

On a Dichotomy of Question Types: The Case of Paiwan

[論疑問句之二分法：排灣語的研究]

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This paper reexamines the conventional classification of questions in the Formosan language Paiwan: polar, disjunctive, and *wh*-questions and seeks to rectify some previous observations and offer a more insightful taxonomy. Specifically, we support the position in Egli (1990) and Huang et al. (1999) and demonstrate that polar questions, polar question tags included, are formed by a rising intonation alone and that the putative polar question particles (*ui*) *dri*, (*ui*) *pai*, *na*, and *ui lja* are in fact all polar question tags, while *a* and *ayau* turn out to be non-interrogative interjection particles. There are thus no morphosyntactically formed polar questions in Paiwan. Crucially, questions formed with the sentence-initial *tuki* and its variants *aki*, *ki*, and *tui* are disjunctive questions, not polar questions. We argue that *manu*, previously seen as a disjunctive interrogative conjunction, is an emphatic adverbial instead, meaning ‘in the end’, which can thus appear in all types of questions as well as declaratives. Disjunctive questions, in either A-or-B or A-not-A form, can also be formed with a silent disjunctive interrogative conjunction. Finally, we demonstrate that disjunctive and *wh*-questions share some fundamental properties and should be recognized as two subcategories of a major category of constituent questions, as opposed to polar questions. A two-way distinction is thus obtained for questions in Paiwan.

本論文重新檢視過往排灣語問句的分類，即將問句分為是非、選擇和 *wh* 疑問句之分類方式，針對過往的觀察提出修正並提出更加全面的分類法。其中，本文支持 Egli (1990) 和 Huang et al. (1999) 的觀點，並指出排灣語是分問句，包含是非附加問句，乃是由語調上揚所構成，並提出過往所認為的是非問句助詞(*ui*) *dri*、(*ui*) *pai*、*na* 以及 *ui lja* 實際上皆是附加問句，而 *a* 以及 *ayau* 則為非問句助詞。排灣語中實際上並無由句法或構詞所形成的是非問句。此外，由句首助詞 *tuki* 及其變體 *aki*、*ki*、*tui* 所形成的問句乃是選擇問句，而不是是非問句。本文認為，過往被視為是選擇問句連接詞的 *manu* 應被視為具強調語氣的副詞；其語意為「究竟」，並可出現於所有種類的排灣語問句以及肯定句中。而排灣語的選擇問句，不論是 A-or-B 或是 A-not-A 的形式，都可以由不發音的選擇問句連接詞構成。最後，本文指出選擇問句和 *wh* 疑問句間有共同的特性，並且應被視為是一個與是非問句相對的大類別下的兩個次類。本文因此得出以二分法為排灣語疑問句分類之分類法。

Keywords: Paiwan, polar question, disjunctive question, constituent question

關鍵詞：排灣語，是非問句，選擇問句，疑問詞問句

1. Introduction

Questions as a category of sentences are routinely described in individual descriptive grammars, with various subtypes proposed, the most common categorization being a three-way distinction of polar questions (or *yes-no* questions), disjunctive questions (or alternative questions), and *wh*-questions (or constituent questions) (Hölzl 2018:56). In English, for instance, such a three-way distinction is proposed by Huddleston (1994).

- (1) a. Are you ready? [Polar Q¹]
 b. Is it a boy or a girl? [Alternative Q]
 c. Whose hat is this? [Variable Q]

Indeed, in the literature, the most prevalent taxonomy of questions is this three-way categorization, and similar distinctions are made in various reference grammars of Paiwan (A.H.-C. Chang 2000, 2006, 2018, Chen 2010, H.-C. Chang 2017). Such a three-way distinction is illustrated in Figure 1.

- (2) a. I=ka pu-vurasi pai?²
 NEG1=NEG2 have.AV-sweet.potato QP
 ‘Does it not grow plenty of sweet potatoes?’ (A.H.-C. Chang 2006:270)
 b. Su=ama timadju manu su=sinsi
 2SG.GEN=father 3SG.NOM or 2SG.GEN=teacher
 timadju?
 3SG.NOM
 ‘Is he your father or is he your teacher?’ (A.H.-C. Chang 2018:103)
 c. Ti-ima=sun?
 NOM.PS.SG-who=2SG.NOM
 ‘Who are you?’ (A.H.-C. Chang 2018:107)

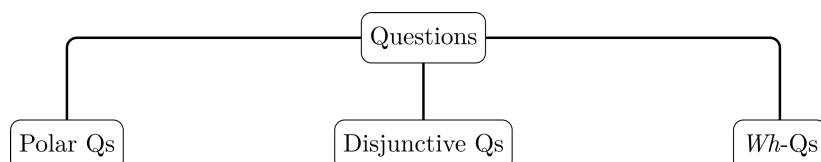


Figure 1. A three-way distinction of questions

However, several studies have also suggested the possibility of simpler two-way distinctions, where the disjunctive questions in the three-way taxonomy are grouped together either with polar questions or with *wh*-questions. Comrie (1984), for example, categorizes Russian questions into general questions (including polar questions and disjunctive questions, which Comrie calls alternative general questions) and special questions (i.e., *wh*-questions), focusing on the (in)finiteness of the possible answers to the questions, and asserts that while most general questions are answered with *yes* or *no*, ‘this construction can also be used to ask the interlocutor which of the two alternatives holds,’ hence the grouping of disjunctive questions

¹ Abbreviations used in this paper are: AV: actor voice, CM: for common noun, COM: completive aspect, COMP: complementizer, CONJ: conjunction, COP: copula, CQP: constituent question particle, DET: determiner, DIST: distributive, FUT: future tense, GEN: genitive, GV: goal voice, LIN: linker, LOC: locative, LV: locative voice, NEG: negator, NOM: nominative, OBL: oblique, PEF: perfect tense, PL: plural, PN: person name, PQP: polar question particle, PRO: progressive, PS: for person, QP: question particle, RED: reduplication, S: sentence, and SG: singular.

² In this paper, we follow the writing system proposed by the Ministry of Education, R.O.C.

with polar questions. Sadock (1984) likewise puts polar questions in West Greenlandic as a subtype of disjunctive questions. The same categorization is also found in Mandarin and Cantonese (Dixon 2012:390–400). These views agree with that of Huddleston (1994:419), where he points out that both polar and disjunctive questions have closed sets of answers, while the answers to *wh*-questions are open. Such a taxonomy is illustrated in Figure 2 (cf. Comrie 1984, Huddleston 1994, Sadock 1984, Dixon 2012).

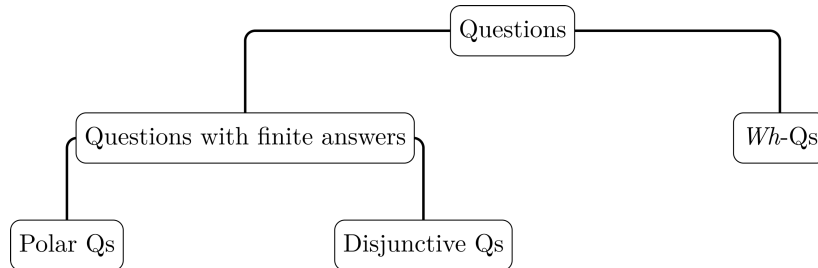


Figure 2. A two-way distinction of questions

However, Tang (1984) contends that it is *wh*-questions that disjunctive questions should be grouped with, where the interlocutors are asked to choose from a set of possible answers; polar questions, on the other hand, require the interlocutors to (dis)agree with the propositions provided. Such a dichotomy is further explored in Hsiao & Her (2021) and Her et al. (2022), where it is pointed out that pragmatically, polar questions seek the confirmation of the interlocutors, while both disjunctive questions and *wh*-questions require the interlocutors to provide information. Information-seeking questions, therefore, have an information gap that needs to be filled in, while confirmation-seeking questions expect to receive (dis)confirmation of the proposition. Such a view is summed up in Figure 3 (Tang 1984, Hsiao & Her 2021, Her et al. 2022).

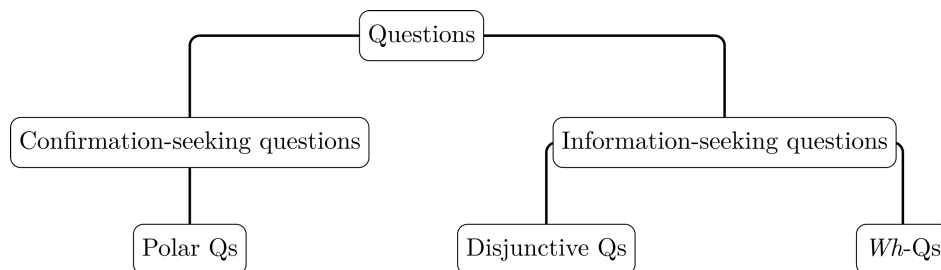


Figure 3. A two-way distinction of questions

Her et al. (2022) note that such a pragmatic dichotomy is also shown in the semantics of these three types of questions. Semantically, what polar questions denote are singleton sets of propositions, while the other two denote sets of two or more propositions. While disjunctive questions often come with only two alternatives, leading to the grouping of polar and disjunctive questions under one category mentioned earlier, they can without doubt denote more than just two propositions.

- (3) a. Is your favorite season of the year spring, summer, autumn, or winter?
 b. What is your favorite season of the year? (Her et al. 2022)

In this sense, disjunctive questions can be regarded as a special kind of constituent questions, where the propositions are overtly pronounced. Considering the pragmatic and semantic (in)congruity, the two-way distinction proposed by Tang (1984) and Her et al. (2022) is thus more tenable.

One thing Her et al. (2022) point out is that a language does not necessarily have to have polar questions and that due to the possibility for disjunctive questions to have as few as only two propositions with opposite polarity, they are often confused with polar questions. Consider the sentences in (4a), where the two propositions are the affirmative and negative of a statement respectively, forming an *A-or-not-A* disjunctive question, which can be shortened into (4b) as an *A-or-not* disjunctive question.

- (4) a. Do you want to go or do you not want to go?
 b. Q: Do you want to go or not?
 A: Yes (I want to go)./No (I do not want to go).

The *A-or-not* disjunctive question in (4b) is in this sense very similar to a polar question in both the form and the responses it takes. It is however evidently still a disjunctive question. Such ambiguity has caused many *A-or-not-A* disjunctive questions to be mistaken as polar questions in different languages. In Lau (2010), for example, numerous putative polar question particles are proposed: *buē/bē*, *bô*, *m̄*, *nih*, *honnh*, *ma*, *mm*, *sī-bô*, *sī-m̄* (*sīm*), *sioh*, *hiò*, and *m̄-me* (*me*). However, upon examination, Hsiao & Her (2021) filter this list to only *nih* and *honnh*, contending that all others are in fact *A-not-A* question tags³, where the disjunctive interrogative *or* and the repeated statement *A* are not pronounced. Her et al. (2022) also find that none of the putative polar question particles in Changsha Xiang are polar particles and that there are no polar questions in Changsha Xiang at all, either by morphosyntactic or phonological means.

In this paper, we argue that a dichotomy of questions like that of Tang (1984) and Her et al. (2022) is more fitting in Paiwan, not only because of the spirit of Occam's Razor but more crucially due to the similar behavior between disjunctive questions and *wh*-questions and their distinction from polar questions. In Section 2, we will review previous classifications of Paiwan questions. In Section 3, we demonstrate that patterns identical to those found in Tang (1984), Hsiao & Her (2021), and Her et al. (2022) are also found in Paiwan. Crucially, polar questions in Paiwan are formed only with intonation and there are no morphosyntactic polar questions, and Paiwan disjunctive questions and *wh*-questions are alike in terms of their distribution. The findings thus support a two-way distinction of questions in Paiwan. Before we proceed, we shall briefly introduce the Paiwan dialects and the six informants in the study and explain why the findings in this study can apply to Paiwan in general.



Map 1. Geographical Distribution of Paiwan (Wu et al. 2011)

³ Tag questions, as defined in Cuenca (1997), are reduced interrogative clause, juxtaposed beside a statement.

Paiwan is located in Pingtung and Taitung, the two southmost counties of Taiwan with a population of around a hundred thousand. Though various other more sophisticated and fine-tuned classifications have been proposed, Taiwan's Council of Indigenous People officially recognizes four dialect groups: North Paiwan, East Paiwan, Central Paiwan, and South Paiwan, named after their respective areas. For the purpose of this study, it is important to note that, linguistically, such classifications of dialects, the official one included, are primarily concerned with phonological variations (e.g., Ogawa & Asai 1935, Ho 1978, Ferrell 1982, Cheng 2016, cf. Cheng 2021), as no significant morph-syntactic variation has been reported.

In terms of the formation of questions in particular, while previous studies on Paiwan questions all use data collected from one or two dialects, most do not limit their findings and conclusions to the respective dialects. For example, while the data in A.H.-C. Chang (2006) is from two North Paiwan townships, Santimen and Saichia, the title of this work is *A Reference Grammar of Paiwan*. Likewise, Huang et al.'s (1999:641) claim that Paiwan has only prosodically formed polar questions is not restricted to specific dialects, though the data is from North Paiwan. Indeed, to the best of our knowledge, none of the studies on Paiwan questions ever takes issue with any potential or actual dialectal variation, as there is no mention of any dialectal variation when they cite data or findings from earlier works.

In this study, we have been assisted by six naïve native informants: one male from Tjavuali (East Paiwan), one male from Tadren (East Paiwan), one male from Masiljid, Makazayazaya (North Paiwan), one female from Sinvaudjan (South Paiwan), and one male and one female from Timur (North Paiwan). The male from Masiljid is in his 20s, the female from Sinvaudjan is in her 40s, and all others are in their 50s or 60s. All are proficient native speakers, and the youngest informant has been certified by the Council of Indigenous People at the advanced level of North Paiwan. Based on the above-mentioned facts, we are confident that the analyses proposed are applicable to Paiwan in general.

2. Three-way distinction of Paiwan questions

In this section, we review the conventional three-way distinction of Paiwan questions in the literature. As mentioned earlier, Paiwan questions, like those in other languages, are commonly categorized into three subtypes in previous studies of Paiwan grammar, e.g., A.H.-C. Chang (2000, Tjailjaking, 2006, Tjailjaking, 2018, Tjaljaqavus), Chen (2010, Stimul, Sinvaudjan, and Tjavuali), H.-C. Chang (2017, Makazayazaya); examples are given in (2).

Despite the consensus of a three-way distinction, previous accounts vary greatly in their detailed descriptions of polar questions. A.H.-C. Chang (2006:270) and Chen (2010) both note that a polar question is formed with a sentence-final, or S-final in short, question particle *pai*, *dri*⁴, or *ayau*. H.-C. Chang (2017:54) does not mention *dri* and *ayau* but offers several others and further classifies polar questions into three sub-types: intonation questions, tag-questions, and particle questions, as shown in **Figure 4**.

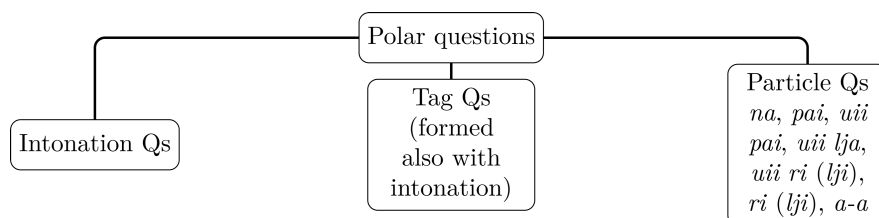


Figure 4. Three types of putative polar questions in Paiwan (H.-C. Chang 2017)⁵

⁴ *Di* in A.H.-C. Chang (2006).

⁵ Both A.H.-C. Chang (2006, 2018) and our informants suggest that *ui* 'yes' should be the right form, which we will adopt.

A.H.-C. Chang (2018:99)⁶, however, only accepts *a* as an S-initial polar particle. We also note that, aside from the aforementioned items, our informants additionally suggested another putative polar question particle *tuki*. In Section 3.1, we will dispute all these putative polar particles and support an earlier view in Egli (1990) and Huang et al. (1999:641) that Paiwan uses only prosodic means to form polar questions and contend that there are thus no morpho-syntactically-formed polar questions. Specifically, we demonstrate that these putative polar questions are either formed by intonation⁷ or are declaratives instead and further verify that putative polar questions formed with *tuki* are indeed disjunctive questions, where *tuki* is a disjunctive interrogative element taking on the meaning of ‘whether or not’.

Previous studies do seem to agree that disjunctive questions in Paiwan are formed by *manu* ‘or’, the putative disjunctive interrogative conjunction that conjoins two alternatives in the form of A-or-B, and A. H.-C. Chang (2000) and H.-C. Chang (2017) note that *manu* can also appear in front of the first disjunct in an *or*-A-or-B form. However, H.-C. Chang (2017) also indicates that *manu* can serve to mean ‘in the end’ in intonation polar questions. In Section 3.2, we will argue against *manu* as a disjunctive interrogative element and argue for its sole status as an emphatic adverbial⁸ meaning ‘in the end’, which can appear in both declaratives and interrogatives.

H.-C. Chang (2017) also considers *tuki* as a disjunctive interrogative conjunction as well as an adverbial meaning ‘whether or not’. In Section 3.2, we will demonstrate that two forms of *tuki* exist. It is a disjunctive interrogative element that forms a *whether-or-not* question when followed by an otherwise declarative clause. Yet, when it appears in a *wh*-question or an A-or-B or A-not-A question, it is an adverbial similar to English *after all* and Mandarin *dàodǐ*. Crucially, we contend that Paiwan A-or-B and A-not-A questions contain a silent disjunctive interrogative conjunction OR.

Finally, *wh*-questions are without controversy in terms of their classification, which contain a straightforward *wh*-element. There are, however, variations regarding the status of the *wh*-words. Lists of Paiwan *wh*-elements have been put forth (cf. A.H.-C. Chang 2006, 2018, Hsieh 2019), as in Table 1. In A.H.-C. Chang (2006:275), four categories are proposed: noun, verb, adverbials, and numeral, while in A.H.-C. Chang (2018) and Hsieh (2019), only the first three are listed. The auxiliary *'aku*⁹ in A.H.-C. Chang (2006) is treated as an adverbial in Hsieh (2019), and adverbial *inu* ‘which’ in A.H.-C. Chang (2018) is a noun in Hsieh (2019). *Pida* and *mapida* are classified as verb and adverbial respectively in A.H.-C. Chang (2018) and Hsieh (2019). Nominal *wh*-words in Paiwan can be marked by the case markers like nouns. Verbal *wh*-words likewise can take on tense markers and pronominal clitics, and focal inflections, while adverbial ones cannot. Hsieh (2019), however, based on this, contends that *pida* and *mapida* are adverbials rather than verbs since they do not take focal inflections and can only take the completive aspect marker *anga*, but not others. In terms of the positions of the *wh*-words, there is not much disputation. *Wh*-nouns can appear both sentence-initially and sentence-medially (as oblique); *wh*-verbs based on *kuda*, and *'aku* can only happen sentence-initially. *Wh*-adverbials can happen in the sentence -initial, -medial, and -final positions (Hsieh 2019). The disputed *pida* and *mapida* usually happen sentence-initially.

⁶ It should be noted that A.H.-C. Chang (2000, 2018) are parts of a Formosan Reference Grammar Series meant for Formosan Language teachers and self-learners and are thus limited in terms of its scope and will not be criticized by an academic standard.

⁷ Intonation polar questions, as defined in Dryer (2013), are those with the same morphosyntactic patterns as declarative ones, with only the distinction of intonation to indicate their interrogative status.

⁸ Adverbs as an independent syntactic category in Formosan languages is disputed in the literature and such elements are often referred to as ‘adverbial verbs’ as they may behave as verbs (e.g., H.Y.-L. Chang 2010:211). In this paper, we follow the studies of A.H.-C. Chang (2018) and Hsieh (2019) and use the term ‘adverbial’ instead.

⁹ In our informants’ data, there does not seem to be a glottal stop in *aku*.

Table 1. *Wh*-words in Paiwan

Forms	Meaning	A.H.-C. Chang (2006)	A.H.-C. Chang (2018)	Hsieh (2019)
<i>ima</i>	Who?	Personal noun	Noun	Noun
<i>nema</i>	What?	Common noun	Noun	Noun
<i>kuda</i>	Do what?	Verb	Verb	Verb
<i>kuda-in</i> (<i>k<in>uda</i>)	Do what?			
<i>si-kuda</i>	What for?/What happens?			
<i>ma-kuda</i> ¹⁰	What is the matter?			
<i>inu</i>	Where?	Locative noun	Noun	Noun
	Which?	-	Adverbial ¹¹	Noun
<i>(’a)ku</i>	Why?	Auxilliary ¹²	-	Adverbial
<i>nungida</i>	When (irrealis)?	Temporal noun	Adverbial	Adverbial
<i>kangida</i>	When (realis)?	Temporal noun	Adverbial	Adverbial
<i>pida</i>	How many/much?	Numeral	Verb	Adverbial
<i>mapida</i>	How many people?	Sortal classifier & numeral collation	Verb	Adverbial

While the proper status of the *wh*-elements, crucially, *’aku*, *pida*, and *mapida*, requires further investigation, it is not immediately relevant to the core discussion of the present study and will be set aside for now. In Section 3.3, however, we will point out that disjunctive and *wh*-questions share significant common properties, suggesting that they are two subcategories of a major category of constituent questions, as opposed to polar questions.

3. A dichotomy of Paiwan questions

In general, while discrepancies exist, previous studies generally agree on a three-way distinction of Paiwan questions. However, we shall examine these proposed categories and argue that, observing the morphosyntactic behaviors and semantics of the Paiwan questions, the dichotomy proposed by Tang (1984), Hsiao & Her (2021), and Her et al. (2022) affords a more insightful account. Crucially, we will demonstrate that putative Paiwan polar questions are either disjunctive questions or declaratives instead. We also show that Paiwan disjunctive questions share a great amount of similarity with *wh*-questions.

3.1 Polar questions in Paiwan

¹⁰ The *wh*-words here are from the Tjailjaking dialect, recorded in A.H.-C. Chang (2006), which is phonetically different from other Northern Paiwan dialects, but does not show syntactic and semantic discrepancy in terms of the *wh*-words discussed here (Hsieh 2019).

¹¹ The existence of adverb in Formosan Languages is disputed in the literature. Both A.H.-C. Chang (2018) and Hsieh (2019) thus use the term ‘adverbial’ instead.

¹² The existence of auxiliaries in Paiwan is also unclear. P.J.-K. Li (2008) expresses doubt, and A.H.-C. Chang (2006) is also uncertain about the status of *(’a)ku*.

Polar questions in Paiwan have been commonly recognized in the literature. In this section, we contend that in Paiwan, polar questions are formed only with a rising intonation¹³ and that there are thus no morphosyntactically-formed polar questions.

3.1.1 Putative polar question particles in Paiwan

Both A.H.-C. Chang (2006) and Chen (2010) recognize that a declarative sentence in Paiwan can be turned into a polar interrogative by a rising intonation, with the optional addition of one of two S-final polar particles, namely, *pai* and *dri*, as shown in (5) and (6). A.H.-C. Chang (2006) also notes that Paiwan declaratives can likewise be turned into polar questions without rising intonation, with the obligatory S-final polar particle *ayau*, as in (7), taken from A.H.-C. Chang (2006)¹⁴.

- (5) I=ka pu-vurasi pai? (Rising)
 NEG1=NEG2 have.AV-sweet.potato QP
 ‘Does it not grow plenty of sweet potatoes?’ (A.H.-C. Chang 2006:270)
- (6) I=tja i=zuua-zuua dri? (Rising)
 LOC=OBL.CM LOC=RED-there QP
 ‘At that place over there, right?’ (A.H.-C. Chang 2006:272)
- (7) Mana i=ka pu-vu<ras>ras, ayau?
 COP NEG1=NEG2 have.AV-sweet.potato<RED> QP
 ‘They are the sweet potatoes which do not produce many sweet potatoes, aren’t they?’
 (A.H.-C. Chang 2006:467)

In the data we collected, all three S-final polar particles are attested. However, A.H.-C. Chang (2018) does not mention these S-final polar particles but instead offers an S-initial polar particle *a*, as in (8).

- (8) A su=ama timadju?
 QP 2SG.GEN=father 3SG.NOM
 ‘Is he your father?’ (A.H.-C. Chang 2018:99)

A more comprehensive survey is provided in H.-C. Chang (2017), where putative polar questions are classified into three types: intonation questions, tag questions, and particle questions (cf. Figure 4). Intonation polar questions contain no interrogative lexical elements and come in three types depending on the specific intonation patterns: rhetorical questions expecting no response, questions expecting a positive response, and questions expecting either a positive or negative response. Tag questions are simply *ui* ‘yes’ or *ini* ‘no’ that appear at the end of a declarative sentence and are likewise formed with intonation only, thus also without any lexical interrogative element. Putative particle polar questions are therefore quite different, formed with one of these seven interrogative elements: *na*, *pai*, *ui pai*, *ui lja*, *ui ri (lji)*, *ri (lji)*, *a-a*. Unlike A.H.-C. Chang’s (2006) three S-final question particles, these particles can appear

¹³ According to Chen (2010), in Paiwan, the most distinctive prosodic feature between a falling declarative and a rising question is their boundary tones. A Paiwan declarative typically has a low boundary tone at the right edge, while questions other than *wh*-questions have high boundary tones at the right edges. Therefore, the rising intonation we refer to in this study denotes the high boundary tone at the right edge of a question.

¹⁴ Specifically, the rising intonation is required for the polar interrogative, with or without *pai* or *dri*; however, when the sentence is formed with *ayau*, a positive response is expected and the intonation thus remains similar to that of a declarative (A.H.-C. Chang 2006:272). In Section 3.1.2, we shall argue that they are declaratives and not interrogatives.

both S-initially and S-finally; H.-C. Chang's (2017) *pai* can even appear S-medially. Examples are provided in (9).

- (9) a. Uri qavai a mun nutiau ui.lja?¹⁵
 FUT make.rice.cake<AV> NOM 2PL.NOM tomorrow QP
 'You will make rice cake, is it so?' (H.-C. Chang 2017:57)
- b. Kisamulja aravac pai ti Mukai?
 hard-working very QP NOM.PS.SG PN
 'Mukai is hardworking, right?'
- c. Ui.lji kiljivak-an¹⁶ a su=kinacemkeljan¹⁷?
 QP cherish-LV LIN 2SG.GEN=family.member
 '(I should) cherish your family members, is it so?' (H.-C. Chang 2017:58)

Note that H.-C. Chang (2017)'s *pai* and *ui pai* are essentially the same, since the latter can be deduced to *pai* only (H.-C. Chang 2017:57), while the same applies to *ui ri* and *ri*, which is the same element as *dri* in A.H.-C. Chang (2006) and Chen (2010), and we will use *dri* hereafter¹⁸. Also, *a-a* and *a* should be identified as the same item; although it is not found in A. H.-C. Chang (2018) if *a* appears both S-initially and S-finally, as *a-a* does, our informants have identified an *a* that has the same meaning as A.H.-C. Chang's (2018) *a* and H.-C. Chang's (2017) *a-a*, which does appear S-finally as well, which allows us to conclude that these three items are the same, and we will use *a* hereafter. This leaves only six particles to be examined: *ayau*, *dri*, *pai*, *na*, *ui lja*, and *a*. See Table 2 for a summary.

Table 2. Putative polar question particles of Paiwan in literature

A.H.-C. Chang (2006)	H.-C. Chang (2017)	A.H.-C. Chang (2018)
<i>dri</i>	<i>ri</i>	-
	<i>ui ri</i>	-
<i>pai</i>	<i>pai</i>	-
	<i>ui pai</i>	-
<i>ayau</i>	-	-
-	<i>na</i>	-
-	<i>ui lja</i>	-
-	-	<i>a</i>

Our informants offer four additional candidates: *tuki*¹⁹ and *ki*, *aki*, and *tui*, which appear S-initially, as in (10). These four items have the same syntactic behavior and semantic distribution²⁰. Given that Masiljid and Timur informants use only *tuki*, *ki* and *aki* and Tjavualji

¹⁵ In the original text, the future marker *uri* is glossed in Mandarin as *jiang*, and we gloss it as FUT with 'will' as the translation.

¹⁶ Note that *an* here should not be considered as a locative as in the original text. In A.H.-C. Chang (2006), it is treated as instrumental, with a benefactor; W.-C. Huang (2012) considers it as a circumstantial undergoer voice marker. We thank an anonymous reviewer for pointing this out.

¹⁷ *Su kinacemkeljan* in the original text.

¹⁸ This conclusion was made for two reasons: 1) *dri*'s (/dʲi/) /d/ has the same place of articulation with /r/, and both are rhotic sounds, which share certain articulatory and acoustic features, and 2) our Makazayazaya (where H.-C. Chang 2017's data were collected) informant reports that he has never heard of the term *lji/ri* or *ui lji/ri* (H.-C. Chang does not specify the difference between *lji* and *ri*), while he is comfortable with *dri*, and has heard of *ui dri* (though he thinks it is outdated).

¹⁹ *Tu'i* for the Masiljid informant.

²⁰ *Ki* and *tui* are however informal.

and Tadren informants use only *tuki*, *ki*, and *tui*, we will use *tuki* in relevant examples hereafter and regard the variant forms as allomorphs of free variation.

- (10) Tuki/aki/ki/tui ma-leva=sun?
 QP/QP/QP/QP AV-happy=2SG.NOM²¹
 ‘Are you happy?’

It should be noted, however, that this putative polar question particle *tuki* is reminiscent of the second function of *tuki* in H.-C. Chang (2017) mentioned in Section 2, as shown in (11), where the *tuki* takes on the meaning ‘whether or not’.

- (11) Na tuki vaika-anga²² ti Vavauni?
 NA whether.or.not go-COM NOM PN
 ‘Is Vavauni gone or not?’ (H.-C. Chang 2017:88)

We agree with this disjunctive analysis and will demonstrate in Sections 3.1.3 and 3.2 that the *tuki* in (10) and (11) forms a *whether-or-not* disjunctive question and that *tuki* in an otherwise declarative sentence is in fact a disjunctive interrogative element that forms disjunctive questions. In the rest of this subsection, we will also dispute all other alleged polar interrogative particles and demonstrate that none of them triggers the interpretation of a polar question. Also, Paiwan does not employ any syntactic construction for polar questions. We shall support the view in Egli (1990) and Huang et al. (1999:641) that rising intonation is the only means to encode polar interrogative semantics and thus argue against A.H.-C. Chang’s (2006:268) position that besides intonation Paiwan also employs polar interrogative particles.

3.1.2 Identifying true polar questions

We will now discuss the putative polar questions and first consider the three kinds of intonation polar questions that H.-C. Chang (2017) has identified. Note these are interrogatives formed purely with intonation, which are otherwise declaratives. First, rhetorical questions, paradoxically, are questions in form only and expect no response, as a positive response is strongly or categorically presumed by the speaker. Nonetheless, in reality, the hearer can of course still redundantly agree or object to the presumption by disagreeing. These are thus intrinsically polar questions. The same is true for questions expecting a positive response, the only difference being the intensity of the speaker’s presumption on the proposition being true. Though confirmation is strongly presumed, an overt positive response is expected. Still, in reality, there is nothing preventing the hearer from disconfirming the presumed true proposition. The third kind involves intonation questions that expect either confirmation or disconfirmation with no obvious presumptions; these are thus quite straightforwardly polar questions. In short, setting aside the differences in intonation that attribute to the different degrees of presumption strength, all intonation questions in Paiwan are polar questions via intonation, not by lexical or syntactic means.

Next, we consider H.-C. Chang’s (2017) tag questions, which come at the end of a declarative sentence in the form of *ui* ‘yes’ or *ini* ‘no’ with a rising intonation, as in (12). However, such interrogative *ui* ‘yes’ or *ini* ‘no’ can stand alone, as shown in (13b), as a response to a statement. The difference between the interrogative use of *ui/ini* and the

²¹ Note that the AV prefix *ma* is to be differentiated from the AV infix *em*. In A.H.-C. Chang (2006), *ma* is considered as anticausative, while in the literature, it is usually treated as stative (e.g., Wang 2005).

²² In A.H.-C. Chang (2006), the completive aspect marker *anga* is regarded as a clitic, where in H.-C. Chang (2017), it is glossed as a bound morpheme. We respect the respective glosses of the authors.

declarative use is intonation. Tag questions are thus also intonation questions and require (dis)confirmation of a proposition.

- (12) Ti Legeai timadju, ui/ini?
 NOM PN 3SG.NOM yes/no
 ‘He is Legeai, yeah/no?’
- (13) a. Ti Legeai timadju.
 NOM PN 3SG.NOM
 ‘He is Legeai.’
- b. Ui?
 yes
 ‘Yeah?’

Having justified intonation questions and tag questions as phonological polar questions, we now examine putative polar questions by lexical means, that is, particles *ayau*, *dri*, *pai*, *na*, *ui lja*, and *a*. It is important to point out immediately that, except *ayau*, a rising intonation is necessary for the putative particles to form such questions, thus making them intonation questions. More importantly, except *ayau* and *a*, all these particles can stand alone as declaratives or appear in declaratives as part of the confirmation, as shown in (14).

- (14) a. Uri qavai a men nutiau, ui.lja.
 FUT make.rice.cake<AV> NOM 1PL.NOM tomorrow UI.LJA
 ‘We will make rice cake; it is so.’ (H.-C. Chang 2017:57)
- b. Ui, kismulja aravac ti Mukai pai.
 yes hard-working very NOM.PS.SG PN PAI
 ‘Yes, Mukai is hardworking; it is so.’ (H.-C. Chang 2017:55)
- c. Pai!
 PAI
 ‘It’s so!’
- d. T<in>alem-an²³ tua lapanay, ‘a-’aca’aca-an=anga
 plant<PEF>-LV OBL.CM corn DIST1-tall-DIST2=COM
 a za lapanay, dri.
 NOM.CM that corn DRI
 ‘(As for) the corns that we planted, (they) have all grown tall.’ (A.H.-C. Chang 2006:469)
- e. Q: Na? (Rising) izua su=sala~saladj a
 NA have 2SG.GEN=friend~RED LIN
 ki~sutja~sutjau? (Rising)
 PRO-harvest.peanuts~RED
 ‘Your freinds are harvesting peanuts?’ (H.-C. Chang 2017:53)
- A: Na! (Rising) ui izua ku=sala~saladj a
 NA yes have 1SG.GEN=friend~RED LIN
 ki~sutja~sutjau.
 PRO-harvest.peanuts~RED
 ‘Yes, my friends are harvesting peanuts.’ (H.-C. Chang 2017:53)

The four elements *dri*, *pai*, *na*, *ui lja* are therefore not polar interrogative particles, which cannot exist on their own, and which must occur with a sentence. Instead, these elements shall

²³ T<in>aLem-an in the original text.

be classified as question tags with rising intonation. Semantically, questions formed with these elements seek responses from the interlocutors, thus similar to English tags such as ‘right?’, ‘correct?’, ‘yes?’. Both *dri* and *pai* urge the interlocutor to make a response. Likewise, similar functions are also identified for *na* and (*ui*) *lija* in H.-C. Chang (2017)²⁴. In addition, our tag analysis is also supported by Chen (2010), where questions formed with both *dri* and *pai* are classified as tag questions, with the high boundary tones aligned with the tags²⁵. The semantics and the syntactic-prosodic distributions of these elements therefore suggest that they are in fact question tags²⁶. As such, questions formed with these tags are also polar questions by phonological rather than morphosyntactic means.

As for the S-initial element *a*, crucially, polar questions with the optional *a* must have a rising intonation. Thus, *a* does not turn a declarative into a polar interrogative. The example in (15a) without *a* is a polar question only if the intonation is rising; likewise, (15b) with *a* must also have a rising intonation to be a polar question. The difference *a* contributes is the speaker’s surprise or disbelief of the proposition put forth. The final and most decisive piece of evidence that *a* is not a polar interrogative particle is the fact that it can also appear in *wh*-questions and question tags, as in (16a) and (16b), respectively. We thus treat *a* as an interjection of surprise, which can appear before or after a question.

- (15) a. Ma-leva=sun?
AV-happy=2SG.NOM
‘Are you happy?’
b. A ma-leva=sun?
A AV-happy=2SG.NOM
‘You are happy? (with emphasized tone)’
- (16) a. A aku kedri tu ita?
A why little OBL.CM one
‘Why does there lack one?’
b. A ma-leva=sun pai?
A AV-happy=2SG.NOM tag
‘Are you happy?’

²⁴ The semantic function a tag contributes can be illustrated by comparing (i), a declarative statement without a putative particle repeated from (13a), and (ii), the same declarative statement with a putative particle (i.e., a tag question) repeated from (12).

- (i) Ti Legeai timadju.
NOM PN 3SG.NOM
‘He is Legeai.’
(ii) Ti Legeai timadju, ui/ini?
NOM PN 3SG.NOM yes/no
‘He is Legeai, yeah/no?’

Thus, (i) and (ii) are identical in every way, except that (ii) has an additional tag question attached to the declarative statement.

²⁵ In Chen (2010), 68% of the investigated tag questions had junctures between the main clauses and the tags; however, such junctures are not classified as intonation phrase boundaries. Intonation phrase boundaries are therefore not obligatory before the tags in Paiwan.

²⁶ While the number of tags in Paiwan may seem relatively large, this is not uncommon cross-linguistically. In Mandarin for example, there may be even more: *shì-ma*, *bú-shì-ma*, *shì-bú-shì*, *duì-ma*, *bú-duì-ma*, *duì-bú-duì*, *hǎo-ma*, *bù-hǎo-ma*, *hǎo-bù-hǎo*, *síng-ma*, *bù-síng-ma*, *síng-bù-síng*, *kě-yǐ-ma*, *bù-kě-yǐ-ma*, *kě-bù-kě-yǐ*, *kě-yǐ-bù-kě-yǐ*, etc. Likewise, the varieties in English also likely outnumber those in Paiwan: [auxiliary do/be/have + subject/pronoun] and their negative counterparts, plus ‘OK?’, ‘right?’, ‘correct?’, ‘yes?’, ‘no?’, etc.

The last putative polar particle to examine is *ayau*. Note first that, unlike the other five candidates, *ayau* does not require intonation to form a question, as shown in Figure 5 for the example *ika puvurasirasi ayau?* ‘They don’t grow many sweet potatoes, do they?’ (A.H.-C. Chang 2006:273).

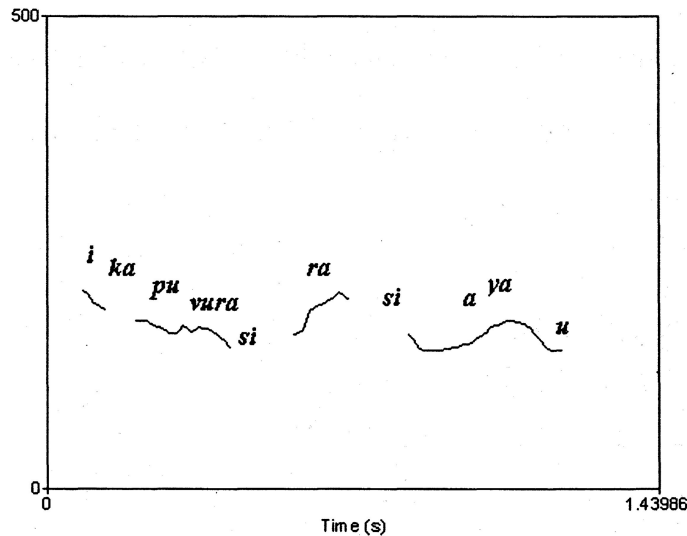


Figure 5. *ayau* without a rising intonation (A.H.-C. Chang 2006:273)

Ika puvurasirasi ayau? ‘They don’t grow many sweet potatoes, do they?’

In addition, *ayau* cannot stand alone; it thus does behave like a particle. The crucial issue is whether it is polar interrogative at all. Consider the meaning *ayau* contributes to the preceding proposition. A.H.-C. Chang (2006) notes that (putative) polar questions with *ayau* carry a high expectation of confirmation. Our informants also indicate that *ayau* implies a strong presupposition of the proposition put forth. In addition, etymologically, *ayau* is the imperative form of the verb *aya* ‘to say’ (Ferrell 1982:61), which thus conveys a strong sense of the speaker presupposing the truth value of the proposition put forth. These facts indicate that *ayau* is a declarative particle. One of our informants also expressively affirms sentences with *ayau* to be declarative, not interrogative. Also, in A.H.-C. Chang (2006), *ayau* is interpreted as ‘I am wondering’, which also, along with the following statement, forms a declarative.

Nevertheless, the most concrete evidence is the fact that *ayau* is not compatible with *palemek* ‘perhaps’. The sentential adverb *perhaps* is often considered to be an epistemic marker cross-linguistically, e.g., in Hungarian (Kugler 2010), English (Suzuki 2017), and Mandarin (Tung 2016). Such epistemic adverbs weaken the veridicality of the sentence (Tung 2016) and thus are incompatible with interrogatives, which are non-veridical by nature (Giannakidou 2014). As can be seen in (17), *palemek* is fine in a declarative but not good in conventional disjunctives and *tuki* sentences, which, as we will show in the next section, are disjunctive interrogatives.

- (17) a. Ljemita ta qadaw palemek a pacun=sun
 every OBL.CM day perhaps LIN see=2SG.NOM
 ta tiribi.
 ONL.CM television
 ‘Perhaps you watch television every day.’
 b. *Palemek ljemita ta qadaw a pacun=sun ta
 perhaps every OBL.CM day LIN see=2SG.NOM OBL.CM
 tiribi manu ini?
 television or NEG
 ‘Do you perhaps watch television every day or not?’

- c. *Tuki ljemita ta qadaw palemek a pacun=sun
 TUKI every OBL.CM day perhaps LIN see=2SG.NOM
 ta tiribi?
 OBL.CM television
 ‘Do you perhaps watch television every day or not?’

Palemek ‘perhaps’ is, however, fine in *ayau*-sentences, just as in declaratives like (17a). See (18). We thus conclude that *ayau* is a declarative particle rather than a polar QP.

- (18) Ljemita ta qadaw palemek a pacun=sun ta
 every OBL.CM day perhaps LIN see=2SG.NOM OBL.CM
 tiribi, ayau.
 television DP
 ‘Perhaps you watch television every day, I presume.’

3.1.3 Confirming the status of *tuki* disjunctive questions

Having refuted the putative morphosyntactic polar questions proposed in the literature, we now turn to the S-initial interrogative element, *tuki*, and its free variants *aki*, *ki*, and *tui*, which turns an otherwise declarative sentence into a question without any presumption of (dis)confirmation of the proposition put forth, e.g., *aki malevasun?* ‘Are you happy or not?’ Here we provide concrete evidence for the view that *tuki* in this construction forms a *whether-or-not* disjunctive question and thus rule out the polar account.

First, crucially, a *tuki* question has a falling intonation, not a rising intonation, as shown in Figure 6. This is very different from the rising intonation in prosodic polar questions identified thus far; see Figure 7 for an example from A.H.-C. Chang (2006:272).

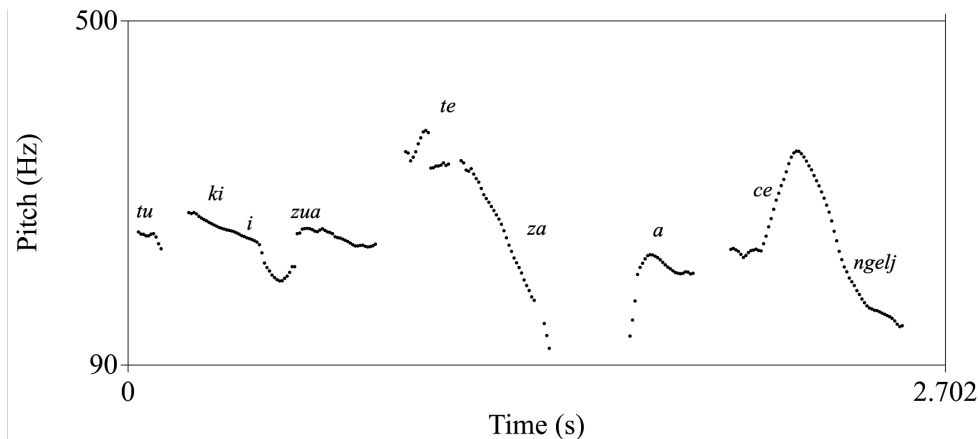


Figure 6. S-initial *tuki* questions without a rising intonation

Tuki izua teza a cengelj? ‘Is there any lunch left or not?’ (ILRDC²⁷)

The evidence available indicates two facts: *tuki* does create a question, but such a question is not an intonation polar question. These two facts point to two viable accounts: *tuki* questions are either morphosyntactic polar questions or in fact *whether-or-not* disjunctive questions, which are different from polar questions semantically and syntactically but are similar pragmatically, and *tuki* is thus a disjunctive interrogative element.

²⁷ Example taken from the online teaching material posted by the ILRDC (Indigenous Languages Research and Development Center).

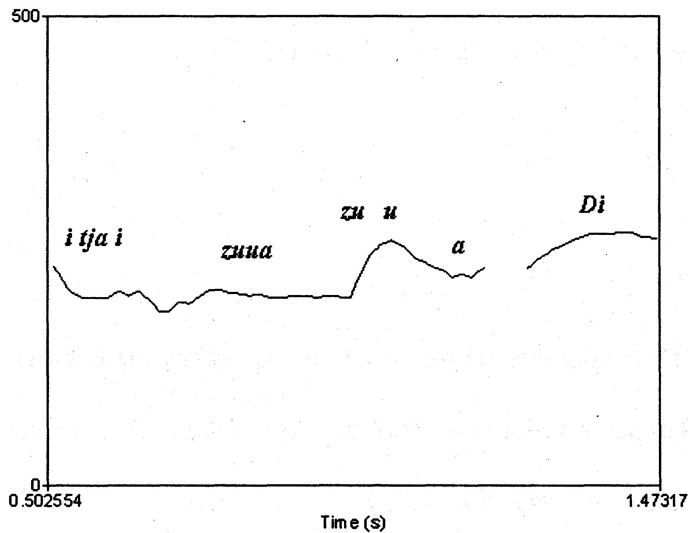


Figure 7. S-final tags with a rising intonation

Itjai zuua zuua dri? ‘At the place over there, right?’

We now put this analysis to test. C.T.J. Huang et al. (2009), Hsiao & Her (2021), and Her et al. (2022) all observe that polar questions do not have indirect counterparts. As seen in (19a), a question with a tag cannot serve as an indirect question, nor can a prosodic polar question, as in (19b). However, an indirect question with an S-initial *tuki* is well-formed, as in (20), suggesting that the second account is more plausible.

- (19) a. *Ini=ka=aken a kemeljang tu ma-leva=sun
 NEG1=NEG2=1SG.NOM LIN know COMP AV-happy=2SG.NOM
 dri.
 tag
 Intended: ‘I do not know whether you are happy.’
 b. *Ini=ka=aken a kemeljang tu
 NEG1=NEG2=1SG.NOM LIN know COMP
 ma-leva=sun. (Rising)
 AV-happy=2SG.NOM
 Intended: ‘I do not know whether you are happy.’
- (20) Ini=ka=aken a kemeljang tu tuki
 NEG1=NEG2=1SG.NOM LIN know COMP whether.or.not
 ma-leva=sun.
 AV-happy=2SG.NOM
 ‘I do not know whether or not you are happy.’

A similar restriction is seen in Isbukun Bunun, another Formosan language. Like Paiwan *tuki*, Isbukun Bunun *adu/au* also appears in a disjunctive interrogative; see (21) for example.

- (21) Adu/au ta~ta~ngis a ’isuu a ’uvaaz=a mais
 ADU/AU AV.cry~RED NOM 2SG.NOM LIN child=DET²⁸ during
 hanian? (Falling)
 day
 ‘Is your child crying during the day or not?’ (H.-J. Huang & Shih 2018:167)

²⁸ This is based on the analysis of Zeitoun (2000) and H.-J. Huang & Shih (2018).

It can also form indirect questions, while the indirect reading of questions formed with S-final regular question particle *ha* is not viable²⁹. Compare (22a) and (22b).

- (22) a. As=ik haiap tu adu na-masipul a
 want=1SG.NOM know COM ADU FUT-read NOM
 Subali mas ahil=tan kutun.
 PN OBL book=DET tomorrow
 ‘I want to know whether Subali will read the book or not.’ (ILRDC)
- b. *As=ik haiap tu na-masipul a Subali mas
 want=1SG.NOM know COMP FUT-read NOM PN OBL
 ahil=tan kutun ha.
 book=DET tomorrow QP
 Intended: ‘I want to know whether Subali will read the book or not.’

This cross-linguistic evidence suggests that *tuki* questions are not polar questions and that *tuki* should not be regarded as a polar question particle.

In addition, it has been found that questions of different types can be sensitive to the kind of adverbs they take. For example, Law (2006) suggests that some adverbials are exclusive to certain types of questions; in C.T.J. Huang et al. (2009:237) and Xu (2012), it is also observed that the Mandarin adverb *nándào* ‘don’t tell me’ can only appear in polar questions, while *dàodǐ* ‘after all’ can only appear in non-polar questions, namely, disjunctive and *wh*-questions. Her et al. (2022) explain that the semantics of ‘don’t tell me’ requires that the nature of the question be a single proposition, which is to be (dis)confirmed, while ‘after all’ denotes a set of two or more propositions offered by the speaker for the interlocutor to choose from. Such a distinction of adverbs is not seen in Paiwan. Specifically, though Paiwan does have an adverbial conveying the meaning of ‘after all’, no adverbial exclusive to (intonational) polar questions is found. This fact suggests that Paiwan indeed does not have morphosyntactically formed polar questions. All the evidence presented regarding *tuki*, including its intonation, embeddability, and lack of adverbial distinction for polar questions and disjunctive/*wh*-questions, leads to the conclusion that *tuki* questions are not polar questions but disjunctive questions. Our analysis is therefore in support of the finding of H.-C. Chang (2017), where a second function of *tuki* meaning ‘whether or not’ is identified.

After placing previous putative question particles as either tags, declarative particle, interjection, or disjunctive elements, we can conclude that Paiwan forms polar questions with intonation only. Lou (2013) surveys the polar questions of 138 languages, including some Formosan languages, and identifies a group of languages that use phonological prosody as the sole means to form polar questions, called intonation interrogative only (IIO) languages. A hierarchy of IIO usage is proposed, as in (23), where the highest ranking IIO languages never combine intonation strategy with other morphosyntactic strategies, e.g., polar question particles, verb inflection or inversion, and the second highest sometimes use intonation with other formal strategies.

- (23) IIO in complementary distribution with other strategies > IIO (common > less common) > Distinctive intonation and others strategies > No distinctive intonation

Under this classification, Paiwan is one of the second-rank IIO languages, since it uses only prosodic variation and no other means to form polar questions³⁰. In fact, Paiwan does not seem

²⁹ Grammaticality test done by a male Bunun informant from Hunhungaz, who was in his 20s.

³⁰ It should be noted that while Paiwan uses only intonation to form polar questions, other languages may employ different strategies. For example, while both American English and British English may use subject-auxiliary

to have morphosyntactic polar questions at all, which is the view held by Egli (1990), who insists that Paiwan only has intonation polar questions. Huang et al. (1999), in a survey of seven Formosan languages, find that Formosan languages may form polar questions via two means, i.e., intonational and lexical/morphological devices, and that Paiwan and Tsou only use prosodical means to form polar questions. These findings further support the view that none of the previously discussed items are polar question particles.

3.1.4 Summary of polar questions in Paiwan

Various putative polar particles have been proposed in the literature and several additional candidates were found in the data we have collected. However, upon careful examination, none is a polar interrogative particle. It turns out that *(ui) pai*, *(ui) dri*, *na*, and *ui lja* are question tags when pronounced with a rising intonation, that *a/a-a* is a non-interrogative interjection with emphasis on the speaker's tone, which is applicable to all questions, and that *ayau* is a declarative or exclamative particle that denotes a strong presupposition. Finally, questions led by S-initial disjunctive elements *tuki*, *aki*, *ki*, and *tui* are not polar questions.

Therefore, to conclude, we concur with Huang et al.'s (1999:641) insightful finding that the only means in Paiwan to form a polar question is to have the pitch accent on the last syllable of the last word.

- (24) a. Ti Palang timadju. (Falling)
 NOM PN 3SG.NOM
 ‘He is Palang.’ (Huang et al. 1999:641)
- b. Ti Palang timadju? (Rising)
 NOM PN 3SG.NOM
 ‘Is he Palang?’ (Huang et al. 1999:641)

Thus, whether the final word is a putative polar particle or not is entirely irrelevant, as the rising intonation alone triggers the polar interrogative semantics.

- (25) a. Ti Palang timadju pai. (Falling)
 NOM PN 3SG.NOM PAI
 ‘He is Palang, yes.’
- b. Ti Palang timadju pai? (Rising)
 NOM PN 3SG.NOM PAI
 ‘He is Palang, right?’

Hence, there are also no syntactic means such as the subject-verb inversion in English to form polar questions in Paiwan. Such a trait in Paiwan is in fact not uncommon typologically. Huang et al. (1999:641) cite Tsou as another example among Formosan languages. In Dryer (2013)'s survey of 955 languages of the world, 173 languages, or some 18%, have only intonational polar questions and do not employ lexical or morphosyntactic means.

3.2 Disjunctive questions in Paiwan

We now turn to disjunctive questions. In Section 3.2.1, we offer further evidence that the S-initial interrogative element *tuki* and its variants form disjunctive questions. However,

inversion and/or intonation, the intonations used may be different between the two dialects (Geluykens 1988). While Mandarin uses polar particles and/or intonation, Xiang has no polar questions altogether (Her et al. 2022).

importantly, we argue that two forms of *tuki* should be recognized. One is, reminiscent of the second function of *tuki* ‘whether or not’ in H.-C. Chang (2017), a disjunctive interrogative element, similar to Mandarin *shǐfǒu* and English *whether or not*, when it occurs sentence-initially and is followed by a declarative sentence. The other *tuki* occurs in *wh*-questions, where it serves as a sentential adverbial similar to English *after all* and Mandarin *dàodǐ*. In section 3.2.2, we reject the conventional putative disjunctive *manu* as a disjunctive conjunction and argue for a covert disjunctive interrogative conjunction that conjoins the alternatives to form disjunctive questions in Paiwan. In Section 3.2.3 we discuss the proper status of *manu* as an adverbial³¹ and its shared properties with the adverbial *tuki*.

3.2.1 Disjunctive questions with S-initial disjunctive interrogative elements

Recall that a declarative sentence can be turned into a question with the addition of the S-initial element *tuki*, *aki*, *ki*, and *tui*; compare (26), and (27).

- (26) Ma-leva=sun.
AV-happy=2SG.NOM
‘You are happy.’
- (27) Tuki/aki/ki/tui ma-leva=sun?
QP/QP/QP/QP AV-happy=2SG.NOM
‘Are you happy or not?’

We have demonstrated in Section 3.1 that such a question is unlike an intonation polar question and in fact behaves like a disjunctive question. Given the fact that questions like (27) do anticipate *yes* or *no* as answers, the only remaining logical explanation is that they are disjunctive questions due to *tuki/aki/ki/tui*, which can be translated as ‘whether or not’ in English, except that *whether or not* cannot appear in a matrix clause. Paiwan *tuki* is therefore like Mandarin *shǐfǒu* ‘whether or not’, which appears after the subject canonically but also S-initially in a more literary style, as in (28a) and (28b), respectively, both with the optional particle *ne*, thus unlike polar questions, which require the particle *ma*, as in (29).

- ĩĩ
- (28) a. Nǐ shǐfǒu kuàilè (ne)?
 you whether.or.not happy CQP
 你 是否 快樂 (呢) ?
 ‘Are you happy or not?’
- b. Shǐfǒu nǐ kuàilè (ne)?
 whether.or.notyou happy CQP
 是否 你 快樂 (呢) ?
 ‘Are you happy or not?’
- (29) Nǐ kuàilè ma?
 you happy PQP
 ‘Are you happy?’

The Paiwan example of (27) and the Mandarin example of (28b) are thus very much alike, where the two alternatives put forth are two identical propositions with opposite polarity. Note that a polar question puts forth a single proposition and seeks agreement or confirmation. The

³¹ As mentioned, the existence of adverbs in Formosan languages is disputed. We therefore refrain from the term *adverb*.

difference is subtle but crucial, as the two types of questions behave drastically different as we have seen in Mandarin as well as in Paiwan.

However, a very interesting fact regarding *tuki* is that it can appear twice at the beginning of a question, as shown in (30), where the % sign indicates that some speakers accept it to be well-formed but others do not. We thus propose that *tuki* is a homophone of two lexical items with different meanings: a disjunctive interrogative element meaning ‘whether or not’ and an adverbial meaning ‘after all; on earth’.

- (30) (%Tuki) tuki ma-leva=sun?
 after.all whether.or.not AV-happy=2SG.NOM
 ‘After all, are you happy or not?’

Recall that in Mandarin the adverb *dàodǐ* ‘after all’ is compatible with non-polar questions only, that is, disjunctive and *wh*-questions. Similarly, the adverbial *tuki* meaning ‘after all’ in Paiwan can also appear in *wh*-questions, as in (31) and (32). Ferrell (1982) thus also treats this *tuki* as an adverbial meaning ‘after all’ and A.H.-C. Chang (2006:438) similarly glosses it as ‘on earth’.

- (31) (Tuki) se-nema?
 after.all belong-what
 ‘After all, where is he from?’
 (32) (Aki) uri tja=kuda-in a icu?
 on.earth FUT 1PL.GEN=do.what-GV NOM.CM this
 ‘After all, what will we do about this?’

This analysis is also reminiscent of M.C.-Y. Chang’s (2010) analysis of the previously mentioned Isbukun Bunun *adu*, where *adu* is treated as an irrealis adverbial.

3.2.2 Disjunctive questions with disjunctive conjunction

We now focus on disjunctive questions formed with the putative disjunctive conjunction *manu*. Recall the two Mandarin disjunctive conjunctions: the declarative *huòshì* and the interrogative *háishì*. Paiwan also has a declarative disjunctive conjunction *kata*. The question is whether *manu* is really a disjunctive interrogative conjunction like *háishì*. The accepted view in previous studies, such as A.H.-C. Chang (2006:307, 2018:101), is that Paiwan disjunctive questions are formed with *manu* in the conventional A-or-B form, as in (33). An additional pattern *or-A-or-B* is put forth in A.H.-C. Chang (2000:122), as in (34).

- (33) Ma-culja=sun manu ma-zeli=sun³²?
 AV-hungry=2SG.NOM or AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’
 (34) Manu ma-culja=sun manu ma-zeli=sun?
 or AV-hungry=2SG.NOM or AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’

However, *manu* in fact enjoys much more freedom than previous studies have described. It can appear alone in front of the first disjunct only, as in (35), and the putative pattern is thus *or-A-B*. It can also not appear at all, as in (36), thus allowing the simple pattern of A-B.

³² *Maculasun* and *mazeLisun* in the original text.

Consequently, all four logically available patterns of A-not-B disjunctive questions, shown schematically in Table 3, are attested.

- (35) Manu ma-culja=sun ma-zeli=sun?
 or AV-hungry=2SG.NOM AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’
- (36) Ma-culja=sun ma-zeli=sun?
 AV-hungry=2SG.NOM AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’

Table 3. Four attested patterns of A-or-B disjunctive questions

	<i>manu</i>	CONJ-1	<i>manu</i>	CONJ-2
1	<i>manu</i>	A	<i>manu</i>	B
2	-	A	<i>manu</i>	B
3	<i>manu</i>	A	-	B
4	-	A	-	B

The facts presented above strongly suggest that the freely occurring optional *manu* is a non-essential element such as an adverbial in disjunctive questions, which are formed by a silent, or covert, disjunctive interrogative conjunction instead, as shown in (37).

- (37) Ma-culja=sun Ø ma-zelji=sun?
 AV-hungry=2SG.NOM CONJ AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’

Phonological evidence from (37) supports this view, as both disjuncts in the question receive a rising intonation regardless of the presence and position of *manu*. One such example is shown in Figure 8 (from A.H.-C. Chang 2006:274). The silent *wh*-conjunction thus conjoins two phonologically formed polar questions and forms a disjunctive question.

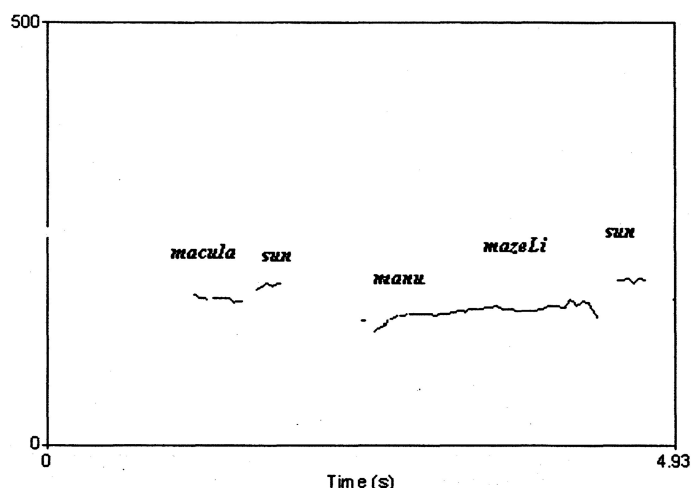


Figure 8. Intonation of disjunctive questions in Paiwan
Maculjasun manu mazelisun? ‘Are you hungry or are you tired?’

Furthermore, we know (37) is a disjunctive question and not a polar question because it has an indirect question counterpart, as in (38). Recall that polar questions do not have indirect question counterparts.

- (38) Ini=ka=aken a kemeljang tu ma-culja=sun
 NEG1=NEG2=1SG.NOM LIN know COMP AV-hungry=2SG.NOM
 Ø ma-zeli=sun.
 CONJ AV-tired=2SG.NOM
 ‘I do not know whether you are hungry or tired.’

In short, the simplest account for the four *A-or-B* disjunctive question patterns is to treat them as variants of a simple underlying form [(*manu*) A OR (*manu*) B], where *OR* in capital letters indicates that it is a silent element (cf. Her & Tsai 2015). We will discuss the proper status of *manu* in Section 3.2.3.

Another important fact overlooked in previous studies is the *A-not-A* form of disjunctive questions in Paiwan. Given the two disjuncts, A and B, in a disjunctive question, B of course can be *not-A*. Thus, if *A-or-B* is attested, then *A-or-not-A* should be attested as well. In most Chinese languages, such as Mandarin and Sothern Min, *A-or-not-A* can be further reduced to *A-or-not*, with the second instance of A ellipsized. Given the four patterns in Table 3, the second disjunct B in each pattern entails two more variants, *not-A* and *not*. Logically, twelve patterns obtain, as shown in Table 4.

Table 4. Twelve possible patterns of *A-or-B* disjunctive questions

	<i>manu</i>	CONJ-1	<i>manu</i>	CONJ-2
1	<i>manu</i>	A	<i>manu</i>	B
2	<i>manu</i>	A	<i>manu</i>	<i>not-A</i>
3	<i>manu</i>	A	<i>manu</i>	<i>not</i>
1	-	A	<i>manu</i>	B
2	-	A	<i>manu</i>	<i>not-A</i>
3	-	A	<i>manu</i>	<i>not</i>
1	<i>manu</i>	A	-	B
2	<i>manu</i>	A	-	<i>not-A</i>
3	<i>manu</i>	A	-	<i>not</i>
1	-	A	-	B
2	-	A	-	<i>not-A</i>
3	-	A	-	<i>not</i>

Given the simple form of *A-or-B* disjunctive questions, [(*manu*) A OR (*manu*) B], the eight additional patterns of *A-not-A* disjunctive questions can likewise be reduced to a simple form [(*manu*) A OR (*manu*) *not(-A)*], as shown in (39).

- (39) (Manu) ma-culja=sun (manu)
 MANU AV-hungry=2SG.NOM MANU
 ini=ka(=sun a ma-culja)?
 NEG1=NEG2=2SG.NOM LIN AV-hungry
 ‘Are you hungry or are you not hungry?’

3.2.3 Proper status of *manu*

Having rejected *manu* as a disjunctive interrogative conjunction, we will now discuss its proper status. The first important fact to point out is that *manu* can easily appear in a declarative sentence, as in (40), bearing the meaning ‘in the end’. Also, with a rising intonation, (40) can be a polar question, a scenario that is also observed in H.-C. Chang (2017), as in (41). Likewise, (41) can appear with a question tag like *pai*, as in (42).

- (40) Manu ma-leva=sun.
 in.the.end AV-happy=2SG.NOM
 ‘In the end, you are happy.’
- (41) Manu ma-leva=sun? (Rising)
 in.the.end AV-happy=2SG.NOM
 ‘In the end, are you happy?’
- (42) Manu ma-leva=sun pai?
 in.the.end AV-happy=2SG.NOM QP
 ‘In the end, you are happy, right?’

Moreover, *manu* can appear in *wh*-questions; two examples are given in (43) and (44). Thus, as expected, besides the A-or-B disjunctive questions discussed in Section 3.2.1, *manu* can also appear in disjunctive questions formed with the *wh*-element *tuki* ‘whether or not’, as in (45).

- (43) Manu ta anema ma-leva=sun?
 in.the.end OBL.CM what AV-happy=2SG.NOM
 ‘In the end, for what are you happy?’
- (44) Manu ti-ima=sun?
 in.the.end NOM.PS.SG-who=2SG.NOM
 ‘In the end, who are you?’
- (45) Manu tuki ma-leva=sun?
 in.the.end whether.or.not AV-happy=2SG.NOM
 ‘In the end, are you happy or not?’

Manu thus behaves like an adverbial that appears freely in both declaratives and interrogatives, and is reminiscent of the adverbial *tuki*. Recall the two forms of *tuki*: one is a disjunctive interrogative element, as in (45), and the other is an adverbial meaning ‘after all’, which can only appear in non-polar questions. In contrast, *manu* as an adverbial with a similar meaning as the adverbial *tuki* can appear in declarative as well as interrogative sentences. This means that the adverbial *tuki* can replace *manu* in non-polar questions, A-or-B disjunctive questions included, as in (46).

- (46) (Tuki) ma-culja=sun (tuki) ma-zeli=sun?
 after.all AV-hungry=2SG.NOM after.all AV-tired=2SG.NOM
 ‘Are you hungry or are you tired?’

Interestingly, Isbukun Bunun also seems to support the analysis of a covert disjunctive interrogative conjunction and *tuki/manu* as adverbials. H.-J. Huang & Shih (2018) mention that there is no overt *or* in Isbukun Bunun, just as we have concluded from the present Paiwan data. In addition, as mentioned, Isbukun Bunun *adu* is similar to Paiwan *tuki*, and optionally appears in front of each alternative in a disjunctive question, behaving like a free adverbial instead of a disjunctive interrogative element; see (47) from H.-J. Huang & Shih (2018).

- (47) (Adu) ’isuu tu tama saia adu ’isuu tu
 ADU 2SG.NOM LIN father 3SG.NOM ADU 2SG.GEN LIN
 masnanava?³³

³³ Note that *adu* is more restricted than Paiwan *tuki* and *manu*. H.-J. Huang & Shih (2018) observe that the second *adu* is indispensable. This may be due to the fact that Isbukun Bunun does not apply a rising intonation in disjunctives, which makes the presence of *adu* as the indicator of interrogative attitude necessary, while in Paiwan disjunctives, a rising intonation is already indispensable, which makes the presence of *tuki/manu* less important.

teacher

‘Is he your father or your teacher?’

This supports an adverbial analysis of *manu/tuki* in disjunctive interrogatives and suggests that the covert disjunctive interrogative element and interrogative adverbials may not be exclusive to Paiwan, but may be shared with other Formosan languages. Further investigation is needed to confirm this observation.

To summarize, two forms of *tuki* are identified, a disjunctive interrogative element conveying the meaning ‘whether or not’ and an adverbial conveying the meaning ‘after all’. *Manu* in an A-or-B disjunctive question is an adverbial similar to the adverbial *tuki*, and the two disjuncts are conjoined by a silent disjunctive interrogative element.

3.2.4 Interim summary of the particles discussed

We have thus discussed the formation of polar and disjunctive questions in Paiwan and have in the process dismissed the interrogative status of some of the particles put forth in the literature. Table 5 below is a summary of the putative interrogative particles and lexical items thus far discussed and lists their status recognized in previous studies and the status recognized in this study.

Table 5. Sentence particles in Paiwan

Putative particles/ interrogative items	Status recognized in the literature	Status recognized in the current study
<i>dri</i>	polar question particle (A.H.-C. Chang 2006, H.-C. Chang 2017)	question tag
<i>pai</i>	polar question particle (A.H.-C. Chang 2006, H.-C. Chang 2017)	question tag
<i>ayau</i>	polar question particle (A.H.-C. Chang 2006)	declarative particle
<i>na</i>	polar question particle (H.-C. Chang 2017)	question tag
<i>ui lja</i>	polar question particle (H.-C. Chang 2017)	question tag
<i>a</i>	polar question particle (H.-C. Chang 2017, A.H.-C. Chang 2018)	interjection of surprise
<i>manu</i>	disjunctive interrogative conjunction ‘or’ (A.H.-C. Chang 2006, H.-C. Chang 2017, A.H.-C. Chang 2018)	adverbial meaning ‘in the end’
	adverbial meaning ‘in the end’ (H.-C. Chang 2017)	
<i>tuki</i>	disjunctive interrogative conjunction ‘or’ (H.-C. Chang 2017)	adverbial meaning ‘in the end’
	Adverbial meaning ‘whether or not’ (H.-C. Chang 2017)	disjunctive interrogative element ‘whether or not’

3.3 Unifying disjunctive questions and *wh*-questions

So far, we have examined putative Paiwan polar questions and Paiwan disjunctive questions and determined that Paiwan has only intonation polar questions and that the *tuki*-led questions that might be thought to be polar questions are in fact disjunctive questions like those led by *manu*, with the disjunctive questions behaving rather differently from intonational polar

questions. In this section, we look at *wh*-questions and demonstrate their similarities with disjunctive questions and their differences with intonational polar questions.

Firstly, the most obvious trait shared by Paiwan disjunctive questions and *wh*-questions is their embeddability. While Paiwan intonational polar questions cannot be embedded as an indirect clause, both disjunctive questions and *wh*-questions can, as in (48).

- (48) a. Ini=ka=aken a kemeljang tu
 NEG1=NEG2=1SG.NOM LIN know COMP
 ti-ima=sun.
 NOM.PS.SG-who=2SG.NOM
 ‘I do not know who you are.’
- b. Ini=ka=aken a kemeljang tu
 NEG1=NEG2=1SG.NOM LIN know COMP
 ma-culja=sun manu ma-zeli=sun.
 AV-hungry=2SG.NOM or AV-tired=2SG.NOM
 ‘I do not know whether you are hungry or tired.’
- c. Ini=ka=aken a kemeljang tu tuki
 NEG1=NEG2=1SG.NOM LIN know COMP whether.or.not
 ma-leva=sun.
 AV-happy=2SG.NOM
 ‘I do not know whether or not you are happy.’

Secondly, unlike intonational polar questions, Paiwan disjunctive questions and *wh*-questions are both compatible with the adverbial *tuki* ‘after all’, as in (49).

- (49) a. (%Tuki) tuki ma-leva=sun?
 after.all whether.or.not AV-happy=2SG.NOM
 ‘After all, are you happy or not?’
- b. Tuki ma-culja=sun tuki ma-zeli=sun?
 after.all AV-hungry=2SG.NOM after.all AV-tired=2SG.NOM
 ‘After all, are you hungry or are you tired?’
- c. Tuki uri tja=kuda-in a icu?
 after.all FUT 1PL.GEN=do.what-GV NOM.CM this
 ‘After all, what are we going to do about this?’

These data suggest strongly that polar questions are fundamentally different from disjunctive and *wh*-questions, and that the latter two should be seen as two sub-categories under one major category, different from the other major category, polar questions. This two-way classification can be further supported by the semantic differences of polar questions with disjunctive questions and *wh*-questions. In both van Rooij & Safarova (2003) and Her et al. (2022), disjunctive questions are regarded as a special case of *wh*-questions semantically. Both provide the interlocutor with a set of options to choose from, the only difference being that *wh*-questions may or may not list all the options and that the set of options may be open-ended, while disjunctive questions usually overtly pronounce the options and have a closed range of possible answers. Polar questions, however, put forth a proposition and seek (dis)confirmation from the interlocutor (Biezma & Rawlins 2012, Her et al. 2022).

In Paiwan, disjunctive questions and *wh*-questions as a single major category can be further supported by seeing both the disjunctive interrogative element *tuki* and the silent disjunctive interrogative conjunction OR as disjunctive *wh*-elements. Constituent questions thus all require

a *wh*-element, while polar questions do not. The conventional three-way distinction can thus be reduced to a more revealing two-way distinction, as shown in Figure 9.

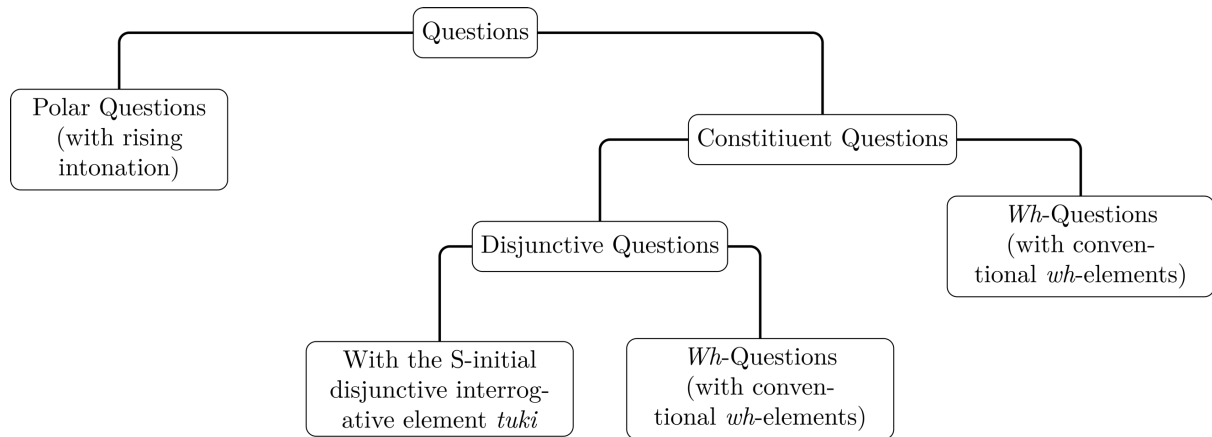


Figure 9. Taxonomy of questions in Paiwan

4. Conclusions

In this paper, we have critically examined previous accounts for the three conventional types of questions in Paiwan: polar, disjunctive, and *wh*- questions. We have first argued that polar questions in Paiwan are formed by phonological means only, that is, a rising intonation. All the alleged sentence-final polar interrogative particles in previous studies are either polar question tags with a rising intonation or non-interrogative interjection particles. The alleged sentence-initial polar interrogative particle *tuki* is, in fact, a disjunctive interrogative element with the meaning ‘whether or not’. On the other hand, *manu*, previously recognized as a disjunctive conjunction, turns out to be an emphatic adverbial that can occur in all types of questions as well as declarative sentences. A-*or*-B and A-*not*-A disjunctive questions in Paiwan must thus contain a silent disjunctive interrogative conjunction OR. Based on these findings, we then demonstrate that the shared similarities overlooked previously between disjunctive questions and *wh*-questions suggest that they are two subcategories of a single category of constituent questions. Consequently, the conventional three-way distinction can be reduced to a simpler and more revealing two-way distinction of polar versus constituent questions.

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