Types of polar questions in Javanese

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This paper describes the different grammatical strategies to form polar questions (broadly including yes-no questions and alternative questions) in Javanese, an area that has not been fully documented before. Focusing on the dialect of Javanese spoken in Paciran, Lamongan, East Java, Indonesia, yes-no questions can be formed with intonation, the particles *opo*, *toh* and *iyo*, or by fronting an auxiliary. Yes-no questions with narrow focus in this dialect are achieved via various syntactic positions of the particle *toh* in contrast to broad focus sentence-finally. Alternative questions are also formed with *toh*, either conjoining two constituents or with negation as a tag question. Based on these new findings in Paciran Javanese compared with Standard Javanese, the reflex of the alternative question particle is shown to co-vary with the disjunctive marker of that dialect. Additional dialectal variation concerning syntactic restrictions on auxiliary fronting is also discussed. Finally, combinations of these strategies—unexplored in any dialect—are shown to be possible (e.g., auxiliary fronting plus the particle *opo*) while other combinations are shown to be impossible (e.g., with the particle *opo* and particle *toh* in sentence final position). This paper serves as a benchmark for further investigation into dialectal variation across Javanese as well as into the syntax-semantics and syntax-prosody interfaces in deriving different types of yes-no questions.

1. Introduction[1]

Polar questions in Javanese—in any dialect—are currently not well-documented. Putting together descriptions from various sources on Standard Javanese, as spoken in the courtly centers of Yogyakarta and Surakarta/Solo, yes-no questions are noted to be formed via (i) intonation, (ii) the particle *iya/yha/ya* 'yes', (iii) the particle *apa,* and (iv) the particle *ta* (Horne 1961; Arps et al. 2000; Wedhawati et al. 2006; Robson 2014). Cole, Hara & Yap (2008) discuss in depth a fifth yes-no question strategy—auxiliary fronting—based on data on Peranakan Javanese (a Javanese variety spoken by ethnic Chinese; see Wolff 1983, 1997) as spoken in Semarang, Central Java. In addition to yes-no questions (e.g., *Will Jordan come to Vancouver?*), alternative questions (e.g., *Will Jordan come to Vancouver or not?; Will Jordan have coffee or tea?*) are also formed with the particle *apa* conjoining two constituents or *apa* plus negation in Standard Javanese (Horne 1961; Arps et al. 2000).

Despite these available descriptions mainly on Standard Javanese, it is not understood if and how these polar question strategies interact, what might be the difference(s) between these strategies, or if this is an exhaustive set of strategies. Further, the fact that Javanese has a high degree of cross-dialectal variation—both within and across the dialectal groupings of West Javanese, Central Javanese, and East Javanese (e.g.,

Sumukti 1971; Hatley 1984; Nothofer 1980, 1981)—raises the question of how polar questions might be similar or different across dialects. This paper explores these issues based on original fieldwork on a variety of East Javanese spoken in the village of Paciran, Lamongan Regency, East Java, Indonesia, which I will refer to as Paciran Javanese.[2]

Paciran Javanese uses a variety of different strategies to form yes-no questions: intonation, leading questions with *(i)yo* 'yes' but not *gak* 'NEG', with the particle *opo*, the particle *toh*, and auxiliary fronting. Alternative questions are created with the particle *toh* or with tag questions formed with *toh* plus negation. From this new data, important observations concerning cross-dialectal variation are discussed, including restrictions on the number of fronted auxiliaries and how narrow focus is achieved. Additionally, I show that the use of different particles in alternative questions (*toh* in Paciran Javanese; *(a)pa* in Standard Javanese) is related to which marker is used for disjunction ('or') in the respective dialect. The link between disjunction and polar questions is similar to many unrelated languages (e.g., Yucatec Maya, AnderBois (2011); Estonian, Japanese, Supyire, Tetun, among others, as discussed in Bailey (2013) and references therein).

In this paper, I take *polar questions* to refer to both *yes-no questions* and *alternative questions,* which are distinct from *wh*-questions (e.g., Bolinger 1978; Cheng 1997; Dryer 2013). The term *yes-no question* refers to *neutral* and *non-neutral* yes-no questions. Neutral yes-no questions have broad focus, and allow expressions of 'yes' or 'no' for answers, but have no expectation for either one. In other words, they ask about the truth of the entire proposition. Non-neutral yes-no questions are non-neutral either because they have narrow focus (such as focus on a specific constituent of the proposition vs. broad focus of the entire proposition) or because there is an expectation for either a 'yes' or 'no' answer (also known as a leading question).[3] I also discuss *(polar) alternative questions* as distinct from *yes-no questions* (based on their response type, where only the latter allows 'yes' or 'no' expressions as answers). As part of the current research is to better understand how might polar questions in Javanese be grammatically distinguished, I refrain from defining potential additional types such as echo or rhetorical questions (following Massam et al. 2011 for Niuean).

This paper is structured as follows. I first give a background of the previous work on this topic in Section 2 and discuss the methodology used in Section 3. Section 4 looks in depth at the types of strategies used to form polar questions in Paciran Javanese, and cross-dialectal variation is discussed in Section 5. Section 6 investigates which strategies can be combined, focusing on Paciran Javanese. Section 7 concludes.

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[2] Some scholars may prefer to give a wider geographical domain for a dialect; for instance, what I refer to as 'Paciran Javanese', could be grouped within the dialect spoken in Lamongan Regency (cf. Krausse 2017:8). However, for the purposes of this paper, I remain as precise as possible in identifying the origin of the data given the divergent nature of particles in Javanese. Yes-no question particles are known to lexically vary in villages within the same regency: for instance, in Lamongan Regency, the focus particle /ʈoh/ in Paciran is pronounced as /ʈah/ in Blimbing and Weru. In Tuban Regency, the focus particle is /lɛh/ in Montong, but /ʈo(h)/ in Tuban city. Further dialectal differences are discussed in Section 5.

[3] The neutral/non-neutral distinction of polar questions follows the definitions in SSWL (Syntactic Structures of the World's Languages) < http://sswl.railsplayground.net/glossary>.

2. Previous literature on yes-no questions in Javanese

Previous work on Javanese, mainly on Standard Javanese, discusses the use of the following strategies to form a yes-no question: (i) intonation, (ii) the particle *(i)ya*, (iii) the particle *apa*, (iv) the particle *ta,* and (v) auxiliary fronting.[4] Alternative questions, while less well-described, are noted to be formed via the particle *apa, apa* plus negation *ora,* or sentence-final negation. This section summarizes each of these strategies in turn.

Student grammars Arps et al. (2000) and Robson (2014) as well as a reference grammar by Wedhawati et al. (2006) discuss intonation as one of the main strategies; Rahyono (2007) also analyzes the intonation of a yes-no question (compared to declaratives and imperatives) based on a focused study on the Javanese spoken in the Yogyakarta palace (corresponding to *krama* 'High Javanese' speech level; cf. Poedjosoedarmo 1979).[5]

To put the discussion on intonation in context, Javanese is assumed to not have lexical stress, pitch accent, or tone; in other words, Javanese does not have word-based prominence, but is an intonation-only language (cf. Stoel 2006 on the Javanese dialect spoken in Banyumas; Goedemans & van Zanten 2007). However, the authors discussed in this section do not necessarily assume this based on their descriptions.

Turning to Standard Javanese, Rahyono (2007) identifies a number of differences between the prototypical declarative and yes-no question intonation contour of Javanese, as replicated in Figures 1 and 2 based on the sentence in (1). Overall, declaratives are noted to have declination while yes-no questions have inclination. Further, while declaratives have a relatively large pitch excursion at the end of the subject phrase (NP) and a small excursion sentence-finally, the opposite is the case for yes-no questions. Finally, a yes-no question is characterized by a complex final pitch movement which is associated with the final three syllables, as shown in Figure 2. That is, there is a rise-fall movement on the antepenultimate and penultimate syllables and a final rise on the ultimate (Rahyono 2007:179).

(1) [*Ubarampe   siram-an*]_NP [*di-cawis-ake   rumiyin*]_VP
      equipment   bathe-NMLZ   PASS-prepare-APPL first
      'The equipment for the bathing is prepared first/now.'
      (Rahyono 2007:178, *gloss added*)   Standard Javanese, Krama

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[4] Arps et al. (2000:141) also note that the (modal) particles *rak, kok,* and *malah* can be used in yes-no questions, but these are not included as a strategy to form a yes-no question since they also occur in declaratives. While the particle *ta* is also used in declaratives, in questions it has a specific function as a focus marker, as shown for Paciran Javanese (as *toh*) in Section 4.4, and so is included as a polar question strategy.

[5] Robson (2014) and Wedhawati et al. (2006) describe Standard Javanese and Arps et al. (2000) describe what they refer to as the Central Javanese dialect grouping. I assume this refers to the same dialect.
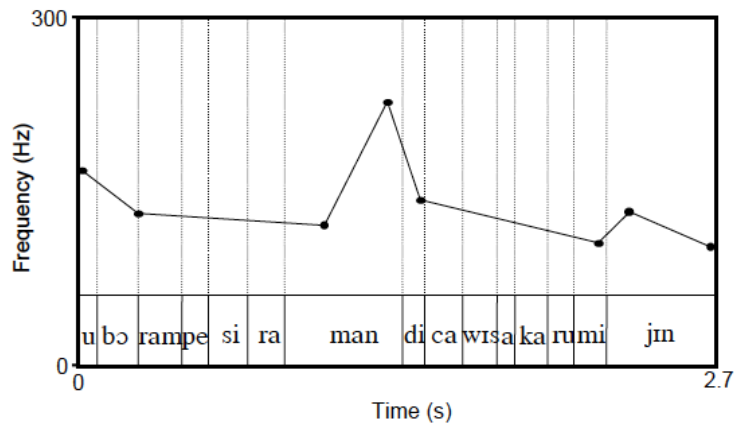
Figure 1. Stylized pitch contour of the prototypical statement contour
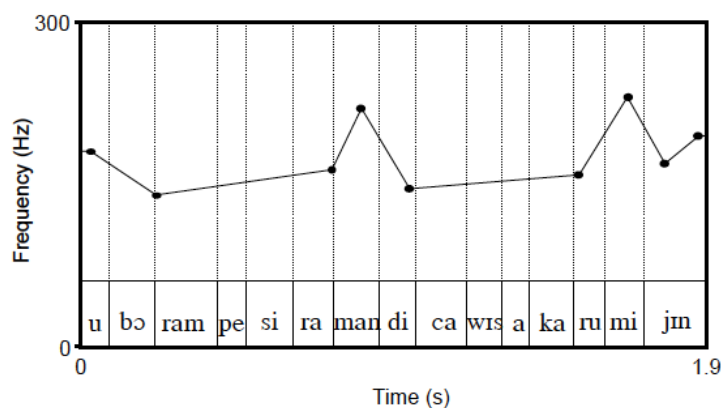(Rahyono 2007:180)

Figure 2. Stylized pitch contour of the prototypical interrogative (yes-no question) contour (Rahyono 2007:180)
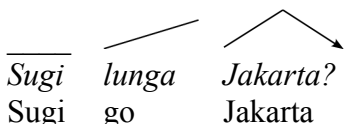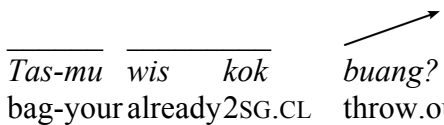
Arps et al. (2000:5) describe the intonation contour of yes-no questions similarly where a rise occurs from a high tone to an even higher tone on the penultimate syllable, and the ultimate syllable starts low but ends as a rising tone. For declaratives, Arps et al. (2000:4) additionally note that the duration of the final syllable of the subject and the penultimate syllable are lengthened.

Wedhawati et al. (2006:490) describe two additional intonational contours for yes-no questions, as replicated in (2), where:

> Intonasi tanya dapat berakhir dengan nada ke bawah yang sebelumnya didahului tekanan atau nada naik [...] atau dapat juga berakhir dengan nada naik (meninggi). / Question intonation can end in a falling tone preceded by a stressed or rising tone [...] or it may end up in a rising tone (high).

We may consider that the intonation contour in (2)a is similar to the one described by Rahyono (2007) and Arps et al. (2000), but that there is no final rise.

We will see that the intonation pattern used to form a yes-no question in Paciran Javanese is characterized by a fall-rise contour or simply a falling tone associated with the ultimate syllable of an intonational unit, as discussed in Section 4.1.

(2) a.   _Sugi   lunga   Jakarta?_   STANDARD JAVANESE
             Sugi   go   Jakarta
             'Sugi pergi ke Jakarta?' / 'Sugi went to Jakarta?'

      b.   _Tas-mu   wis   kok   buang?_
             bag-your already 2SG.CL   throw.out
             'Tasmu sudah kau buang?' / 'You already threw your bag out?'
             (Wedhawati et al. 2006:489; _gloss & English translations added_)

A second strategy to form yes-no questions in Standard Javanese is with the particle
iya/yha/ya.[6] Arps et al. (2000:135) describe _ya_ as a modal particle:

> Het vraagt de gesprekspartner om mee te denken: het doet een beroep op
> hem of haar, probeert hem of haar bij het vraagstuk te betrekken. / It asks
> the addressee to think along: it makes an appeal to him or her, trying to
> involve him or her in the question.[7]

(3) a.   _Mengko nèng nggon-ku, **yha**?_   STANDARD JAVANESE
             later   to   place-my   YES
             'Nanti ke tempat saya, ya?' / '[You're] coming to my house later, right?'
             (Wedhawati et al. 2006:410, _gloss & English translation added_)

      b.   Ibu   wis   tindak,   **ya**?
             mother   already   walk   YES
             'Moeder is al weg, nietwaar?' / 'Mother has gone, right?'
             (Arps et al. 2000:135, _gloss & English translation added_)

A third strategy to form yes-no questions is with the particle _apa_ (Arps et al. 2000;
Wedhawati et al. 2006; Robson 2014), as shown in (4)a in sentence-initial position. This
particle has an additional function in forming alternative questions, which is discussed
below. It should not be confused with the lexical _wh_-word _apa_ 'what' in (Standard)
Javanese, which is not discussed in this paper.

While Robson (2014:95) introduces this yes-no question strategy within the context of
adjectival predicates, it is not restricted to this predicate type (Wedhawati et al. 2006;
Arps et al. 2000); as shown in (4)b and (5). I will show that this strategy also occurs
with any predicate in Paciran Javanese in Section 4.3.

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[6] Only Wedhawati et al. (2006) use the spelling _yha_; I have not seen this elsewhere for this particle.

[7] Arps et al. (2000:135) identify the use of the particle _ya_ in wh-questions and in alternative questions (cf.
(3b)) as independent from yes-no questions. While I agree that the particle _ya_ does not create a yes-no
question with _wh_-questions, I suggest that its function is the same. For instance, in the example, _Sapa ya?_
'Who YES', in using _ya_, the speaker expects the addressee to agree with the proposition under discussion,
which is in this case, the _wh_-word 'who'. That is, the speaker expects that the addressee agrees that _sapa_
'who' is a valid question, whether or not the addressee has an answer. In these cases, _ya_ can be used
rhetorically, as Arps et al. (2000:135) mention. It is not clear whether examples with _ya_ such as (3b)
above are alternative questions, different from yes-no questions: the addressee can answer such questions
with 'yes/no'. Horne (1961:128) does not discuss _ya_ in the context of yes-no questions, but only in
relation to exclamatives.

(4) a. ***Apa kowé ngelih?***   STANDARD JAVANESE
        Q   2SG   hungry
        'Are you hungry?' (Robson 2014:95; *gloss added*)

     b. ***Apa buku-né   wis   di-waca?***
        Q   book-DEF   already PASS-read
        'Apakah bukunya sudah dibaca?' / 'Has the book already been read?'
        (Wedhawati 2006:464; *gloss & English translation added*)

Arps et al. (2000) note that in addition to sentence-initial position, *apa* can introduce the predicate itself, leaving the external argument to occur sentence-finally or sentence-initially as a topic; as in (5). This option also occurs in Paciran Javanese, discussed in Section 4.3.

(5) a. ***Apa wis   tĕka, Bu   Wanti?***   STANDARD JAVANESE
        Q   already   come Mrs. Wanti
        'Mevrouw Wanti, is ze al gekómen?'/ 'Mrs. Wanti, has she already arríved?'[8]

     b. *Bu   Wanti, **apa** wis   tĕka?*
        Mrs. Wanti Q   already   come
        'Mevrouw Wanti, is ze al gekomen?' / 'Mrs. Wanti, has she already arrived?'
        (Arps et al. 2000:150; *gloss & English translation added*)

A fourth strategy is with the particle *ta*, whose function in questions is described as to "...invite agreement or call for an answer" (Robson 2014:123):[9]

(6) a. ***Iya, ta?***   STANDARD JAVANESE
        yes   FOC
        'That's right, isn't it?' (Robson 2014:123; *gloss added*)

     b. *Kuwi guru-ne   **ta***?
        DEM   teacher-DEF FOC
        'Dat is de leraar, nietwaar?' / 'That is the teacher, right?'
        (Arps et al. 2000:139; *gloss & English translation added*)

     c. *Kowé **ta**   sing n-jupuk?*
        2SG   FOC   REL   AV-take
        'Kamu kan yang mengambil?' / 'You're the one who took it?'
        (Wedhawati et al. 2006:410; *gloss & English translation added*)

(6)c shows a different position of *ta* than sentence-final; while Wedhawati (2006) provide this example, potentially related semantic differences are not discussed. Arps et al. (2000) and Robson (2014) do not mention the possibility of other locations for the particle *ta* besides sentence-final. I will show in Section 4.4 that its counterpart in Paciran Javanese, *toh,* indicates focus: it can have variable positions within the clause which correspond to different narrow foci (in addition to broad focus sentence-finally).

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[8] The accent on *gekómen* 'arrived' in Arps et al. (2000:150) (not normally part of Dutch orthography) is presumably to indicate pitch accent.

[9] The particle *ta* also occurs in exclamatives in Javanese, but as this paper is limited to yes-no questions, this function is not discussed; see Arps et al. (2000:139), Wedhawati et al. (2006), and Robson (2014:123) for discussion and examples.

In addition to such descriptions in grammars, there have been two focused studies on a fifth strategy to form yes-no questions in Javanese: Cole, Hara & Yap (2008) and Vander Klok (2015) investigate auxiliary-fronting (or subject-auxiliary inversion). The auxiliary is analyzed as raising in the narrow syntax from its base position below the external argument (cf. (7)a), to above the external argument, (7)b. Only a restricted set of auxiliaries can front in Javanese, which is described in Section 4.7.[10] An example is given in Peranakan Javanese in (7) and in Standard Javanese in (8).

(7) a. Aku *isa* ng-omong Inggris.   PERANAKAN JAVANESE
1SG   can AV-speak English
'I can speak English.' (Cole, Hara & Yap 2008: 3, (1))

  b. [**Isa**]$_i$ dheen t_i ng-omong Inggris ?
can 3SG   AV-speak English
'Can he speak English?' (Cole, Hara & Yap 2008: 9, (33))

(8) a. *Anak-e   Pak Bambang **entuk** m-(p)angan sing pedes-pedes*. STD. JAV.
child-DEF Mr. Bambang allow AV-eat   REL spicy-RED
'Mr. Bambang's child may eat spicy food.'

  b. ***Entuk** anak-e   Pak Bambang m-(p)angan sing pedes-pedes?*
allow child-DEF Mr. Bambang AV-eat   REL spicy-RED
'May Mr. Bambang's child eat spicy food?' (Vander Klok 2015:152, (14))

Alternative questions in Standard Javanese are formed either by joining two constituents with *apa* or with the particle *apa* plus negation *ora*. Horne (1961:37) describes examples such as (9) as "...ask[ing] which of two alternatives is true".

(9) *Kowé turu soré   **apa** wengi?*   STANDARD JAVANESE
2SG   sleep afternoon Q   evening
'Do you go to bed early or late?' (Horne 1961:37, *gloss added*)

Arps et al. (2000:151) also note the function of *apa* in alternative questions ('keuzevragen') as in (9), but do not explicitly discuss its corresponding use of negation. This strategy with negation can have the particle *apa* as overt, (10)a, or omitted, (10)b, in Standard Javanese. It is not mentioned whether there are any restrictions on when *apa* can be omitted.

(10) a. *Kowé   sinau **apa** ora?*   STANDARD JAVANESE
2SG   study Q   NEG
'Do you study, or not?' (Horne 1961:37, *gloss added*)

  b. *Kowé   m-(p)angan karo aku, gelem   **ora**?*
2SG   AV-eat   with 1SG   willing   NEG
'Would you like to eat with me?' (Horne 1961:128, *gloss added*)

The form of negation also is dependent on the form of the predicate and its modifiers, which suggests that this use is a dependent tag (cf. Sailor 2009): if *wis* 'already' modifies the predicate, the negation used is *durung* 'not.yet' (Horne 1961:128), as

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[10] Cole, Hara & Yap (2008) focus on a dialect of Peranakan Javanese (ethnic Chinese Javanese) as spoken in Semarang, Central Java, and Vander Klok (2015) focuses on Paciran and Standard Javanese.

shown in (11)a.[11] Further, if the predicate under question is nominal, the nominal negation *dudu* is used, as shown in (11)b.[12]

(11) a. *Wis   m-(p)angan **apa   durung**?*   STANDARD JAVANESE
          already AV-eat   Q   not.yet
          'Heb je al gegeten (of nog niet)?' / 'Have you already eaten (or not yet)?'
          (Arps et al. 2000:151; *gloss & English translation added*)

      b. *Kowé   muréd   **apa   dudu**?*
          2SG   student   Q   NOM.NEG
          'Would you like to eat with me?' (Horne 1961:37, *gloss added*)

From these sources, we have a sketch of the overall picture on yes-no question strategies: Standard Javanese can form yes-no questions via intonation, the particle *iya/yha/ya*, the particle *ta,* the particle *apa,* and auxiliary fronting. To form alternative questions in Standard Javanese, *apa* can contrast two constituents or the combination of *apa* plus negation is used. The properties of these polar question strategies for Standard Javanese are summarized in Table 1.

Table 1. An overview of polar questions in Standard Javanese

	INTONATION	PARTICLE *ya*	PARTICLE *ta*	PARTICLE *apa*	AUXILIARY FRONTING
Information Status	neutral (?)	non-neutral expectation ('yes')	either neutral or non-neutral expectation ('yes'); possible narrow focus	Two functions: (i) neutral YNQ; or (ii) alternative question	non-neutral focus (narrow focus on auxiliary)
Position	rise-fall-rise contour across (antepenult), penultimate, and ultimate syllable *(Arps et al. 2000; Rahyono 2007)* Low tone with final rise on penultimate syllable *(Wedhawati et al. 2006)*	sentence final	sentence final or following external argument	sentence or predicate initial (for neutral YNQ); conjoining two constituents or sentence final plus negation (for alternative question)	auxiliary moves to focus position above external argument *(Cole, Hara & Yap 2008)*

Despite this progress, many questions remain. For instance, are these an exhaustive set of strategies? Are there are any restrictions that these strategies have? What are the syntactic and semantic properties of each strategy in Javanese? Where exactly can the

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[11] *Durung* 'not.yet' is independently argued to be the outer negation of *wis* 'already'; see Vander Klok & Matthewson (2015).

[12] Alternative questions are not discussed in either Wedhawati et al. (2006) or Robson (2014).

particles occur? Do they indicate broad or narrow focus? Can all auxiliaries front, like in English? How do these strategies interact?

This paper looks to fill some of these gaps from a cross-dialectal perspective through documentation of an East Javanese dialect as spoken in the village of Paciran, Lamongan, East Java, Indonesia. The data are in the *ngoko* 'Low Javanese' speech level (see e.g., Poedjosoedarmo 1979, Errington 1985, 1988 on Javanese speech levels), which is the everyday language used in Paciran given its geographical distance from the courtly centers of Yogyakarta and Surakarta/Solo.[13]

3. A note on methodology

The data in this paper are based on original fieldwork unless otherwise noted. I used recordings of natural conversation and targeted elicitation. In elicitation, I primarily used the object language (Javanese) to elicit the examples, and where clarification was needed, I used either Indonesian or English as the contact language.

Elicitation was conducted with individuals or in a group setting. Based on the nature of the fieldwork questions under discussion, I primarily asked for grammaticality or acceptability judgments (whether a sentence (or a set of sentences) is/are structurally well-formed or acceptable given a specific context), following the techniques used in Matthewson (2004). I also used a translation task to better understand how narrow focus (i.e., focus on a specific constituent) is expressed in Paciran Javanese, where participants were asked to translate cleft questions. A second exercise used to target which constituents are being focused is multiple choice questions. In this exercise, I presented speakers with different answer options to a specific question, and asked speakers to choose all of the answers which best responded to the question and/or offer an alternative answer. These two exercises are further explained in Section 4.4.

Concerning the prosodic analysis of polar questions, data tokens were taken from recordings of natural conversation (recorded on an H1 Zoom). Due to conversation topics and background noise, the tokens are primarily from a conversation between two speakers, Bu S. ('Mrs. S.') and Bu Z. ('Mrs. Z.'), who are both in their 60s and have always lived in Paciran, East Java. Using Praat software (Boersma & Weenink 2013), the data tokens were segmented into syllables and pitch contours were derived from the F0 (fundamental frequency).

4. Types of strategies to form polar questions in Paciran Javanese

There are five different strategies used to form yes-no questions in Paciran Javanese, parallel to Standard Javanese: (i) intonation, (ii) a leading question with the particle *(i)yo*, (iii) with the particle *opo*, (iv) with the particle *toh*, and (v) auxiliary fronting. Alternative questions in Paciran Javanese are formed by conjoining two constituents with *toh* or via the particle *toh* plus negation *gak*, the latter which I propose is a tag. This section describes each of these strategies in turn before turning to cross-dialectal variation in Section 5.

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[13] While high frequency forms of *krama* 'High Javanese' are commonly known and used by Paciran Javanese speakers (e.g., *dahar* 'to eat' or *sampun* 'already'), extensive knowledge and use of full *krama* conversation is rare, and usually limited to older speakers.

4.1 Yes-no questions via intonation

One strategy to form yes-no questions in Paciran Javanese is via intonation, like in Standard Javanese (see (2)). That is, the word order is not affected nor is there a question word, but it is the prosody that indicates the clause is a yes-no question.

To situate the analysis of this section, much research has shown that there is a close connection between syntactic and prosodic constituents, but there may be non-isomorphy (Elfner 2011, Wagner 2015, Clemens 2016, among others). Thus the prosody of yes-no questions is described in terms of the basic prosodic unit, the Intonation Unit (IU). A prosodic sentence can be made up of one or more IUs (Chafe 1994). Most of the pitch tracks presented in this paper show IUs that correspond to clauses. I propose that the default contour for yes-no questions in Paciran Javanese is a fall-rise contour on the final syllable of an IU; another variant of this contour is to simply realize the falling tone on that syllable.

To understand how the intonation of a yes-no question is different, it is useful to start with the intonation of a typical declarative in Paciran Javanese, illustrated in Figure 3. Overall, declination occurs across the entire prosodic sentence, there is a larger pitch excursion on the final syllable of the subject constituent than on the final syllable of the utterance, and a falling tone on the ultimate syllable of the utterance. These properties are parallel to Standard Javanese (Rahyono 2007) and Banyumas Javanese (Stoel 2006). In other declaratives (not shown here), a rising tone can occur on the ultimate syllable, indicating that the speaker will continue talking, as in Banyumas Javanese (Stoel 2006).

(12)   Context: *Bu R. is discussing speech levels. Bu R. starts with a topic "Kebiasaan wong Tuban/ Usually Tuban people" (not shown for space), followed by:*
       Iku   luweh   akeh   ng-gunak-ne   boso   jowo alus.
       DEM more   many   AV-speak-APPL language   Java refined
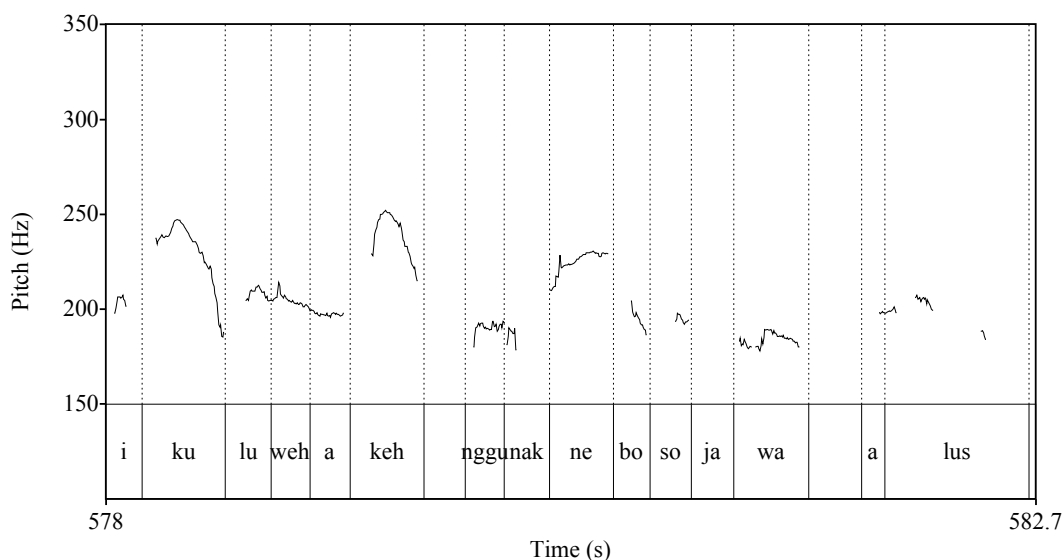   'More of them speak High Javanese.'

Figure 3. Pitch track of (12)

Turning to yes-no questions, Figure 4 shows a typical intonational contour with a fall at the left edge of the final syllable, reaching a low pitch before rising at the right boundary.[14] Overall, Figure 4 shows the rise-fall-rise contour as described in Arps et al. (2000) and Rahyono (2007) for Standard Javanese, but the pitch contours of other yes-no questions shown below indicate that the beginning rise is not a necessary property.

Comparing the declarative and yes-no question in Figures 3 and 4, IUs are marked in both cases with lengthening on the ultimate syllable, showing that only pitch is a marker for yes-no questions in Javanese. Lengthening is not unique to declaratives, contra Arps et al.'s (2000) description.

(13) Context: *Bu S. says that her first child is in first grade, and the second one will go to kindergarten. Bu Z. asks:*
      Anak-e   loro?
      child-DEF   two
      'She has two children?'
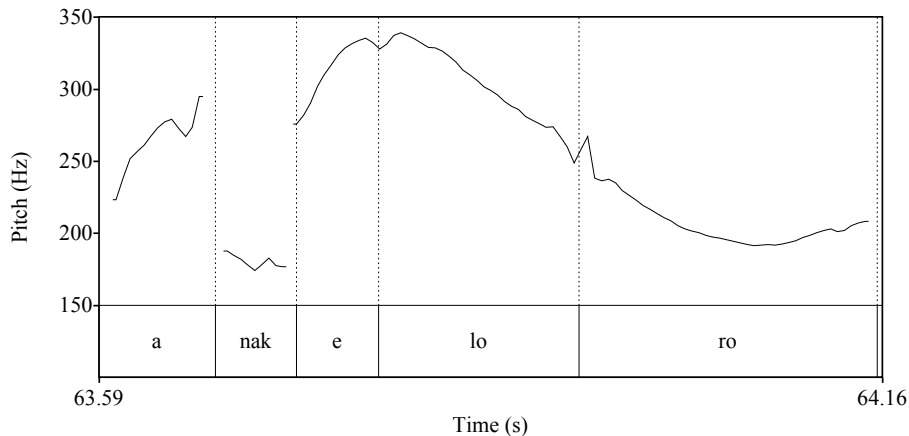
Figure 4. Pitch track of (13)

Another example of a yes-no question in Figure 5 shows the same intonation contour, but over one word. Again, the fall-rise contour is only on the ultimate syllable.[15] In both (13) and (14), the final rise is perceptible.[16]

(14) Context: *Bu S. is saying that the family has many houses, and one will go to Bu S.'s son. Bu Z. then asks: 'And this one is for you, isn't it?' Bu S. replies that it is for Rifki. Bu Z. then echoes: 'Rifki?'*

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[14] Figures 4-7 are taken from the same speaker, Bu Z., and pitch excursion is not relevant. The pitch range is different to accommodate cleaner figures, but importantly, the shape of the contour in the final syllable is the same (fall-rise in Figures 4-6; fall in Figure 7).

[15] Figures 4 and 5 differ in *when* the falling tone begins, but I assume this distinction is not significant as it is not at a prosodic boundary. Specifically, in Figure 4, the falling tone starts on the left edge of the penultimate syllable and the ultimate syllable continues this fall, whereas in Figure 5, the falling tone begins on the left edge of the ultimate syllable.

[16] Thisexample is of a different question type; namely an echo question, but has the same pitch contour, suggesting that this type of question does not differ intonationally.

Rifki
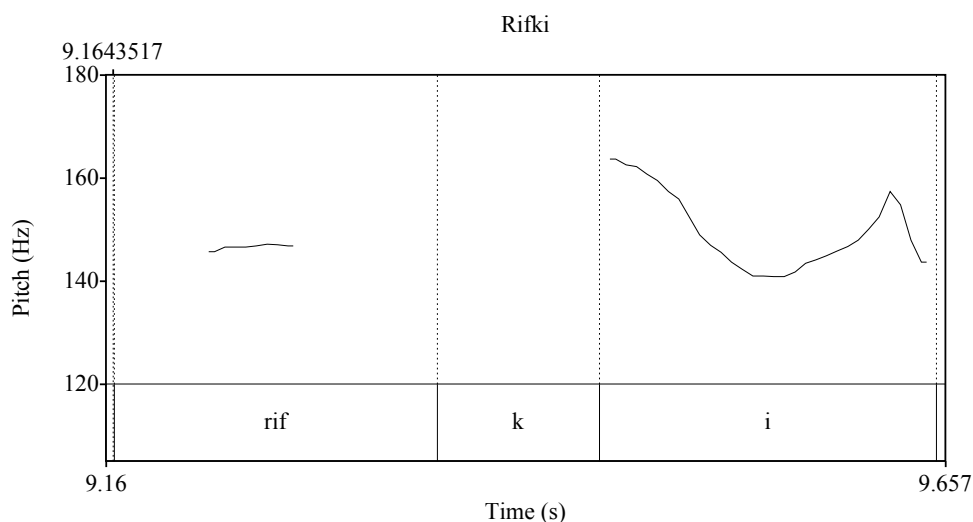
Figure 5. Pitch track of (14)

Figure 6 illustrates the pitch track of a third yes-no question. In this case, the fall begins at the left edge of the ultimate syllable with no rise at the right edge.

(15) Context: *Bu S. explains that she still sells jilbabs (head-coverings) but there are fewer customers now. Bu Z. asks:*
Rodok   sudoh?
somewhat   decrease
'There are approximately less?'
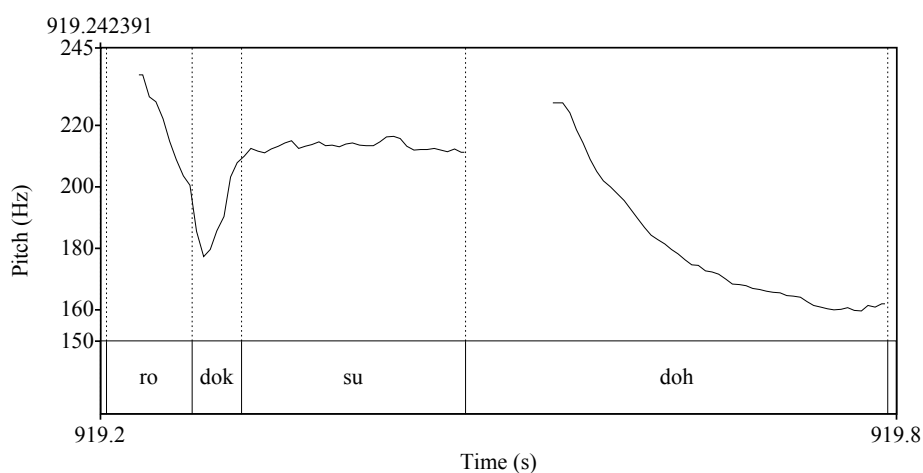
Figure 6. Pitch track of (15)

Figure 7 shows that the domain of the fall-rise contour is the IU, and does not have to be at the end of the prosodic sentence (utterance-final). While the above figures show the fall-rise contour as prosodic sentence final, corresponding to one IU, this contour on the second syllable of *kene* 'here' in Figure 7 is followed by a second IU.

(16) Context: *Bu S. explains that the Muslim dress that is embroidered in Paciran is always sold out where her daughter works in Yogyakarta. Bu Z. then asks:*
Nang gak ono   nge-jak   bocah kene sing bordil   rono?
then NEG exist AV-take.along child here REL embroider there
'So [she] didn't bring someone from here who would embroider there?'
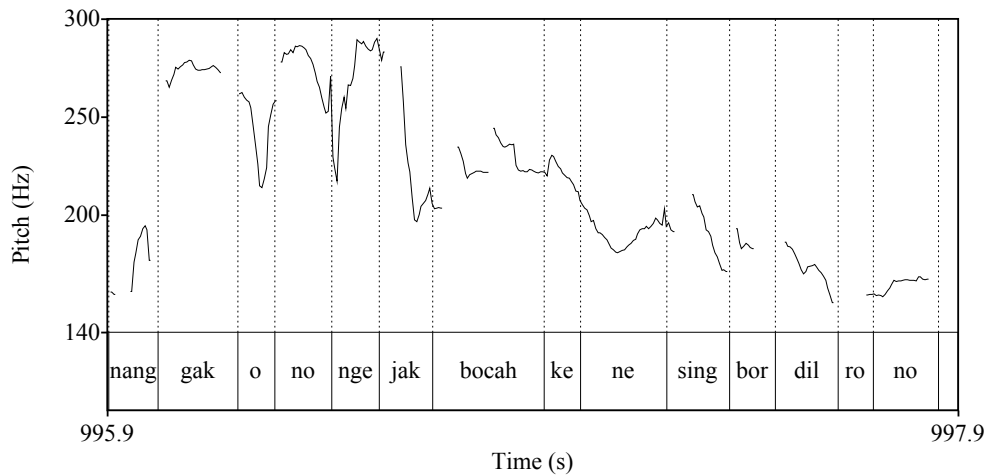
Figure 7. Pitch track of (16)

To summarize, the prosody for yes-no questions in Paciran Javanese is different from both intonation contours described by Wedhawati et al. (2006) for Standard Javanese; it is neither a rising tone followed by a falling tone (cf. (2)a) or simply ending in a rising tone (cf. (2)b). It is also different from the complex pitch contour described in Arps et al. (2000) or Rahyono (2007) in that an initial rising (high) tone is not required. If there is an initial rising tone, it occurs on the antepenultimate syllable, not on the penultimate. Further, the pitch of the penultimate is not a characterizing feature of a yes-no question: in the above three examples, we see three different variations: either as a falling tone (Figure 4 and 7), a low tone (Figure 5) or a high tone (Figure 6). Rather, a yes-no question in Paciran Javanese is characterized by a default fall-rise contour or simply a falling tone, localized to the ultimate syllable of an IU.

Questions then arise whether (i) there are cross-dialectal differences and/or (ii) the description of intonation in yes-no questions for Standard Javanese was not based on precise enough measurements or enough data tokens. It seems that the latter is likely the case given that the pattern described by Arps et al. (2000) and Rahyono (2007) was similar to Figure 4, but otherwise not exactly comparable. However, it remains to be seen whether different pitch contours can form polar questions in other Javanese dialects. Stoel (2006) reports for Banyumas Javanese that a rising contour at the utterance-final boundary is typical for yes-no questions with non-final focus (and statements if another intonation phrase follows), but a falling contour is not observed in contrast to the findings here for Paciran Javanese. As far as I know, no other study on prosody is available on other dialects of Javanese. Since these questions remain open, I do not discuss intonation further in Section 5 on cross-dialectal variation.

4.2 Leading yes-no questions with the particle *iyo*, but not *gak*

Yes-no questions can also be formed with the particle *iyo* 'yes' in Paciran Javanese, as shown in (17). This strategy is parallel to Standard Javanese: the speaker expects the addressee to agree with the proposition under question.[17]

(17) *Cak Walid   ape   nge-langi   iyo?*
       Mr. Walid   PROSP AV-swim   YES
       'Mr. Walid is going swimming, right?'

Another example is shown from a recorded conversation in (18):

(18) Context: *Bu Z. asks the following question to confirm the marital status of Rifki. Bu S. responds "Wes, wes nduwe anak loro. / Yes, she already has 2 children."*
      Wes   nikah   iyo?
      already   marry   YES
      'She's already married, right?'

We can see from the pitch analysis in Figure 8 of (18) that it does not display a fall-rise contour on the ultimate syllable, but a falling tone across both syllables of the particle *iyo* that starts from the high tone of the previous word.
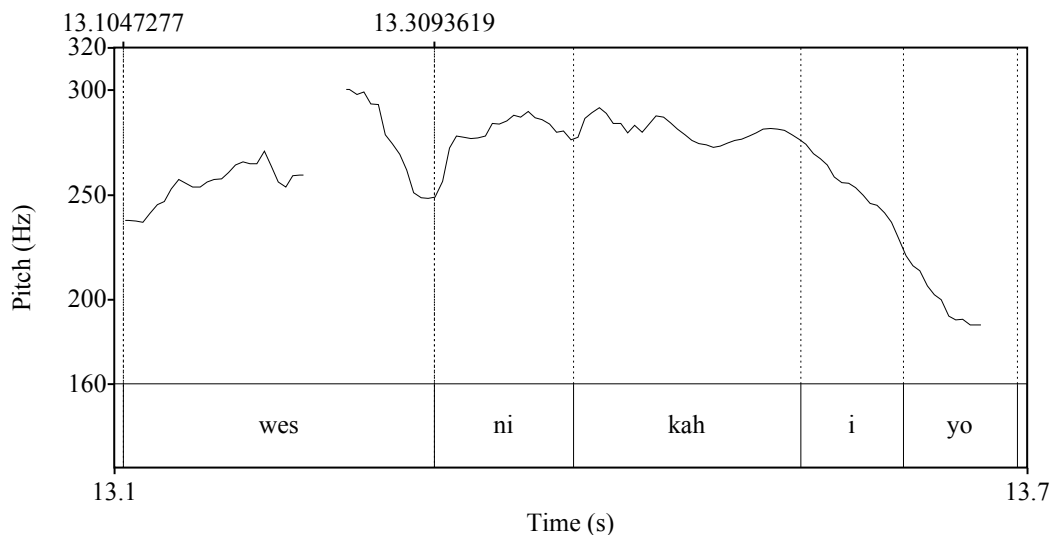
Figure 8. Pitch track of (18)

Paciran Javanese does not, however, allow yes-no questions with negation *gak* in sentence-final position (with or without question intonation):

(19) * *Awakmu   ng-adus-i   anak-mu   mben dino gak?*
        2SG   AV-bathe-APPL   child-your every day   NEG
        ('You bathe your child every day, don't you?')

This example in Paciran Javanese also cannot be construed as an alternative question in which the particle expressing disjunction is dropped (e.g., *You bathe your child every day or not?*, cf. (10) for Standard Javanese). I return to this difference in Section 5.

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[17] Throughout this paper, the English translations offered do not necessarily reflect the syntax of Javanese. Thus, while a tag just as *right* in English may best translate the semantics of *iyo* in Javanese, there is no claim as to whether *iyo* is a question particle or a tag. The difference between a tag and a question particle is non-trivial and requires additional research on the prosody of these markers.

4.3 Yes-no questions via the particle *opo*

A third strategy to form yes-no questions in Paciran Javanese is with the particle *opo*.[18] Similar to the facts illustrated in (4) for Standard Javanese, the particle *opo* in Paciran Javanese can occur either in sentence-initial or predicate-initial position, as shown in (20) for main clauses:

(20) a. **Opo** *sampeyan wes n-jahit rok iku?*
       Q   2SG   already AV-sew skirt DEM
       'Have you sewn this skirt?'

    b. *Sampeyan* **opo** *wes n-jahit rok iku?*
       2SG   Q   already AV-sew skirt DEM
       'Have you sewn this skirt?'

However, only one particle is possible: it is impossible to have both a particle *opo* sentence-initially as well as between the subject/topic and predicate, as illustrated in (21).[19] Assuming that the particle *opo* is located in the head of C^0 or Foc^0, these facts suggest that it is the external argument (in this case *sampeyan* '2SG') that is raising from a lower position to a higher one (e.g., specifier of TP to specifier of TopP).

(21) *Opo *sampeyan* *opo* *wes n-jahit rok iku*?
     Q   2SG   Q   already AV-sew skirt DEM
     ('Have you sewn this skirt?')

These facts are parallel for embedded yes-no questions. Note that the embedded clause can be introduced by *opo* as shown here, or by the complementizer *nek*.

(22) a. *Aku kepingin ngerti* **opo** *sampeyan wes n-jahit rok iku.*
       1SG want   know Q 2SG   already AV-sew skirt DEM
       'I want to know whether you have sewn this skirt.'

    b. *Aku kepingin ngerti sampeyan* **opo** *wes n-jahit rok iku.*
       1SG want   know 2SG   Q   already AV-sew skirt DEM
       'I want to know whether you have sewn this skirt.'

    c. **Aku kepingin ngerti* **opo** *sampeyan* **opo** *wes n-jahit rok iku.*
       1SG want   know Q 2SG   Q   already AV-sew skirt DEM
       ('I want to know whether you have sewn this skirt.')

It is ungrammatical if the particle *opo* is in any other location of the clause in Paciran Javanese. This is shown for a main clause yes-no question in (23); the same fact holds for embedded yes-no questions.

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[18] No examples from recorded conversations were found with *opo* in the database I have; however, Paciran Javanese speakers have robust judgments on yes-no questions with *opo*, and no comments were made that such questions are not used in Paciran Javanese. It seems that this is simply a gap in my database, and shows the importance of using multiple tools in documentation including elicitation.

[19] These properties concerning the location of the particle *opo* as restricted to sentence-initial or between the subject/topic and predicate are the same as in the neighbouring language, Madurese (Davies 2010).

(23) *Sampeyan wes   (*opo) n-jahit   (*opo) rok iku (*opo)?*
    2SG   already   Q   AV-sew   Q   skirt DEM Q
    'Have you sewn this skirt?'

While these different positions are unavailable in Paciran Javanese, I show in Section 5 on cross-dialectal variation that Standard Javanese differs in allowing a different syntactic location for *(a)pa*, but which relates to a different semantic function.

Lastly, one might wonder whether *opo* can co-occur with *wh*-questions; in particular, with *opo* 'what', if there is homophony. However, this type of co-occurrence is ungrammatical with any *wh*-question, as shown in (24). This particle contrasts with *toh* in this respect, which I turn to now.

(24) a. **(*Opo)** *cak Tono   n-delok opo?*
         Q   Mr. Tono AV-see what
        'What did Tono see?'

   b. **(*Opo)** *Bu   Lisa tuku bumbu-bumbu nek pasar jeneng **sing endi**?*
        Q   Mrs. Lisa buy RED-spice   at   market name REL where
       'Which market did Lisa buy spices at?'

   c. **(*Opo)** *sopo sing n-jempok   mbak Siti?*
        Q   who REL AV-hold   Miss   Siti
       'Who was holding Siti?'

4.4 Yes-no questions via the particle *toh*

In Paciran Javanese, a fourth strategy to form yes-no questions is with the particle *toh*. This particle can indicate broad or narrow focus depending on its location in the clause. To indicate broad focus, this particle is in sentence-final position. An example from a recorded conversation is given in (25):

(25) Context: *Bu S. is discussing that she is house-sitting. Bu Z. asks Bu S. about it. Bu S. replies 'Aku isek menangi. Wong aku seng ngangsu kok!'/ 'I still do it. I'm the one who brings the water from the well!'*
    Bu Z.: *Sampeyan kok   isek m-(w)enangi   toh?*
            2SG   PRT still AV-experience FOC
           'You still do it, don't you?'

Two types of contours are observed with sentence-final *toh* based on pitch analysis. The first type, shown in Figure 9 based on (25), is parallel to yes-no questions formed with the sentence-final *iyo*: a falling tone occurs on the particle, falling from the tone on the preceding word (*menangi* 'experience').
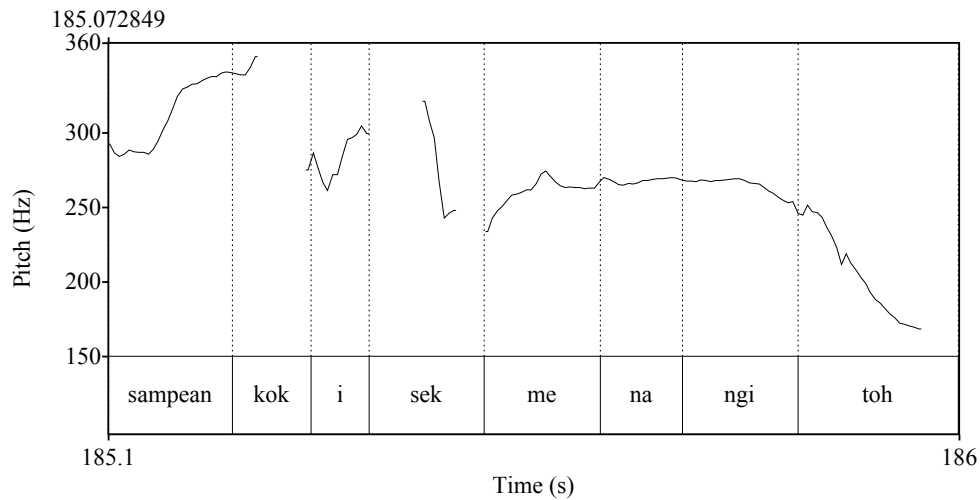
Figure 9. Pitch track of (25)

Another example of this type is shown in Figure 10, based on pitch analysis of the yes-no question with *toh* in (26).

(26) Context: *Bu S. tells Bu Z. that Y. can't speak Javanese anymore since living in Jogjakarta. Bu Z. asks:*
    Ono   nggo-ne nek Jogjakarta wes   suwi   toh?
    exist   place-DEF at   Yogyakarta already long.time FOC
    'They have lived in Yogyakarta for a while already, right?'
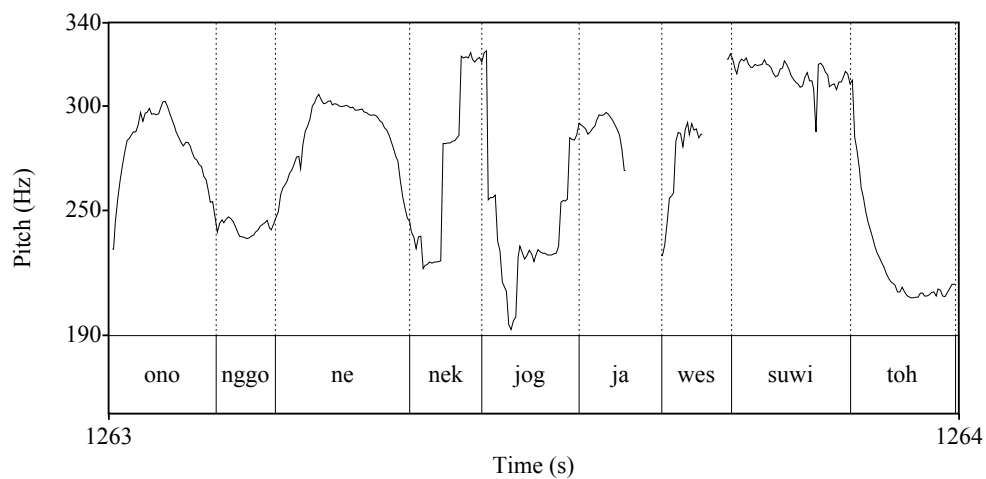
Figure 10. Pitch track of (26)

The second type of intonation associated with sentence-final *toh* is demonstrated in Figures 11 and 12. The overall pattern is a falling contour across multiple preceding syllables, followed by a flat mid/high tone on *toh* of around 200 Hz. This intonation contour has not been observed before.

(27) Context: *Bu S. tells Bu Z. about someone who is acting strange. Bu Z. asks:*
      Iku pikir-an-e   owah toh?
      DEM think-NMLZ-DEF   insane FOC
      'He/she is going insane, right?'

236.512
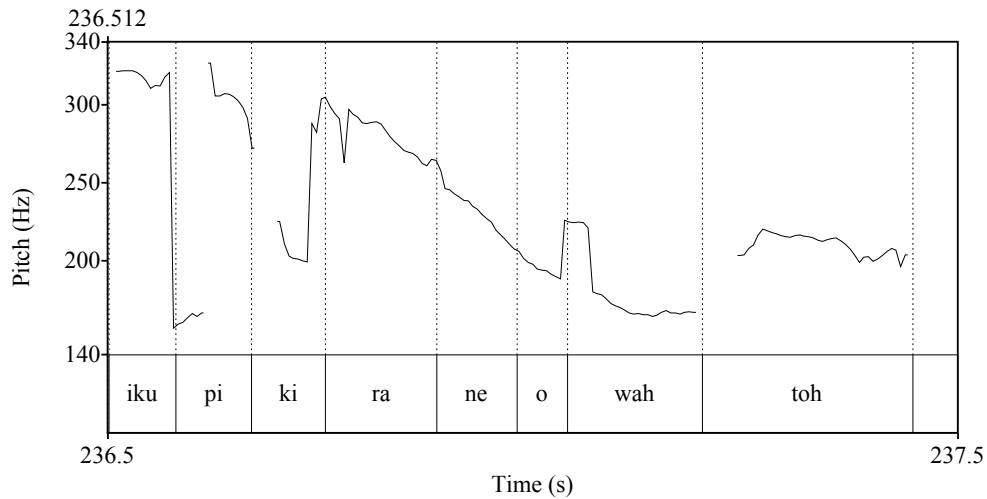
Figure 11. Pitch track of (27)

(28) Context: *Bu S. tells Bu Z. that jilbabs are not selling well now. ('Nang iki jilbab ra*
      payu.') Bu Z. asks to confirm what she said.
      Saiki jilbab ra   payu   toh?
      now   veil   NEG be.sold FOC
      'Veils are not selling well now?'
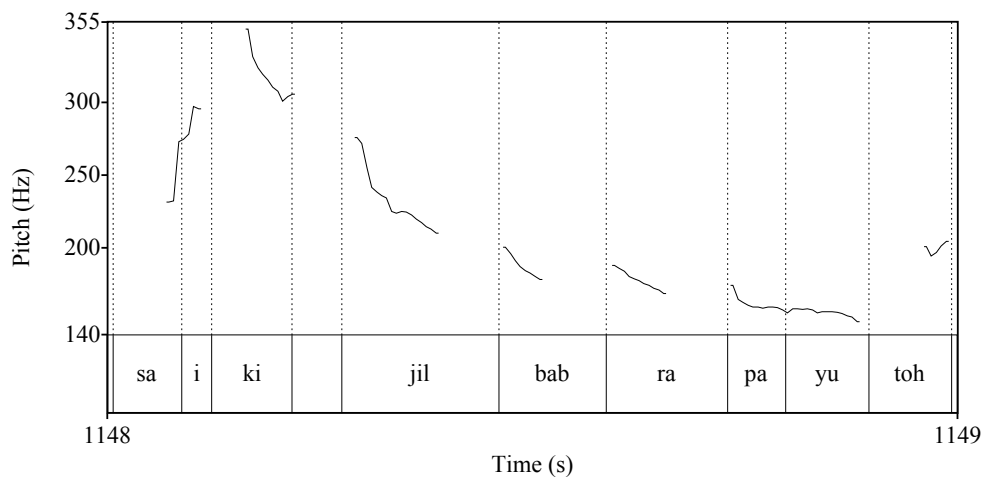
Figure 12. Pitch track of (28)

Further work on prosody with *toh,* and with particles in general, is necessary to understand whether these two different contours are relevant to a different syntax/semantics. For instance, as I will show below, sentence-final *toh* can be associated with broad focus over the whole proposition or narrow focus of the immediately preceding constituent: the syntactic ambiguity of this position could be

disambiguated with prosody. However, it is not immediately clear from the above contexts taken from recorded conversations that this is the correct hypothesis.[20]

I now turn to the syntax of *toh* and its function to indicate narrow focus in Paciran Javanese. In this dialect, the syntax of *toh* is in complementary distribution with the particle *opo*. That is, *toh* can occur after any constituent in the clause except for the external argument. (29) illustrates that *toh* can appear after auxiliaries, the verb, the direct object, or the indirect object. The semantic import of these different placements of *toh* is to indicate narrow focus, which I argue for in detail below. Possible narrow focus of *ta* in Standard Javanese is not indicated or discussed in Wedhawati et al. (2006), Arps et al. (2000), or Robson (2014).

(29) a. *Pak Muftah (*toh) iso   (toh) ny-(s)onggoh (toh) watu sing gedhe (toh)?*
       Mr. Muftah FOC CIRC.POS FOC AV-lift   FOC rock REL big   FOC
       'Can Mr. Muftah lift the big rock?'

   b. *Bu   Zum (*toh) wes   (toh) n-jahit-no   (toh) rok   (toh)*
       Mrs. Zum   FOC   already FOC   AV-sew-APPL FOC skirt FOC
       kanggo Dewi   (toh)?
       for   Dewi   FOC
       'Has Mrs. Zum sewn a skirt for Dewi?'

Before turning to evidence for narrow focus, I want to discuss two restrictions in forming yes-no questions concerning the location of the particle *toh* in Paciran Javanese. The first restriction holds that *toh* cannot be placed after the subject/topic *unless* it is in a focused position, as in a cleft construction: Compare the ungrammaticality of (30)a with the grammaticality of (30)b, where the subject is introduced with the relativizer *sing* (cf. (6)c).

(30) a. *Pak Muftah (*toh) iso   ny-(s)onggoh watu sing gedhe?*
       Mr. Muftah FOC   CIRC.POS AV-lift   rock REL big
       Intended for: 'MR. MUFTAH can lift the big rock?'

   b. *Pak Muftah **toh   sing** iso   ny-(s)onggoh watu sing gedhe?*
       Mr. Muftah FOC REL CIRC.POS AV-lift   rock REL big
       'Is it MR. MUFTAH who can lift the big rock?'

This restriction can be understood in terms of the topic-like nature of the external argument in Javanese. Following Poedjosoedarmo (1977) and Cole et al. (2002) for Javanese, with topic properties, the external argument by its very nature cannot be focused. In order to be focused, the external argument must be in a focus position via a focus construction, such as a cleft construction as in (30)b or (31).

(31) ***Sopo** *(**sing**) ng-ambung Tono?*
     who   REL AV-kiss   Tono
     'Who is it that kissed Tono?' (Cole et al. 2002:91-92, *gloss adapted*)

That *toh* can co-occur with the external argument only in a focus construction is consistent with the hypothesis that *toh* is an overt FOCUS marker. Further support that

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[20] I do not have examples to analyze the pitch of non-sentence-final (or narrow focus) *toh* from my database of recorded conversation. Narrow focus *toh* was primarily elicited.

toh marks focus is that this particle can co-occur with a *wh*-word (which are inherently focused) as demonstrated in (32), but *toh* must be strictly adjacent to the *wh*-word, as shown by the ungrammaticality of *toh* sentence-finally in (33).

(32) a. ***Sopo toh*** sing mbak Dewi di-ambung?
        who FOC REL Miss Dewi PASS-kiss
        'Who was Miss Dewi kissed by?'

     b. (***Kapan toh***) mbak Sri teko (***kapan toh***)?
         when FOC Miss Sri arrive when FOC
        'When did Sri arrive?'

(33) a. ****Sopo*** sing mbak Dewi di-ambung ***toh***?
        who REL Miss Dewi PASS-kiss FOC
        'Who was Miss Dewi kissed by?'

     b. ****Kapan*** mbak Sri teko ***toh***?
         when Miss Sri arrive FOC
        'When did Sri arrive?'

The second restriction of *toh* in Paciran Javanese is that it cannot occur with the prospective aspect marker *ape*, as in (34). This restriction cannot be explained in that *toh* cannot focus auxiliaries: all other tense-aspect-modal (TAM) markers in Paciran Javanese allow co-occurrence with *toh*. Two examples have already been given in (29) with *iso* 'CIRC.POS' and *wes* 'already'; two additional examples are provided in (35).

(34) Mbak   Jozi ***ape***   (***toh***) n-jupuk dhuwit?
     Miss   Jozi PROSP   FOC AV-take money
     'Will Miss Jozi get money out?'

(35) a. *Bapak-mu* ***tau***   ***gelem***   ***toh*** sinau boso   inggris?
        father-your EXP.PRF willing FOC study language English
        'Was your father ever willing to study English?'

     b. *Polisi* ***wes***   ***tau***   ***toh*** ny-(c)ekel maling nok Paciran?
        police already EXP.PRF FOC AV-catch thief at   Paciran
        'Have the police ever caught a thief in Paciran?'

While this restriction is not well understood, a comparison can be made with short answers. In Paciran Javanese, it is possible to answer a yes-no question with any auxiliary, demonstrated in (36) with *durung* 'not yet', *wes* 'already', *tau* 'EXP.PRF', *oleh* 'DEON.POS'—except for *ape* 'PROSP', see (37). This pattern is exactly parallel to the restriction with *toh*.

Assuming that *toh* marks the constituent it follows (or immediately takes syntactic scope over) as focused and that short answers to yes-no questions are themselves a focused constituent (e.g., Krifka 2001), I speculate that *ape* 'PROSP' is an element that cannot be focused, perhaps due to its semantics. Further research is necessary to better understand this restriction.

(36) a. A: *Opo mbak Mayu durung ng-(k)ethik skripsi-ne?* B: **Durung.**/ **Wes.**
Q   Miss Mayu not.yet AV-type thesis-DEF   not.yet / already
'Hasn't Miss Mayu typed her thesis yet?'   'Not yet. /Yes.'

b. A: *Joni (wes) tau   m-(p)angan rujak   lontong toh?* B: **Tau.**
Joni already EXP.PRF AV-eat   k.o.salad k.o.rice FOC   EXP.PRF
'Has Joni ever eaten *rujak lontong* before?'   'Yes.'

c. A: *Oleh   aku cicipi iwak panggang?*   B: **Oleh.**
DEON.POS 1SG try fish grilled   DEON.POS
'May I try the grilled fish?'   'Yes.'

(37) A: *Opo mbak Nunung ape   masak kuwe?*   B: * **Ape.**
Q   Miss Nunung PROSP cook cake   PROSP
'Will Nunung bake a cake?'   Intended for: 'Yes.'

Turning now to the hypothesis that the particle *toh* serves to indicate narrow focus on the constituent it follows, I conducted two elicitation tasks to better understand its exact function. In the first task, a translation exercise (marked with T in the examples below), I asked two consultants individually to translate English clefted questions to Javanese.[21] Since the English clefted questions unambiguously place narrow focus on the constituent that is clefted, the point of this exercise was to see what type of yes-no question strategy speakers used to indicate narrow focus.

The results in (38)-(40) show that the location of *toh* matters. For narrow focus on the subject/topic as in (38), both speakers offered a translation with *toh* marking the external argument in a clefted question, as described in (30)b and (31).

(38) *Tutus* **toh** *sing tuku rujak   ndek pasar?*
Tutus FOC REL buy k.o.salad at   market
'Was it **Tutus** who bought rujak at the market?'   (T: SUBJECT FOCUS)

For either narrow focus on the verb phrase (VP; the constituent that includes the verb plus any internal arguments) or the object, as in the English translations in (39), speakers used a strategy where *toh* is placed following the direct object, *rujak* 'kind of salad'[22]. This location of *toh* is consistent with the view that it can either have a structure in which it targets the direct object constituent or the VP. Importantly, for narrow focus of either the object or the VP, sentence-final *toh* was not offered as the best translation to Javanese.

(39) *Tutus tuku rujak   toh ndek pasar?*
Tutus buy k.o.salad FOC at   market
'Was it **rujak** that Tutus bought at the market?'   (T: OBJECT FOCUS)
'Was it **buying rujak** that Tutus did at the market?'   (T: VP FOCUS)

Instead, sentence-final *toh* is offered as a translation for narrow focus on the prepositional phrase (PP) *ndek pasar* 'at market', as in (40). One speaker's comment

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[21] These two speakers both had good English knowledge, having taken English courses in higher education outside of the village of Paciran.

[22] *Rujak* 'a salad of chopped unripe fruit with a hot sauce' (Robson & Wibisono 2002:636)

that this yes-no question is contrasted with, for example "*ndek Alfa?* at Alfa?" [a type of convenience store], further corroborates that *toh* can have narrow focus on the final constituent (separate from its function as indicating broad focus as in (25)).

(40) *Tutus tuku rujak   ndek pasar   **toh***?
     Tutus buy k.o.salad at   market FOC
     'Was it **at the market** that Tutus bought rujak?'   (T: PP FOCUS)

Additional evidence that the particle *toh* can indicate narrow focus in Paciran Javanese is based on a second task: a multiple choice questionnaire conducted with three speakers. In this questionnaire, native speakers were presented with a grammatical yes-no question with *toh* and a set of possible answers to that specific yes-no question. Consultants were asked to choose all of the answers that were a felicitous response. They could also offer another felicitous or acceptable response if none were deemed felicitous or if they simply thought of another response.

This questionnaire is based on question-answer congruence. All of the offered answers were in the form of a cleft, which targets a specific constituent as the focus. Thus, if *toh* places narrow focus on the constituent it follows syntactically, according to question-answer congruence, the constituent that is focused in the cleft response must match whatever constituent is focused in the yes-no question with *toh*. This prediction is borne out for each set of question-answer pairs, providing additional evidence that *toh* has narrow focus which is dependent on its syntactic location.

Consider the question-answer pairs in (41). This question is hypothesized to target the external argument ('subject focus'). Between a choice of an answer which also targets the external argument (subject focus) or one which targets the internal argument (object focus), only the former is felicitous. (In this example, and those that follow, the congruent question-answer pairs are indicated with underlining of the focus type.)

(41) Q: *Tutus **toh** sing tuku semongko   nek pasar?*
       Tutus FOC REL buy watermelon at   market
       'Was it Tutus who bought rujak at the market?'   (<u>SUBJECT FOCUS</u>)

    A1: *Gak, sing tuku semongko   nok pasar iku **Bu   Maimunah***
       NEG REL buy watermelon at   market DEM Mrs. Maimunah
       'No, it was Bu Maimunah who bought watermelon at the market.' (<u>SUBJ</u>)

    A2: #*Gak, sing Tutus tuku nok pasar iku **apel***
       NEG REL Tutus buy at   market DEM apple
       'No, it was apples that Tutus bought at the market.' (OBJECT FOCUS)

For a question that is hypothesized to have narrow focus on either the VP or the direct object with placement of *toh* after the direct object, as in (42) (with the VP *tuku semongko* 'buy watermelon' and object *semongko* 'watermelon'), only the corresponding focused answers are felicitous. As expected, responses with subject focus or PP focus are not accepted.

(42) Q: *Tutus tuku semongko **toh** nek pasar?*
       Tutus buy watermelon FOC at market
       'Did Tutus BUY WATERMELON at the market?'   (VP FOCUS)
       'Did Tutus buy WATERMELON at the market?'   (OBJECT FOCUS)

     A1: #*Gak, sing tuku semongko nok pasar iku **Bu Maimunah**.*
          NEG REL buy watermelon at market DEM Mrs. Maimunah
          'No, it was Bu Maimunah who bought watermelon at the market.' (SUBJ)

     A2: *Gak, sing Tutus tuku nok pasar iku **apel**.*
          NEG REL Tutus buy at market DEM apple
          'No, it was apples that Tutus bought at the market.' (OBJECT FOCUS)

     A3: *Gak, Tutus ndelok-n-delok bae.*
          NEG Tutus RED-AV-see just
          'No, Tutus was just looking.' (VP FOCUS)

     A4: #*Gak, sing Tutus tuku semongko iku **nek Indomaret**.*
          NEG REL Tutus buy watermelon DEM at Indomart
          'No, it was at Indomart that Tutus bought watermelon.' (PP FOCUS)

For a question where *toh* is placed following the verb but preceding the direct object (*tuku* 'buy' and *semongko* 'watermelon' in (43)), this question is hypothesized to have narrow focus only on the verb. Again, question-answer congruence is required as based on the placement of *toh*: only an answer with verb focus is acceptable, as shown in (43).

(43) Q: *Tutus tuku **toh** semongko nek pasar*?
       Tutus buy FOC watermelon at market
       'Did Tutus BUY watermelon at the market?'   (VERB FOCUS)

     A1:# *Gak, sing tuku semongko nok pasar iku **Bu Maimunah**.*
          NEG REL buy watermelon at market DEM Mrs. Maimunah
          'No, it was Bu Maimunah who bought watermelon at the market.' (SUBJ)

     A2:# *Gak, sing Tutus tuku nok pasar iku **apel**.*
          NEG REL Tutus buy at market DEM apple
          'No, it was apples that Tutus bought at the market.' (OBJECT FOCUS)

     A3: *Gak, Tutus ndelok-n-delok bae*.
          NEG Tutus RED-AV-see just
          'No, Tutus was just looking.' (VERB FOCUS)

     A4:# *Gak, sing Tutus tuku semongko iku **nek Indomaret**.*
          NEG REL Tutus buy watermelon DEM at Indomart
          'No, it was at Indomart that Tutus bought watermelon.' (PP FOCUS)

To summarize, the results of the translation task and the multiple choice task both provide evidence that the particle *toh* must indicate narrow focus of the constituent that it follows if it is not sentence-final. In other words, the syntactic location of *toh* has important semantic consequences; it does not simply have broad focus in all positions.

This result fits the cross-linguistic generalization in Dryer (2013) that where a language has a question particle in which variable positions are allowed, "the position of the question particle often depends on what is the focus of the question", but one of these positions is associated with broad focus, "where the truth of the entire sentence is being

questioned without one constituent being the focus of the question". For Paciran Javanese, we have seen that *toh* in sentence final position is typically associated with broad focus, and narrow focus elsewhere.

Note that depending on the syntactic structure, the narrow focus of *toh* can be ambiguous. Two examples were noted above. The first instance is with *toh* as sentence-final: the particle in this case can either take scope over the whole clause for broad focus (e.g., (25)), or take scope over its nearest constituent for narrow focus (e.g., (40) for narrow focus on a PP). The second instance is with *toh* following the verb phrase (and preceding a modifier): it can either have scope over only the direct object or scope over the entire verb phrase (see (39) vs. (42)). The exact details of the syntax of *toh* are beyond the scope of this paper, but potentially, this syntactic ambiguity might be resolved with prosody in Javanese.

4.5 Alternative questions with the particle *toh* or *toh* plus negation

In Paciran Javanese, alternative questions are formed with either the particle *toh* conjoining two constituents or with the combination of *toh* plus negation, broadly parallel to what has been described for Standard Javanese (cf. (9)-(11)).

Examples from a recorded conversation in (44) show *toh* conjoining two constituents in an alternative question; the addressee answers with one of the noun phrases offered in the question in each case.

(44) a. Q: *Bordir   karo komputer ngono-ku   toh   biasa?*
          embroider with computer like.that-DEM FOC   regular
          'Is it embroidery with a computer or a simple sewing machine?'

     A: *Gak, mesem   biasa.*
        NEG machine   regular
        'No, with a simple sewing machine.'

     b. Q: *Ndok butik   iku butik-e   dewe toh   butik-e   uwong?*
          at   boutique DEM boutique-DEF self FOC boutique-DEF   person
          'That boutique, is it her own boutique or someone else's?'

     A: *Butik-e   uwong, ngono   loh yu.*
        boutique-DEF   person like.that PRT sister
        'It's someone else's boutique, you see, sister.'

Figure 13 illustrates the pitch track of (44)a. Question intonation is shown by a fall-rise contour on *toh*. As well, the ultimate syllable of each of the disjuncts seems to be

marked: by a rise-fall on the first disjunct and a high tone on the second disjunct.
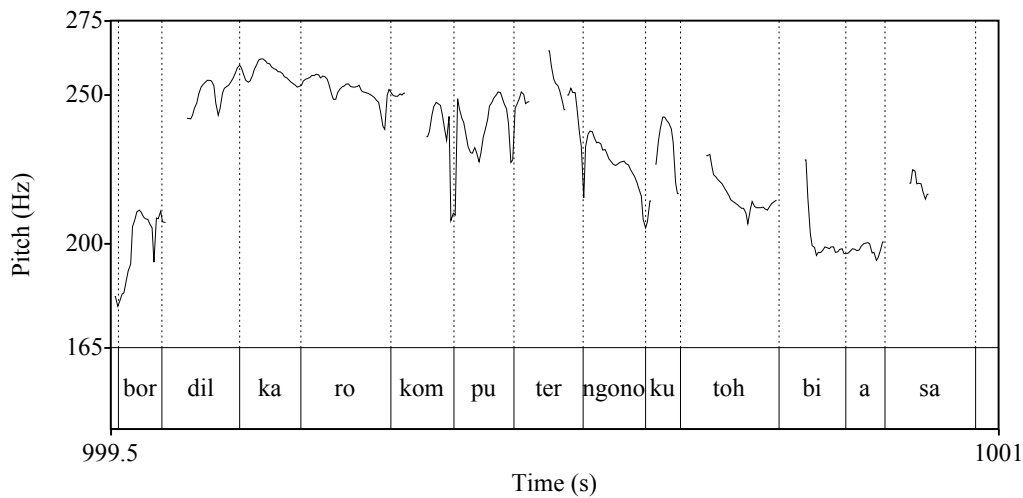
Figure 13. Pitch track of (44)a

Alternative polar questions in Paciran Javanese can also be formed with what I will propose is a tag question: the particle *toh* plus negation *gak*, the common form of negation used in East Javanese varieties. An example from a recorded conversation is shown in (45).

(45) Context: *Bu Z. is explaining that before she constructed the chicken coop, there was already a well that someone else dug on the land.*

Takok sumur-e iso **toh gak**, *ngono. Pan sumur-e iso yo.*
ask well-DEF CIRC.POS FOC NEG like.that when well-DEF CIRC.POS YES
'I ask to her if I can use the well or not, like that. [And she answered,] if the well could be used, it's ok.'

The pitch analysis of (45) in Figure 14 shows a high tone on the particle *toh* followed by a higher tone on the negation *gak*, which are preceded by overall declination. (Note that the spike on *iso* 'can' is due to overtalk by Bu S. saying *yo* 'yes'). This is same pitch contour as seen with *toh* in Figures 11 and 12.
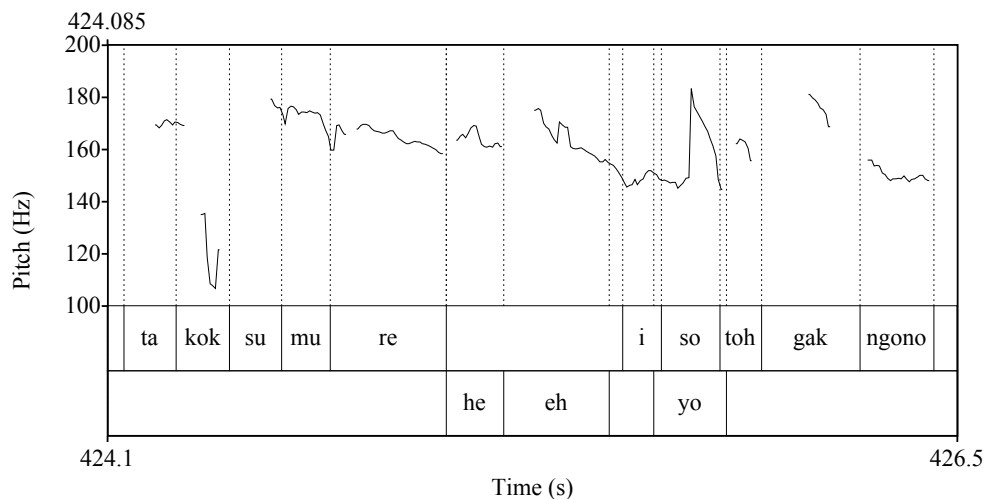
Figure 14. Pitch track of (45)

For Paciran Javanese as illustrated in (46), this tag is felicitous in main clauses with broad focus sentence-finally and narrow focus on other constituents, as indicated by the different syntactic placement.

(46) a. *Awakmu ng-adus-i   anak-mu   mben dino **toh   gak**?*
　　　2SG   AV-bathe-APPL child-your every day FOC NEG
　　　'Do you bathe your child every day or not?'　　　　(BROAD FOCUS)

　　b. *Tutus tuku semongko   **toh   gak** nek pasar*?
　　　Tutus buy watermelon FOC NEG at   market
　　　'Did Tutus buy WATERMELON or not at the market?'　(OBJECT FOCUS)
　　　'Did Tutus BUY WATERMELON or not at the market?' (VP FOCUS)

　　c. *Mbak Mida   ng-inep   **toh   gak** nok omah-mu*?
　　　Miss Mida AV-stay.overnight FOC NEG at   house-your
　　　'Did Mida STAY OVER or not at your house?'　　　　(VERB FOCUS)

　　d. *Pak Tomo iso   **toh   gak** n-dandan-i   jareng*?
　　　Mr. Tomo CIRC.POS FOC NEG AV-repair-APPL fishing.net
　　　'CAN or CANNOT Tomo repair the fishing net?'　　(AUX FOCUS)

The same pattern occurs in embedded clauses as with main clauses (where only one tag is permitted):[23]

(47) *Aku kepingin ngerti opo Jono iso   **(toh gak)** ng-gowo **(toh gak)***
　　1SG want   know Q   Jono CIRC.POS FOC NEG AV-bring FOC NEG

　　*komputer-e   **(toh gak)** nok sekolah **(toh gak)***.
　　computer-DEF FOC NEG to   school   FOC NEG
　　'I want to know whether Jono can bring his computer to school.'

In creating alternative questions, there are two points to address concerning the external argument which show the opposite behavior with *toh* in yes-no questions. First, the co-occurrence of the particle *toh* with negation is judged as felicitous with subject/topics, as in (48), even though the external argument in this case is not in a cleft construction where it is unambiguously a focused constituent. This acceptability diverges from *toh* by itself in yes-no questions placing narrow focus on the subject/topic since it requires the external argument to be focused itself (cf. (30)-(32) in Section 4.4). Note, however, that specific intonation is required in alternative questions, where an intonational pause occurs after the particle *toh* plus negation, as indicated by the comma.

(48) *Mbak Mida**toh   gak,** ng-inep   omah-mu*?
　　Miss Mida FOC NEG AV-stay.overnight   house-your
　　'Did MIDA or someone else, stay over at your house?'

The second point is that when the external argument is clefted, this strategy is impossible, as shown in (49)a. The ungrammaticality of negating the focused item via a tag question in the cleft position can perhaps be equated with the ungrammaticality of negating a *wh*-item in the cleft position, as shown in (49)b.

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[23] Note that *nek* is also grammatical in (47) as the complementizer introducing the embedded clause.

(49) a. *Aku kepingin ngerti opo **Jono toh (*gak) sing** iso ng-gowo*
          1SG want know Q Jono FOC NEG REL CIRC.POS AV-bring

          komputer-e nok sekolah.
          computer-DEF to school
          'I want to know whether it's Jono who can bring his computer to school.'

     b. * ***Sopo gak sing iso nge-langi?***
          who NEG REL CIRC.POS AV-swim

Can this strategy with negation be considered a *tag question*? I suggest that these are tag questions, given that the tag is dependent on whether there is negation in the main clause or not as well as the type of modifiers of the main clause.[24] First, the tag question must have reversed polarity than that in the main clause. Thus, the particle *toh* plus negation is ungrammatical with negation in the main clause:

(50) *Cak Walid **gak** ape ng-langi **toh** (***gak**)?*
       Mr. Walid NEG PROSP AV-swim FOC NEG
       'Mr. Walid is not going swimming, *(isn't he)?'

Second, for most Paciran Javanese speakers, the form of negation is sensitive to the modifier *wes* 'already' in the main clause. In this case, the form of negation in the tag must be *durung* 'not.yet', which is the external negation of *wes* 'already' (Vander Klok & Matthewson 2015). Thus for some speakers, the tag question is invariant as in (51)a, while for all speakers, a dependent form of the tag question is accepted, as shown in (51)b. An additional example is given in (52) from a recorded conversation. Other TAM markers do not induce a different dependent form of the tag question in Paciran Javanese.

(51) a. *%Bu Siti **wes** m-(p)otong rambut-e Kana **toh gak**?*
          Mrs. Siti already AV-cut hair-DEF Kana FOC NEG
          'Mrs. Siti already cut Kana's hair, didn't she?'

     b. *Bu Siti **wes** m-(p)otong rambut-e Kana **toh durung**?*
          Mrs. Siti already AV-cut hair-DEF Kana FOC not.yet
          'Mrs. Siti already cut Kana's hair, hasn't she?'

(52) Context: *Bu Z. is discussing that it has been about 3 weeks since she has built a chicken coop. Bu S. asks:*

      ***Wes** ng-isi? **Toh durung**?*
      already AV-fill FOC not.yet
      'Is it already filled [with chickens]? Or not yet?'

Further investigation concerning the intonational boundary between *toh* and the main clause will also help to provide evidence for or against *toh* plus negation as a tag question (e.g., Ladd 1981; Bolinger 1989).

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[24] As the purpose of this paper is to describe the strategies to form yes-no questions, I remain agnostic about the exact structure of tag questions, but see e.g. Sailor (2012) for an analysis based on ellipsis.

4.6 Yes-no questions via auxiliary fronting

Yes-no questions in Javanese can also be formed via auxiliary fronting.[25] Javanese has a rich number of TAM auxiliaries which must occur in a strict relative order, schematized in Figure 15 for Paciran Javanese.[26] The low Aspect Phrase (AspP) houses *tau* 'EXP.PRF' and the Possibility Root Phrase 'Pos.RootP' *oleh* 'DEON.POS' and *iso* 'CIRC.POS'. The higher AspP houses *wes* 'already' and *lagek* 'PROG' and the Necessity Root Phrase projection *kudu* 'ROOT.NEC' and *ape* 'PROSP'.[27] Where more than one auxiliary is housed in a syntactic slot, this indicates that they cannot co-occur; thus, the two possibility root modals (*oleh* 'DEON.POS' and *iso* 'CIRC.POS') cannot co-occur.
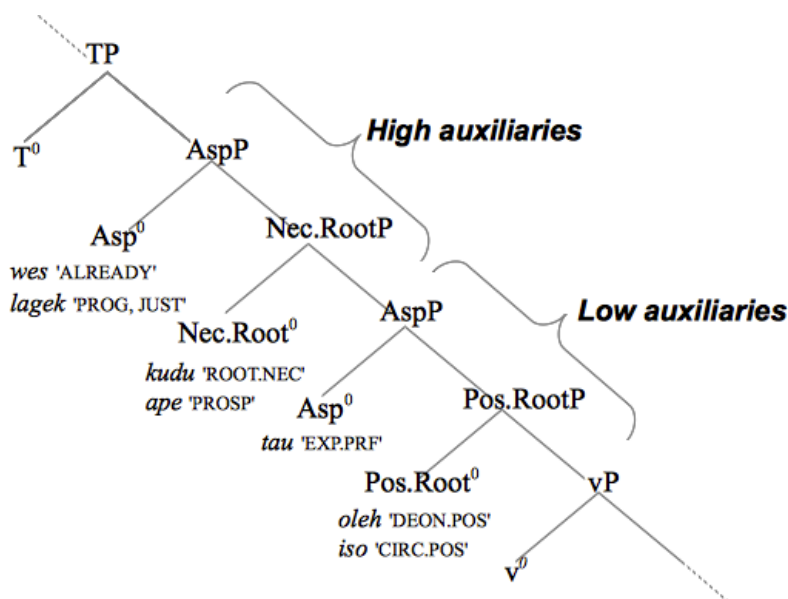

Figure 15. Syntax of auxiliaries in Paciran Javanese (cf. Vander Klok 2015:149)

Auxiliary fronting does not occur with all auxiliaries like it does in English, however: This strategy in Javanese is restricted to a set of auxiliaries which are syntactically *low*, as first noted by Cole, Hara, & Yap (2008) for Peranakan Javanese. In Paciran Javanese, the syntactically low set includes the auxiliaries *tau* 'EXP.PRF', *oleh* 'DEON.POS', *iso* 'CIRC.POS' (under low AspP and PosRootP in Figure 15). Auxiliary fronting with this set yields grammaticality, as illustrated in (53)b with *tau* 'EXP.PRF'.[28]

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[25] 'Auxiliary fronting' is also known as subject-auxiliary inversion. I follow Cole, Hara & Yap (2008) in the use of the term 'auxiliary fronting' in Javanese.

[26] See Vander Klok (2012:Ch.3) for detailed arguments concerning their strict syntactic relative ordering for Paciran Javanese and Cole, Hara & Yap (2008) for Peranakan Javanese.

[27] The TAM markers are glossed as specifically as possible to reflect their lexical content. For instance, most modals in Javanese lexically specify for both dimensions of modality (Vander Klok 2013): MODAL FORCE (necessity vs. possibility) and MODAL FLAVOUR (e.g., *epistemic*: based on what is known; *deontic*: compatible with a body of rules/regulations; *circumstantial*: consistent with the facts of the actual world). (See e.g., Palmer 1986; Portner 2009; Hacquard 2011 on modality in general.) Thus the modal *oleh* which is only compatible in possibility deontic contexts is glossed accordingly: 'DEON.POS'. It is not ideal to gloss *oleh* as 'may' in English, since 'may' is also acceptable in epistemic contexts in addition to deontic contexts. The modal *kudu* in Paciran Javanese is compatible with necessity root contexts (i.e. non-epistemic), and thus is glossed 'ROOT.NEC'; similarly, it is not ideal to gloss *kudu* as English 'must', since this necessity modal is also compatible in epistemic contexts. See also the list of abbreviations.

[28] For examples with the full set of auxiliaries, see Vander Klok (2012; 2015).

(53) a. *Cak Khuluq* ***tau*** *bel-ajar nok Kanada.*
Mr. Khuluq EXP.PRF INTR-learn at Canada
'Mr. Khuluq once studied in Canada.'

b. ***Tau*** *cak Khuluq bel-ajar nok Kanada?*
EXP.PRF Mr. Khuluq INTR-learn at Canada
'Did Mr. Khuluq once study in Canada?' (Vander Klok 2015:150, (5))

Furthermore, auxiliary fronting must be coupled with question intonation to form a yes-no question, as shown in (54)b based on the declarative in (54)a with *oleh* 'DEON.POS'. Without prosody as in 4.1 indicating that it is a question, simply fronting an auxiliary is ungrammatical and cannot be understood as a declarative (as in (54)c).

(54) a. *Aku* ***oleh*** *m-(p)angan sego goreng.*
1SG DEON.POS AV-eat rice fried
'I am allowed to eat fried rice.'

b. ***Oleh*** *aku m-(p)angan sego goreng?*
DEON.POS 1SG AV-eat rice fried
'May I eat fried rice?'

c. * ***Oleh*** *aku m-(p)angan sego goreng.*
DEON.POS 1SG AV-eat rice fried
('I can eat fried rice.')

Syntactically *high* auxiliaries contrast in that they do not allow for auxiliary fronting: compare (53)b with (55)b. In Paciran Javanese, this set includes *wes* 'already', *lagek* 'PROG', *ape* 'PROSP', and *kudu* 'ROOT.NEC'. These auxiliaries are considered syntactically 'high' in that they are located above the set of auxiliaries which are grammatical in fronting (see Figure 15).

(55) a. Context: *The judge says*:
Gayus ***kudu*** *m-bayar dendo.*
Gayus ROOT.NEC AV-pay fine
'Gayus has to pay a fine.'

b. Context: *Gayus asks the adjudicator*:
* ***Kudu*** *aku m-bayar dendo?*
ROOT.NEC 1SG AV-pay fine
('Must I pay a fine?') (Vander Klok 2015:150, (11))

Paciran Javanese, Peranakan Javanese (Cole, Hara & Yap 2008), as well as Standard Javanese follows this general pattern, suggesting that this syntactic split of auxiliaries is a property of the language, and is not restricted to specific dialects (although the lexical form and their semantics may differ) (Vander Klok 2015).

An additional restriction of this strategy in Paciran Javanese is that only one auxiliary (of the syntactically low set) can front to form a yes-no question. Further, the fronted auxiliary must be the highest. Thus in a string of two low auxiliaries, such as *tau* 'EXP.PRF' and *iso* 'CIRC.POS' as in (56)a, fronting *tau* 'EXP.PRF' is the only possible acceptable string to form a yes-no question via auxiliary fronting (56)b. As illustrated in (56)c-d, it is not possible to front the lower auxiliary, *iso* 'CIRC.POS' (see Figure 15), nor is it possible to front both (despite the fact that both are low auxiliaries).

(56) a. *Bu   Risa   **tau**   **iso**   m-layu sampek ro-ng   puloh   menit toh?*
        Mrs. Risa EXP.PRF CIRC.POS AV-run   until   two-LNK ten   minute FOC
        'Risa once could run up to 20 minutes, right?'

   b. ***Tau   bu   Risa   iso**   m-layu sampek ro-ng   puloh menit?*
      EXP.PRF Mrs. Risa CIRC.POS AV-run   until   two-LNK ten   minute
      'Once could Risa run up to 20 minutes?'

   c. ****Iso**   bu   Risa   **tau**   m-layu sampek ro-ng   puloh menit?*
      CIRC.POS Mrs   Risa EXP.PRF AV-run   until   two-LNK ten   minute
      ('Could Risa once run up to 20 mintues?')

   d. ****Tau   iso**   bu   Risa   m-layu sampek ro-ng   puloh menit?*
      EXP.PRF CIRC.POS Mrs. Risa AV-run   until   two-LNK ten   minute
      ('Once could bu Risa run up to 20 minutes?')

Finally, auxiliary fronting cannot co-occur with wh-questions in Javanese, contrary to English (cf. translation in (57)b):

(57) a. ***Nek endi   cak   Dani   oleh**   ng-inep?*
        at   where Mr.   Dani   DEON.POS AV-stay.overnight
        'Where is Dani allowed to stay overnight?'

   b. ****Nek endi   oleh**   cak   Dani   ng-inep?*
      at   where DEON.POS Mr.   Dani   AV-stay.overnight
      ('Where may Dani stay overnight?')

4.7 Summary of polar question strategies in Paciran Javanese

To summarize, strategies in Paciran Javanese for neutral yes-no questions include intonation, with the particle *opo*, with the particle *toh* in final position, and auxiliary fronting. Non-neutral yes-no questions include the leading question with the particle *(i)yo*, which expects the addressee to agree with the proposition under question and the particle *toh* with narrow focus on a particular constituent it follows. Alternative question strategies use *toh* conjoining two constituents or the tag question formed with *toh* plus negation (*gak/durung*). These strategies are outlined in Table 2 below.

Cross-linguistically, Javanese is striking in that it uses all three main strategies known: intonation, question particles, as well as changes in word order. In Section 6, I discuss how these three main strategies can be combined, focusing on how particles and auxiliary fronting interact. Before turning to these combinations, I first highlight a number of cross-dialectal differences in polar question strategies.

Table 2. An overview of polar questions in Paciran Javanese

	INTONATION	PARTICLE *(i)yo*	PARTICLE *Toh*	PARTICLE *opo*	AUXILIARY FRONTING
Information Status	neutral, echo, (others?)	non-neutral expectation ('yes')	Two functions: (i) focus marker: neutral or non-neutral YNQ; (ii) alternative question	neutral	non-neutral focus (narrow focus on auxiliary)
Position	--	sentence final	(i) sentence final (broad focus); or following any constituent (narrow focus); (ii) conjoining two constituents or following any constituent plus negation	sentence or predicate initial	auxiliary moves to focus position above external argument
Occurs in wh-questions	? Might expect different intonation	no	yes as focus marker; adjacent to *wh*-word	no (but lexical *opo* 'what')	no
Intonation	fall-rise contour on ultimate syllable of IU; variant realizes only falling tone	Falling tone on *iyo*	Falling tone or high tone on *toh*	?	?

5. Cross-dialectal variation of polar questions in Javanese

The investigation of polar question strategies as spoken in Paciran Javanese in East Java reveals a number of cross-dialectal differences: (i) restrictions or lack thereof on the number of auxiliaries that can front to form a yes-no question; (ii) the syntactic position of the particle *opo* and potential corresponding semantic differences; and (iii) the lexical variation of the tag question in alternative questions, which I show as corresponding to the disjunctive marker in that dialect.

5.1 Variation on the number of fronted auxiliaries

First, concerning the number of auxiliaries that can front to form a yes-no question, this property distinguishes Paciran Javanese from the Peranakan Javanese variety described by Cole, Hara & Yap (2008). Recall that in Paciran Javanese, only one auxiliary may front; an example is repeated in (58).

(58) a. *Bu Risa **tau** **iso** m-layu sampek ro-ng puloh menit toh?*
      Mrs. Risa EXP.PRF CIRC.POS AV-run until two-LNK ten minute FOC
      'Risa once could run up to 20 minutes, right?'

   b. ***Tau** **iso** bu Risa m-layu sampek ro-ng puloh menit?*
      EXP.PRF CIRC.POS Mrs. Risa AV-run until two-LNK ten minute
      ('Once could Bu Risa run up to 20 minutes?')   PACIRAN JAVANESE

Peranakan Javanese differs in allowing multiple auxiliaries to front (but only of the syntactically low set). One example is given in (59), with the Peranakan Javanese auxiliaries *pernah* 'PRF' and *isa* 'can' (the counterparts to *tau* 'EXP.PRF' and *iso* 'CIRC.POS' in Paciran). It is not known what the facts are for Standard Javanese.

(59) a. *Dheen **pernah** **isa** ng-omong Inggris*.   PERANAKAN JAVANESE
       3SG   PRF   can AV-speak English
       'He has been able to speak English.' (Cole, Hara & Yap 2008:28, (109a))

     b. ***Pernah isa** Tono ny-(s)etir montor?*
        PRF   can Tono AV-drive   car
        'Has Tono ever been able to drive a car?' (Cole, Hara & Yap 2008:29, (112a))

With respect to the syntactic derivation of auxiliary fronting, Cole, Hara & Yap (2008) analyze this strategy as a case of (multiple) head movement. Vander Klok (2012, 2015) follows Cole, Hara & Yap (2008) in analyzing auxiliary fronting via head movement, but differs in the details of deriving the distinction between high and low auxiliaries.

How other Javanese dialects and the closely related language Indonesian behave with respect to the ability and number of auxiliaries in fronting to form a yes-no question remains a point of open investigation, which may deepen our understanding of the syntax of these constructions. For instance, if other dialects allow for multiple auxiliary fronting, an open area of investigation is whether these cases could be analyzed as remnant XP movement (i.e., moving a single constituent containing two or more auxiliaries) in contrast to moving each head separately (multiple head movement).

5.2 Variation with the particle *opo/apa*

Second, the question arises whether the syntactic distribution of the particle *opo/apa* relates to a difference in semantics. In both Paciran and Standard Javanese, the particle *opo/apa* can occur linearly either sentence-initial or predicate-initial in neutral yes-no questions. No semantic difference was noted for Paciran Javanese (Section 4.3). Whether this syntactic variation might correspond to different semantic scope in Standard Javanese, Robson (2014) and Arps et al. (2000:149) seem to suggest this may be the case, but the examples are not convincing.[29] Robson (2014:95) describes that *apa* can be placed sentence initially "to make the interrogative nature...clear [...o]r before that part of the sentence that we wish to question in particular". The latter placement suggests that the particle *apa* in Standard Javanese could correspond to narrow focus, similar to the function described for *toh* in Paciran Javanese (cf. Section 4.4). However, the example given to support this claim, see (60)b, places *apa* predicate-initial, which is consistent with broad focus (but where the external argument is topicalized). No further examples are provided which would unambiguously support the claim that *apa* can indicate narrow focus (in addition to broad focus), such as placing *apa* before a direct object or a prepositional phrase, as in (23). Therefore, it cannot be confirmed whether *apa* in Standard Javanese can be used for narrow focus given the ambiguous nature of (60)b. I suggest instead that such examples only seem highlight the predicate, but this is a result of movement of the external argument to a (high) topic position.

(60) a. ***Apa** kowé ngelih?*   STANDARD JAVANESE
        Q   2SG   hungry
        'Are you hungry?'

     b. *Kowé **apa** ngelih?*
        2SG   Q   hungry
        'Are you *hungry*?' (Robson 2014: 95)

---

[29] Arps et al. (2000:149) on *apa*: "Je plaatst het aan het begin van de zin of van woordgroep die de vraag uitdrukt. / You place it at the beginning of the sentence or phrase that expresses the question."

Where Paciran Javanese and Standard Javanese differ is in the use of *opo/apa* in final position: this position is ungrammatical in Paciran Javanese, as shown in (61) (cf. (23)), but grammatical in Standard Javanese, see (62). Robson (2014) gives an example with the full form of *apa*, while Arps et al. (2000:149) observe that the shortened form *pa* can be used. They also state that *pa* occurs after a pause as its' own intonational segment, indicated by the preceding comma; this is not noted in Robson (2014).

(61) * *Sampeyan wes   n-jahit   rok iku opo?*   PACIRAN JAVANESE
         2SG   already   AV-sew   skirt DEM Q
         'Have you sewn this skirt?'

(62) a. *Kowé lara apa?*   STANDARD JAVANESE
         2SG   sick Q
         'Are you sick, or what?' (Robson 2014: 95; *gloss added*)

    b. *Bu   Wanti wis   teka,   pa?*
        Mrs. Wanti already arrive Q
        'Is mevrouw Wanti soms al gekomen?' / 'Has Mrs. Wanti perhaps arrived already?' (Arps et al. 2000: 150; *gloss & English translation added*)

Sentence-final *apa* in Standard Javanese, however, is noted to be semantically different than sentence-initial *apa*, which creates a yes-no question: sentence-finally, "[...]kun je uitdrukking geven aan een gevoel van scepsis over de juistheid van een veronderstelling. / [...] you can express a sense of skepticism about the accuracy of an assumption" (Arps et al. 2000:150). This is reflected in Robson's translation in (62)a "...*or what*?" and the use of *soms* 'maybe' in the Dutch translation in (62)b. Wedhawati et al. (2006) do not discuss this function of *apa*.

Based on the nature of the different semantics, I propose that sentence-final *apa* in Standard Javanese creates an alternative question, leaving the alternatives unexpressed. This function could be fulfilled by sentence-final *toh* in Paciran Javanese, but a better analysis concerning the prosodic differences is required, such as a possible prosodic break before the particle. This function in alternative questions is discussed further in the next sub-section, relating the particles to the disjunctive use in each dialect.

5.3 Lexical variation of tag questions

A third variation observed is that the tag question lexically varies. Paciran Javanese uses the particle *toh* plus negation *gak* (consistent with the East Javanese negation), as shown in Section 4.5. In Standard Javanese, the tag form is with the particle *apa* plus the negation *ora* (consistent with the Central Javanese negation), which is often shortened to *pora*. These two forms are contrasted in (63):

(63) a. *Sampean tau   ketemu pacar-mu   nok segoro* **toh gak?**
         2SG   EXP.PRF meet   b.gfriend-your at   ocean FOC NEG
         'Have you ever met your boy/girlfriend at the beach or not?' PACIRAN JAV.

    b. *Dhalang   arep ng-apal-ne   cerito iki   opo ora?*
        puppet.master will AV-memorize-APPL story DEM Q   NEG
        'Will the puppet master memorize this story or not?'   STANDARD JAV.

Paciran Javanese speakers also accept the combination of the particle *toh* with negation *ora*; this form of negation is in use in this dialect but less common than *gak*, as shown

in (64)a. However, other combinations are not allowed, such as the particle *opo* with *gak* or *opo ora/pora*; see (64)b-c.[30]

(64) a. *Iwak-e   ape   pok   bothok   toh   ora?*   PACIRAN JAVANESE
       fish-DEF   PROSP   2SG.CL wrap.side.dish FOC   NEG
       'You will wrap the fish or not?'

     b. **Sampean   tau   ketemu   pacar-mu   nok   segoro opo gak?*
        2SG   EXP.PRF   meet   b.gfriend-your at   ocean Q   NEG
        ('Have you ever met your boy/girlfriend at the beach or not?')

     c. **Sampeyan wes   n-jahit   rok   iku   opo   ora?*
        2SG   already AV-sew   skirt DEM   Q   NEG
        ('Have you sewn this skirt or not?')

The different forms for tag questions across Paciran and Standard Javanese dialects is understood when examining the form of disjunction: for each dialect, the form of the particle and the common form of disjunction are parallel, as illustrated in (65): [31]

(65) a. Context: *Dewi is looking for her necklace.*   PACIRAN JAVANESE
       Dewi gak yakin kalung-e   iku   ilang temen-an   toh
       Dewi NEG certain necklace-DEF DEM lost   really-NMLZ or

       mek lali   n-deleh
       only forget AV-put
       'Dewi's not sure if she really lost it or if she forgot where she put it down.'

     b. *Wong tuwa apa enom kuwi sejati-ne   ora   beda   adoh.* STANDARD JAV.
        person old or   young DEM actual-DEF NEG different far
        'Old or young people are not actually very different.'
        (SEALang Library Javanese Corpus; *gloss & translation added*)

The use of *toh* in Paciran Javanese is arguably a shortened form of the disjunction marker *utowo*, which is also used in this dialect, but less commonly:

(66) Context: *The math teacher says...*   PACIRAN JAVANESE
     Bal-e   ono   nek kothak A   utowo kothak B   utowo kothak C.
     ball-DEF exist   at box   A   or   box   B   or   box   C
     'The ball is in box A or box B or box C.'

Horne (1961) also notes the use of *utowo* in Standard Javanese. She suggests that *apa* is more commonly used in alternative questions while *utowo* is used in declaratives. We see in (65)b above that *apa* is also used in declaratives in this dialect; whether this is a diachronic change or otherwise is not known and would require further research.

Table 3 summarizes the uses of *toh* and *apa* between Paciran and Standard Javanese. Across the two dialects, the particle *opo/apa* is used to indicate a neutral yes-no question (YN-Q); another function (whether related or not) is as the lexical *wh*-word 'what'. What is interesting is where the two dialects diverge in the form for alternative questions (ALT-Q) is linked to how disjunction is expressed: in Paciran Javanese, the particle *toh* is used, while in Standard Javanese, it is the particle *apa*.

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[30] Paciran Javanese speakers state that the use of *opo ora/pora* is understandable but identify this use with Standard Javanese and hence judge such questions as ungrammatical.

[31] I gratefully acknowledge David Gil, who first pointed out to me the link with disjunction in Javanese.

Table 3. Variation of *toh* and *opo/apa* between Paciran and Standard Javanese

	PACIRAN JAVANESE	STANDARD JAVANESE
wh-word 'what'	*opo*	*apa*
YN-Q particle	*opo* (sentence/predicate-initial)	*apa* (sentence/predicate-initial)
ALT-Q particle	*toh*	*apa* (sentence-final; or elsewhere?)
ALT-Q tag	*toh gak*	*apa ora / pora*
disjunction in Q	*toh*	*apa*
disjunction in decl.	*toh*	*apa, utowo*

Cross-linguistically, using a disjunction marker also as a polar question marker (either alternative or yes-no questions) has also been noted in several unrelated languages: Yucatec Maya (AnderBois 2011); Estonian, Japanese, Supyire, Tetun, among others(Bailey 2013). Because of its rich dialectal variation, Javanese could potentially provide insight into paths of grammaticalization. Dialects with different question particles for polar questions such as *leh* in Montong, Tuban Regency, East Java, or *ta* in Blimbing, Lamongan Regency, East Java provide support for this trend, as the same form is also used for disjunction.

5.4 Summary of cross-dialectal variation

The cross-dialectal comparison of polar questions was fairly limited with data from Paciran and Standard varieties, as well as Peranakan Javanese based on a focused study on auxiliary fronting (Cole, Hara & Yap 2008). Despite this limitation, we observe dialectal variation across lexical, semantic, and syntactic domains, confirming the high grammatical diversity noted within Javanese.

6. Combined strategies to form polar questions in Paciran Javanese

Previous literature on Javanese does not discuss the possibility of combining various strategies to form yes-no questions. Can any of the strategies discussed above co-occur? If so, what is the function? This section presents new data on the documentation of polar questions in Javanese, focusing on the dialect spoken in Paciran, East Java. The licit combined strategies in Paciran Javanese include the following:[32]

   (i)   Particle *opo* + particle *toh* (narrow focus)
   (ii) Auxiliary fronting + particle *opo*
   (iii) Auxiliary fronting + particle *toh* (narrow focus)
   (iv) Auxiliary fronting + particle *opo* + particle *toh* (narrow focus)

Two illicit combined strategies in Paciran Javanese are:

   (i)   the particle *opo* plus the particle *toh* with broad focus
   (ii) auxiliary fronting plus the particle *toh* with broad focus

I take stock of each of these combined strategies in turn in the following sub-sections, starting with the illicit ones.

6.1 Ungrammatical combined strategies to form polar questions

In Paciran Javanese, it is ungrammatical to combine the two strategies of forming a yes-no question with the particle *opo* and with the particle *toh* in sentence-final position

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[32] I have not yet investigated the combinations of the particle *toh* plus negation (*gak*) with other strategies.

taking broad focus. As shown in (67)a-b, while these strategies are both grammatical on their own, their combination results in ungrammaticality; see (67)c.

(67) Context: *Sri isek bayi. Koncone ibune Sri takok*: (*Sri is still a baby. Sri's mother's friend asks:*)

    a.   *Sri wes   iso   m-laku   toh*?
         Sri already CIRC.POS AV-walk FOC
         'Sri already can walk, right?'

    b.   ***Opo** Sri wes   iso   m-laku?*
         what Sri already CIRC.POS AV-walk
         'Can Sri already walk?'

    c. * ***Opo** Sri wes   iso   m-laku   toh?*
         what Sri already CIRC.POS AV-walk FOC
         ('Can Sri already walk, right?')

Additional examples are given in (68). In discussing these examples, speakers comment that "*gak usah 'toh'*" (*[You] don't need 'toh'*).

(68) a. * ***Opo** bapak-mu   tau   gelem sinau boso   inggris toh?*
         Q   father-your EXP.PRF   willing study language English FOC
         ('Is your father ever willing to study English?')

    b. * ***Opo** bu   Risa tau   iso   m-layu sampek rong puloh menit toh?*
         Q   Mrs. Risa EXP.PRF CIRC.POS AV-run until   two   ten   minute FOC
         ('Risa once could run up to 20 minutes right?')

In this case, it seems that both function to type the clause—*opo* as a neutral yes-no question marker and *toh* as a broad focus marker—and this combination is disallowed. One way to test this hypothesis is to check whether these types of questions are grammatical with a narrow focus reading on the clause-final constituent with *toh* instead.

Another example of two combinations which yield ungrammaticality is with auxiliary fronting plus *toh* in sentence-final position in (69).

(69) * ***Iso**   Pak Muftah ny-(s)onggoh watu   toh?*
      CIRC.POS Mr. Muftah AV-lift   rock   FOC
      ('Can Mr. Muftah lift a rock right?')

In this case, auxiliary fronting places focus on that auxiliary while sentence-final *toh* indicates broad focus. However, we will see in Section 6.3 that auxiliary fronting with *toh* indicating narrow focus on the fronted auxiliary is in fact grammatical. As the purpose of this paper is to document and describe the types of polar questions, I leave the analysis of why exactly these combinations are ungrammatical for the future.

6.2 Combined strategies: Particle *iyo* + negation *gak* (+ particle *toh*)

Turning to a licit combination, the particle *iyo* and negation, plus optionally the focus particle *toh* can be combined in that order, as shown in the following example.[33]

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[33] Thank you to Thomas Conners for pointing out this combination.

(70) Context: *Bu S. is telling Bu Z. about when her daughter left the boutique she was working at to get married.*

Nang   dik-tinggal   iku   seng   kono   yo   kangak-kangek,
so   PASS-leave   DEM   REL   there YES   RED-interrupt

*wong   ora   n-duwe   ganti,   **gak   iyo   toh**   yu?*
person NEG   AV-have change NEG   YES   FOC   sister
'So when he was left [by her], the one there [the owner] was so confused. They didn't have a person to replace her, isn't that right, sister?'

This combination is interesting for Paciran Javanese, as negation (*gak*) by itself is ungrammatical (see (19)), but in this combination it is possible.

6.3 Combined strategies: Particle *opo* + particle *toh* (narrow focus)

In contrast to the ungrammaticality of yes-no questions with the particle *opo* and the particle *toh* in sentence-final position with broad focus, when the particle *toh* has unambiguous narrow focus, then these two strategies combined are possible. In this case, the two strategies no longer have the same function (e.g., indicating a yes-no question with broad focus). For instance, in response to the ungrammaticality of (67)c, (71) is offered as a grammatical alternative, with narrow focus on the auxiliary *iso* 'CIRC.POS' or auxiliaries *wes iso* 'already CIRC.POS'.

(71) ***Opo*** *Sri wes   iso   **toh**   m-laku?*
      Q   Sri already CIRC.POS   FOC   AV-walk
      'Sri ALREADY CAN walk?' or 'Sri already CAN walk?'

If this combination is indeed possible, a prediction is that *opo* plus the particle *toh* indicating narrow focus can occur with all other placements of *toh*. This is borne out, as shown with *opo* in sentence-initial position:[34]

(72) a. ***Opo Pak   Bambang toh***   *seng dol-dol   pitek?*
          Q   Mr. Bambang FOC   REL RED-sell chicken
          'Is it PAK BAMBANG that sells chicken?'   (SUBJECT FOCUS)

      b. ***Opo*** *Pak Tomo **tau   toh***   *lungo   reng   Padang?*
          Q   Mr. Tomo EXP.PRF FOC   go   to   Padang
          'Has Pak Tomo EVER gone to Padang?'   (AUX FOCUS)

      c. ***Opo*** *Bu   Zum   ape   **tuku toh***   *iwak rajungan nok   TPI?*
          Q   Mrs. Zum   PROSP buy   FOC   CLF crab   at   TPI
          'Will Mrs. Zum BUY crab at TPI?'   (VERB FOCUS)

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[34] With the particle *opo* as predicate-initial plus the particle *toh* indicating narrow focus, preliminary examples show that this is also possible. However, I have not tested all possibilities as with *opo* in sentence-initial position, but I would expect it to be the same. Similarly for combined strategies auxiliary fronting + *opo* (discussed in Section 6.4) and auxiliary fronting + *opo* + *toh* with narrow focus (discussed in Section 6.6), I have not examined these combinations where the particle *opo* is positioned as in between the subject/topic and predicate. This is an future area of research, and could shed light on the syntax of these combinations as moving as a constituent or not.

> d. ***Opo** Bu Zum ape [[tuku] iwak rajungan] **toh** nok TPI?*
> Q   Mrs. Zum PROSP buy CLF crab   FOC at TPI
> 'Will Mrs. Zum buy CRAB at TPI?'   (OBJECT FOCUS)
> 'Will Mrs. Zum BUY CRAB at TPI?'   (VP FOCUS)

I now turn in Sections 6.4-6.6 to additional combined strategies of forming a yes-no question in Paciran Javanese with auxiliary fronting as one of the strategies.

6.4 Combined strategies: Auxiliary fronting + particle *opo*

Auxiliary fronting with the particle *opo* is another possible combination to form a yes-no question in Paciran Javanese. Recall from Section 4.6 that auxiliary fronting by itself as a strategy is only possible with a low set of auxiliaries, argued to be syntactically grouped according to their relative order compared to a set of higher auxiliaries that cannot front. Accordingly, we expect that the auxiliaries that can already front should also be able to front with the particle *opo*. The data in (73) confirm this possibility, as shown with the 'low' auxiliaries *oleh* 'DEON.POS' and *tau* 'EXP.PRF'.

(73) a. ***Opo oleh**   mbak Mida pacar-an?*
        Q   DEON.POS Miss Mida b.gfriend-VBLZ
        'May Miss Mida date?'

      b. ***Opo tau**   bu Risa m-layu sampek ro-ng   puloh menit?*
        Q   EXP.PRF Mrs. Risa AV-run until   two-LNK ten   minute
        'Has Risa ever run for 20 minutes?'

With respect to 'high' auxiliaries which cannot front to form a yes-no question, interestingly, the addition of the particle *opo* lifts this restriction, as shown in (74): *lagek* 'PROG', *wes* 'already', and *kudu* 'ROOT.NEC' can front with this combination. However, there remains one exception: the prospective aspect marker *ape* still cannot front. This restriction is consistent with the other restrictions tied to this marker (suggested to be semantic/pragmatic): *ape* 'PROSP' cannot be focused marked with the particle *toh* nor can it occur as an answer fragment (cf. (34)-(37)).

(74) a. ***Opo lagek** mbak Fina m-(p)esusi?*
        Q   PROG Miss Fina AV-wash.rice
        'Did Fina just wash the rice?'

      b. ***Opo wes**   sampean n-jahit rok iku?*
        Q   already 2SG   AV-sew skirt DEM
        'Have you sewn this skirt already?'

      c. ***Opo kudu**   wong islam solat ping limo se-dino?*
        Q   ROOT.NEC people islam pray time five one-day
        'Do Muslims have to pray five times per day?'

      d. * ***Opo ape**   awakmu ng-resik-i   pawon?*
        Q   PROSP 2SG   AV-clean-APPL kitchen
        ('Will you clean the kitchen?')

A second restriction of auxiliary fronting is also lifted in the combination with the particle *opo*; namely, the restriction to fronting only one auxiliary in Paciran Javanese (see (56) in Section 5.1). With sentence-initial *opo*, it is possible to front two auxiliaries (regardless of their syntactic grouping as high or low). For example, (75) demonstrates that two low auxiliaries can both front (*tau* 'EXP.PRF' and *oleh* 'DEON.POS') and (76) shows that a high auxiliary *wes* 'already' and a low one *iso* 'CIRC.POS' can also both

front. The (b) examples demonstrate that fronting must occur in accordance with their strict relative ordering (cf. Figure 15).

(75) a. **_Opo tau_**   **_oleh_**   _Yeni reng Jakarta?_
     Q   EXP.PRF   DEON.POS Yeni to   Jakarta
     'Was Yeni once allowed to go to Jakarta?'

   b. * _Opo oleh_   _tau_   _Yeni reng Jakarta?_
      Q   DEON.POS EXP.PRF Yeni to   Jakarta
      ('Was Yeni once allowed to go to Jakarta?')

(76) a. **_Opo wes_**   **_iso_**   _Sri m-laku_?
     Q   already   CIRC.POS Sri AV-walk
     'Can Sri already walk?'

   b. * _Opo iso_   _wes_   _Sri m-laku?_
      Q   CIRC.POS already Sri AV-walk
      ('Can Sri already walk?')

A final example illustrates that two high auxiliaries can both front in combination with the particle _opo_:

(77) **_Opo wes_**   **_kudu_**   _mbak Arik n-delok Ramayana_?
     Q   already ROOT.NEC Miss Arik AV-see   Ramayana
     'Has Miss Arik had to/wanted to see Ramayana?'

In sum, the combined strategies of auxiliary fronting plus the particle _opo_ is demonstrated to be a grammatical way of forming a yes-no question in Paciran Javanese. Further, in this combination, auxiliary fronting no longer carries the restrictions concerning (i) high vs. low auxiliaries, where only low auxiliaries can front, and (ii) how many auxiliaries can front (only one). The fact that these restrictions are lifted strongly suggests that a different syntactic structure is involved in fronting the auxiliaries. The details of such a proposal are beyond the scope of this paper.

6.5 Combined strategies: Auxiliary fronting + particle _toh_ (narrow focus)

I turn now to the combined strategy of auxiliary fronting plus the particle _toh_ with narrow focus on the fronted auxiliary (or auxiliaries). Parallel to the combined strategies of auxiliary fronting plus the particle _opo_, this combined strategy also lifts the two restrictions associated with auxiliary fronting alone. First, auxiliaries from the set of low and high groups are able to front with the particle _toh_. In (78), this combination is illustrated with the low auxiliary _oleh_ 'DEON.POS' and the high auxiliary _kudu_ 'ROOT.NEC', which yields a well-formed yes-no question in Paciran Javanese:

(78) a. **_Oleh_**   **_toh_**   _aku n-jaluk tulung?_
     DEON.POS FOC   1SG AV-ask   help
     'May I ask for your help?'

   b. **_Kudu_**   **_toh_**   _Pak Gayus m-bayar dendo-ne?_
     ROOT.NEC FOC   Mr. Gayus AV-pay   fine-DEF
     'Must Mr. Gayus pay the fine?'

Secondly, more than one auxiliary can front with this combination, as shown in (79). Like with the combination of _opo_ and auxiliary fronting, with _toh_ and auxiliary fronting, the relative order of the auxiliaries must be respected.

(79) a. **_Ape_** **_iso_** **_toh_** _Hamida_ _ng-gendhong_ _Ayu?_
    PROSP CIRC.POS FOC Hamida AV-carry.on.hip Ayu
    'Is Hamida going to be able to carry Ayu?'

  b. *__*Iso*__ **_ape_** **_toh_** _Hamida_ _ng-gendhong_ _Ayu?_
    CIRC.POS PROSP FOC Hamida AV-carry.on.hip Ayu
    ('Is Hamida going to be able to carry Ayu?')

I purport that, parallel to with the combination of the particle _opo_ and auxiliary fronting, a different syntactic derivation underlies the difference between auxiliary fronting by itself and fronting with a particle.

6.6 Combined strategies: Auxiliary fronting + particles _opo_ + _toh_ (narrow focus)

A final combination of strategies includes three strategies together: auxiliary fronting plus both particles (_opo_ and _toh_ as indicating narrow focus on the fronted auxiliary). As now expected, both auxiliaries from the set of low vs. high groups are possible, illustrated here with _tau_ 'EXP.PRF' and _kudu_ 'ROOT.NEC':

(80) a. **_Opo_** **_tau_** **_toh_** _mbak_ _Jozi_ _m-(p)angan_ _sate_?
    Q EXP.PRF FOC Miss Jozi AV-eat satay
    'Has Miss Jozi ever eaten satay?'

  b. **_Opo_** **_kudu_** **_toh_** _mbak_ _Salsa_ _m-(p)angan_ _es_ _krim_?
    Q ROOT.NEC FOC Miss Salsa AV-eat ice cream
    'Does Miss Salsa want to eat ice cream?'

Similarly, two fronted auxiliaries are possible with both the particles _opo_ and _toh_, just as observed with these particles individually:

(81) a. **_Opo_** **_tau_** **_oleh_** **_toh_** _Yeni_ _reng_ _Jakarta_?
    Q EXP.PRF DEON.POS FOC Yeni to Jakarta
    'Has Yeni ever been allowed to go to Jakarta?'

  b. **_Opo_** **_tau_** **_iso_** **_toh_** _Ulum_ _ng-ulang-i_ _tari_ _jowo-ne?_
    Q EXP.PRF CIRC.POS FOC Ulum AV-teach-APPL dance Java-DEF
    'Has Ulum ever been able to teach Javanese dance?'

  c. **_Opo_** **_wes_** **_tau_** **_toh_** _polisi_ _ny-(t)ekel_ _maling_ _nok_ _Paciran?_
    Q already EXP.PRF FOC police AV-catch thief at Paciran
    'Have the police ever caught a thief in Paciran?'

The semantic/pragmatic restriction with the prospective marker _ape_ remains, however:

(82) * **_Opo_** **_ape_** **_toh_** _Hamida_ _ng-gendhong_ _Ayu_?
    Q PROSP FOC Hamida AV-carry.on.hip Ayu
    'Will Hamida carry Ayu?'

The use of all three strategies together does not change any restrictions; in other words, the syntactic behavior seems to be parallel with fronted auxiliaries and either of the particles _opo_ or _toh_ individually. Further investigation is necessary to better understand possible semantic differences between these combinations.

6.7 Summary of combined strategies in Paciran Javanese

Two types of combinations—the particle _opo_ plus _toh_ with broad focus and auxiliary fronting plus _toh_ with broad focus—result in ungrammaticality in Paciran Javanese. Many other strategies, however, are possible in this dialect. In particular, auxiliary fronting combined with either _opo_ or _toh_ or both particles is possible. Furthermore,

these combinations lift the restrictions found with auxiliary fronting alone. Specifically, more than one auxiliary can front (not just one) and all auxiliaries may front (not only the syntactically 'low' auxiliaries). An exception remains with *ape* 'PROSP', which cannot be focused in any combination.

7. Conclusion

This paper describes the strategies used to form polar questions in Javanese, with particular attention to the East Javanese dialect spoken in Paciran, Lamongan. Building on the descriptions pulled together from various grammars and papers on Standard Javanese, this paper discusses the various types of polar question strategies in depth. These types for yes-no questions in Paciran Javanese include intonation; with the particles *(i)yo, opo*, and *toh*; and auxiliary fronting. For alternative questions, the strategies are with the particle *toh* conjoining two alternatives or with the dependent tag *toh* plus negation.

Of special note is that the intonation contour for yes-no questions in Paciran Javanese found to be a fall-rise contour (or simply a falling tone) localized to the ultimate syllable of an Intonational Unit. Additionally, the particle *toh* is analyzed as an overt focus marker, which can indicate broad or narrow focus depending on its syntactic position. Further, different combinations of types of strategies to form polar questions in Paciran Javanese are discussed, which have not been documented in any dialect before.

Since most Javanese dialects beyond Standard Javanese are underdocumented and understudied, this paper brings to light new data and reveals important dialectal variation. Compared to Peranakan Javanese, for instance, Paciran Javanese can maximally front one auxiliary. The use of *apa* in Standard Javanese and *toh* in Paciran Javanese also diverged: these particles are used in alternative questions as well as in disjunction in each dialect respectively. However, *toh/ta* is used in both dialects as a focus marker and *opo/apa* is used in both dialects as a neutral yes-no question marker (as well as the lexical wh-word 'what'). More broadly, Javanese is a language that uses all three main strategies to form polar questions: intonation, particles/tags, and changes in word order.

Overall, this paper serves as a benchmark for further investigation into dialectal variation across Javanese as well as into the syntax-semantics and syntax-prosody interfaces in deriving these types of yes-no questions.

Abbreviations

1	first person	2	second person
3	third person	AV	actor voice
APPL	applicative	CIRC	circumstantial modality
CL	clitic	CLF	classifier
DEF	definite	DEM	demonstrative
DEON	deontic modality	EXP.PRF	experiential perfect aspect
FOC	focus	INTR	intransitive
LNK	linker	NEC	necessity
NEG	negation	NMLZ	nominalizer
NOM.NEG	nominal negation	PASS	passive
POS	possibility	PROG	progressive aspect
PROSP	prospective aspect	PRT	particle
Q	question marker	RED	reduplication
REL	relativizer	ROOT	root modality
SG	singular	VBLZ	verbalizer

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