]

Interestingly, preliminary investigation suggests that *ṅ* is even dispreferred in contexts which according to Bolinger (1978) allow only embedded monopolar questions with *if* in English, not bipolar questions with *whether*. This is shown in (62).[47]

(62) *I went to a loud concert and I'm temporarily a bit deaf. You and I are chatting and Reed comes up and asks me something, but I don't hear him. I look confused so you tell me:*

???ʔex=Ø séw-e-c
IPFV=3SBJ ask-CTR-TR.2SG.OBJ.3ERG
ʔe=ʔéx=ux^{w}=**ṅ**=ƛ̓uʔ nʔéye
COMP=IPFV=2SG.SBJV=**Q**=EXCL DEIC
'He asked if you were still here.' (BP; volunteered)

A plausible response to these data is to argue that nɬeʔkepmxcín lacks an *if*/*whether* contrast, and specifically lacks a complementizer that embeds monopolar questions.

[46] Farkas and Roelofsen (2017, pp. 257-258) argue that English DQs are bipolar, based on the observation that DQs pattern with PQs in their ability to embed under predicates like *wonder* (which embed inquisitive propositions) vs. *appear* (which embed non-inquisitive propositions). If correct, this might weaken my claim that *ṅ*-questions are marginal in embedded environments due to their monopolarity. However, Rudin (2018) argues that F&R's embedding argument for the bipolarity of DQs is not convincing, because embedded DQs are always quotative; they do not semantically embed under any matrix predicates.

[47] Thanks to a reviewer for suggesting I consider Bolinger's *if*/*whether* contrast.

7 Conclusion and implications

The main take-home points of this paper are summarized in (63).

(63) a. Natural language allows both bipolar and monopolar PQs.
b. There are two types of bipolar PQs:
i. Non-exhaustive (allowing alternative answers beyond p and $\neg p$)
ii. Exhaustive (presupposing that p and $\neg p$ are the only two alternatives)
c. In at least some languages, inquisitive and assertive monopolar questions are distinct phenomena.
d. DQ-like or monopolar questions cross-linguistically need not be non-canonical, so their properties should not be derived from markedness.

The evidence for these proposals came from data showing that nɬeʔkepmxcín morphosyntactically encodes a three-way contrast between monopolar, bipolar non-exhaustive, and bipolar exhaustive PQs. In this section I investigate what nɬeʔkepmxcín can teach us about the analysis of English.

We have seen that with respect to the semantics of PQs, the literature contains a range of proposals: all PQs are bipolar (e.g., F&R 2017; Ciardelli 2021), all PQs are monopolar (e.g., B&R 2012), or some are monopolar and others are bipolar (e.g., Krifka 2015, 2017; Kamali 2024).

The debate is difficult to settle on the basis of English data, largely because English plain PQs are so flexible. As has been observed many times, plain PQs are felicitous in fully neutral discourse contexts (where DQs are impossible), as in (64), but are also good in contexts where there is contextual evidence for the prejacent (and DQs are perfect), as in (65). This pragmatic flexibility fuels the debate about the semantics of English PQs.

(64) *Question on an exam.*
a. Do bears eat potatoes?
b. #Bears eat potatoes?

(65) [*Adapted from Gunlogson (2008, p. 104):*] *Rose is working in a windowless office. Bob enters the office wearing raingear and carrying an umbrella. Rose says:*
a. Is it raining?
b. It's raining?

nɬeʔkepmxcín offers a new perspective on the English data. Consideration of the English forms that are appropriate in the contexts in this paper reveals that plain PQs are acceptable both in contexts that favour bipolar *kéʔ*, and in contexts that favour monopolar *ṅ*. DQs are only acceptable in monopolar contexts, and 'or not' PQs are restricted to exhaustive contexts. This leads to the comparison between the two languages summarized in Table 6.

nɬeʔkepmxcín provides morphosyntactic evidence for the three-way split, and the comparison suggests that English plain PQs are multi-functional, as they appear both

Table 6 Forms for the three question-types in nɬeʔkepmxcín and English

	MONOPOLAR	BIPOLAR NON-EXHAUSTIVE	BIPOLAR EXHAUSTIVE
nɬeʔkepmxcín	*ṅ*	*kéʔ*	*ʔe témus*
English	DQ/PQ	PQ	*or not*

in monopolar contexts and in bipolar non-exhaustive ones. The most obvious conclusion is that English plain PQs are ambiguous: they can be either monopolar or bipolar.[48]

The immediate consequence of this is that the division between monopolar and bipolar denotations falls not between the second and third columns, as argued by Bolinger (1978) and B&R (2012), but instead between the first and second columns, bifurcating the distribution of English plain PQs. This accords with findings by Kamali (2024), who writes that "polar interrogatives in widely studied languages such as English or Dutch obscure this division [between PQs with bipolar alternatives and those without] by conflating the two meanings into one form."

Naturally, an ambiguity account is conceptually less preferred than a unified one. Tabatowski (2022, p. 104) spells this out:

> it's odd that polar questions … should have an ambiguity that makes them potentially synonymous with rising declaratives. It would be preferable … that all canonical polar questions have the same interpretation, which is distinct from rising declaratives.

However, it is also well-known that some languages express distinctions morphosyntactically that in other languages involve ambiguity. Positing an ambiguity for English plain PQs accounts for all the generalizations encapsulated in Table 6.

The nɬeʔkepmxcín data also shed cross-linguistic light on another debate about English, namely whether inquisitive and assertive DQs are a unified phenomenon. We saw in Sects. 3 and 4.3 that nɬeʔkepmxcín uses *ṅ* in inquisitive-DQ contexts, but disallows *ṅ* in assertive-DQ contexts. The fact that inquisitive and assertive monopolar questions are distinct in nɬeʔkepmxcín provides indirect support for those who argue that English inquisitive and assertive DQs are distinct, including, for example, Jeong (2018), Rudin (2018/2022), but unlike, e.g., Goodhue (2021). Of course, languages might differ on this point, so the nɬeʔkepmxcín evidence is not conclusive for English here.

Finally, I would like to reiterate the point in (63d). Much of the literature on DQs assumes that at least some of their properties should be derived from pragmatic reasoning that crucially relies on their non-canonical status. However, this is a language-specific issue. The nɬeʔkepmxcín data presented here, along with similar results in Turkish in Kamali (2024), show that question-types that are pragmatically very similar to English DQs can be canonical constructions. This means that DQ-like utterances cross-linguistically should be analysed on their own terms, as simply instantiating one of the available PQ-types that natural language provides.

[48]The logical possibility of this three-way split is predicted by B&R's (2012) analysis. See also insightful discussion in Beltrama et al. (2020).

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Declarations

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