Sluicing and asymmetries in the Cypriot-Greek wh-question formation

Antri Kanikli

University of York ak569@york.ac.uk

Abstract: This paper examines the asymmetry in the occurrence of the *embu* strategy in Cypriot Greek (CG) wh-questions. I propose that the apparent obligatoriness of *embu* in *inda* wh-arguments actually derives from the fact that *inda* and '*mbu* occupy Spec,CP in these interrogatives. This is supported by the syntactic behavior of *indambu* with respect to sluicing. In light of the asymmetries in sluices, I suggest an adapted version of the sluicing deletion approach. Under this approach, sluicing applies to the C phase head and its domain. Thus, only the elements occupying the specifier of CP are allowed to appear as sluicing remnants.

Key words: embu strategy, indambu reanalysis, sluicing remnant, Non-Transfer.

1. Introduction

CG displays two wh-question formation patterns. The one is similar to the Mainland Greek (MG) wh-pattern (1a) and the other includes *embu* (1b), which is reminiscent of wh-strategies occurring in French, Portuguese and Northern Italian dialects.

- (1a) Pcos emilise? (1b) Pcos (embu) emilise? who.NOM spoke.3SG who.NOM spoke.3SG "Who has spoken?" "Who has spoken?"
- (2) Inda *('mbu) θelis? what.ACC want.2SG "What do you want?"

The examples above indicate that the application of the *embu* strategy is compulsory with inanimate wh-arguments introduced by the dialectal *inda* (2), whereas it is optional with animate wh-arguments (1b). This, however, cannot be reduced to a subject-object distinction asymmetry or an animacy effect. In fact, the *embu* strategy is optional in any other wh-domain except for the *inda* wh-arguments¹. Consider the following examples:

- (3a) **Pcon (embu)** aγapas? (3d) **Indalos (embu)** irtes? who.ACC love.2.SG how came.2.SG "Who do you love?" "How did you come?"
- (3b) Pote (embu) irtes? (3e) Jati (embu) irtes? when came.2.SG why came.2.SG "When did you come?" "Why did you come?"
- (3c) Pu (embu) isun? (3f) Inda ('mbu) irtes? where were.2.SG why came.2.SG "Where have you been?" (3f) Why did you come?"

I am very grateful to George Tsoulas for his insightful comments. I would also like to thank Bill Haddican, Anthony Warner and an anonymous reviewer for helpful comments and discussion. Needless to say all mistakes are mine.

When *inda* bears the 'why' interpretation as in (3f) 'mbu is not obligatory.

The asymmetry in the obligatoriness of *embu* in CG wh-questions, which holds for both root and embedded wh-questions, was first noted by Grohmann, Panagiotidis and Tsiplakou (2006). Nevertheless, Grohmann et al. (2006) did not provide a formal account for this asymmetry. They tentatively explored an analysis according to which the obligatoriness of *embu* in *inda* wh-arguments is due to the clitic status of *inda*. However, such an analysis proved to be problematic; hence, they left the question open for future research.

In particular, Grohmann et al. (2006) examined the idea that *inda* is a wh-clitic. As such it needs a prosodic host. This yields, according to them, the obligatoriness of *'mbu* in *inda* wh-arguments. *Mbu* is the prosodic host of *inda*, hence they have to co-occur. As Grohmann et al. (2006) admit, however, this leaves unexplained the fact that *inda* in wh-adjuncts does not have to co-occur with *'mbu* (cf. example (3f)). To put it simply, if the clitic status of *inda* is the reason why it has to co-occur with *'mbu*, then *inda* should not occur without *'mbu* in any interrogative context.

Another problematic aspect of such an analysis is the fact that clitics do need a prosodic host, but they do not require a specific one. So, on the assumption that this analysis holds, we would still have to explain why *inda* requires a specific prosodic host, that is, 'mbu.

In what follows, I propose that the asymmetry with respect to the obligatoriness of *embu* between *inda* wh-arguments and other wh-questions is due to the fact that *embu* occupies the C head position in all wh-questions except for *inda* wh-arguments. In the latter, *inda* and *'mbu* occupy the Spec,CP position. This is what derives the obligatoriness of *'mbu* in *inda* wh-arguments.

In particular, the next section argues for a mono-clausal analysis of *embu* questions according to which *embu* occupies the C head position. The arguments put forward for such an analysis regard the syntactic properties of *embu*. Section 3 proposes, in view of the syntactic behavior of *embu* questions concerning sluicing, that '*mbu* in *inda* wharguments occupies along with *inda* the Spec,CP position. This is what yields the asymmetries between *inda* wharguments and other *embu* wh-questions. Finally, section 4 raises the fact that the sluicing data in CG cannot be accounted for adopting an IP deletion approach to sluices and suggests an adapted approach drawing on Phase Theory which may also account for problematic data in other languages.

2. Analyzing embu

The intriguing property of the dialectal wh-formation pattern in GG is the embedding of *embu* between the wh-element and the verb (cf. examples (1a) and (1b)). As underlined, *embu* is optional in all wh-questions except for *inda* wh-arguments. In order to account for this, we first need to provide an analysis for *embu*.

Embu has been analyzed (Grohmann et al. (2006), Panagidou (2009), Agouraki (2010)) as the contracted form of the dialectal form of the copula en (is) and the complementiser pu (that). On these remarks, embu appears to be similar to the est-ce que strategy in Romance languages. However, I have not glossed embu as is-that in the above examples as embu has certain properties which need to be taken into consideration before proposing an analysis for it.

2.1 The inert for inflection en

On the grounds that embu is the contracted form of the copula en and the complementiser pu, we should expect the copula to be able to inflect for tense and

person. In the example in (4), the assumed copula appears in the present tense form. The verb *sinantise*, though, is in the past tense form.

(4) Pcon embu esinandise i Maria? who.ACC.SG. is-that met.3.SG. the.NOM.SG. Mary.NOM.SG. "Who was it that Mary met?"

Under a bi-clausal analysis of the structure in (4) (Grohmann et al. (2006), Panagidou (2009), Agouraki (2010)), *sinantise* is the verb of the embedded CP headed by the complementiser *pu*. We should expect the copula to be able to Agree for tense with the embedded verb. However, this is not the case. The inflection of *en* for tense yields highly marginal structures (cf. example (5) below).

(5) ??Pcon itan/itun pu esinandise i Maria? who.ACC.SG. was that met.3.SG. the.NOM.SG. Mary.NOM.SG. "Who was it that Mary met?"

On the assumption that *embu* involves a copula, the marginality of the structure in (5) is unexpected. The case is reminiscent of the *que*, *pourquoi* and *comment est-ce que* interrogatives in French where *être* may appear only in the present tense form which according to Munaro & Pollock (2005) is the default form of the copula. On the basis of this fact, Munaro & Pollock (2005) argued that the above *est-ce que* interrogatives are mono-clausal. Under the same line of reasoning, I argue that *embu* interrogatives should also be analyzed as mono-clausal. *Embu*, similar to *est-ce que*, has no inflectional features to check which suggests that no IP is projected above it, and concomitantly no bi-clausal structure is derived in *embu* questions.

- 2.2 The syntactic position of sentential adjuncts in embu wh-questions
 Another problem for analyses of embu as involving a copula and the complementiser pu
 is the fact that sentential adjuncts may not adjoin to the assumed embedded CP headed
 by pu. Consider the example in (6).
- (6) *Pcon en **kalo** pu esinandise i Maria? who.ACC.SG. is then that met.3.SG. the.NOM.SG. Mary.NOM.SG. "Who did Mary meet then?"

Under the assumption that embu involves a copula and pu which heads an embedded CP, an adjunct such as kalo (then) should be able to adjoin to the embedded CP, occupying a position in between en and pu. Again, this expectation is not born out (cf. example (6) with example (7)).

(7) Who is it then that Mary met?

In the example in (7) the sentential adjunct *then* adjoins to the embedded CP headed by the complementiser *that* and the structure is well-formed. This suggests that the ungrammaticality of examples such as the one in (7) results from the fact that *embu* structures do not involve an embedded clause. Hence, no sentential adjunct may appear in between *en* and pu.

- 2.3 The syntactic position of the negative marker in embu wh-questions
- A third argument against analyses of *embu* as involving a copula is the fact that the negative marker may not adjoin to the copula assumed to be involved in *embu* interrogatives. In clefts, however, the negative marker *en* which is homophonic with the copula *en* in CG may adjoin and cliticize to the copula. Consider the example in (8).
- (8) Ennen O PETROS pu jela. not is the NOM.SG. Peter.NOM.SG. that laughs "It isn't Peter who is laughing."

The CG negative marker en (as it is the case with the MG negative marker dhen (see Roussou (2000)) adjoins to IP. Hence the negative marker en in (8) adjoins to the copula which occupies an IP position. En is a clitic and as such it cliticizes to the copula. Under the application of a phonological rule, n, the final consonant of the negative marker en, is pronounced as a geminate. As a result, the negative marker and the copula appear in the contracted form ennen.

On the assumption that *embu* involves a copula, the negative marker should be able to adjoin to it, as it occurs in (8). However, this is not the case. The example in (9) shows that the negative marker cannot adjoin to *embu*.

(9) *Pcon ennembu esinandise i Maria? who.ACC.SG. not-is-that met.3.SG. the.NOM.SG. Mary.NOM.SG. "Who isn't it that Mary met?"

The only position where the negative marker may occur, in the *embu* question in (9), is the one above the IP projection where the verb *esinantise* is hosted. Consider the example in (10).

(10) Pcon embu en esinandise i Maria who.ACC.SG. not met.3.SG. the.NOM.SG. Mary.NOM.SG. "Who isn't it that Mary met?"

The fact that the negative marker may not adjoin to the copula assumed to be involved in *embu* undermines the idea that *embu* questions derive from a structure which, as in the case of clefts, involves a copula.

2.4 Embu as the outcome of the contraction of en and pu

The analyses proposed in the literature for embu (Grohmann et al. (2006), Panagidou

(2000). A governir (2010)) assume that embu questions derive from a elefting structure.

(2009), Agouraki (2010)) assume that *embu* questions derive from a clefting structure. Consider the cleft in (11).

(11) En O PETROS pu jela. is the.NOM.SG. Peter.NOM.SG. that laughs "It is Peter who is laughing."

The focalized constituent in (11) appears in between the copula en and the complementiser pu. According to the clefting analyses of embu structures, the only difference in between a cleft such as the one in (11) and an embu wh-question, is that the "clefted" wh-word further moves from the position in between en and pu to the

Spec,CP of the super-ordinate clause in order to satisfy its uwh-feature (cf. (12))². After that, en and pu are assumed to be contracted to embu.

(12) Pcon en <pcon> pu iðen i Maria? who.ACC.SG. is that saw.3.SG. the.NOM.SG. Mary.NOM.SG. "Who did Mary see?"

Such an assumption, though, is incompatible with the empirically supported idea that in the presence of an intervening copy (such as < pcon > in (12)) contraction between two elements (such as en and pu in (12)) cannot take place (see Chomsky & Lasnik (1978), Hornstein (1999), Boeckx (2000) and others). This idea is taken to account for the grammaticality of the contraction of want to into wanna in (13) and the ungrammaticality of the one in (14).

- (13) I wanna win.
- (14) *Who do you wanna win?

Under this assumption, want and to in (14) cannot contract because the copy of who intervenes between them. In (13), though, there is no intervening copy, hence want and to may contract to wanna.

Adopting this approach to contraction, the assumption that en and pu contract to embu although a copy of a wh-element is taken to intervene in between them, is problematic. Embu may not be the contracted form of en and pu after all.

2.5 Embu as a C element

Having shown that an analysis of embu as the contracted form of the copula en and the complementiser pu is problematic, I propose that embu is an interrogative C head to the specifier of which wh-elements move in order to satisfy its uQ feature and their uwh-features. This explains why embu cannot inflect, why a negative marker may not adjoin to it and why en and pu, which according to clefting analyses to embu questions are involved in embu, cannot be separated by an intervening sentential adjunct.

On the assumption that 'mbu in inda wh-arguments is an allomorph of embu, what needs to be accounted for is why an interrogative C head is obligatory in inda wh-arguments, whereas it is optional in other wh-questions. The next section addresses this asymmetry and proposes an account for it in view of the syntactic behavior of embu questions with respect to sluicing.

3. Analyzing the obligatory occurrence of 'mbu in inda wh-arguments

Having proposed an analysis for *embu*, we now turn to the asymmetry in its occurrence sketched in section 1. Note that there is another asymmetry in between *inda* wharguments and other *embu* interrogatives, this time concerning their behavior in sluicing. Consider the following discourse contexts.

² Some of the analyses proposed for *embu* questions assume that the wh-word is base-generated in an internal to the vP position (Grohmann et al. (2006), Panagidou's (2009)) before moving to the clefting position in between *en* and *pu*. Agouraki's (2010) analysis assumes that the *wh*-word is base-generated in the clefting position. Nevertheless, they all assume that the *wh*-word is either "internally" (Move) or "externally" (Merge) merged in the position between *en* and *pu* before moving to the Spec,CP of the super-ordinate clause.

```
(15a) Speaker A: Iða ena simmaθiti su. saw.1SING a.ACC classmate.ACC you.GEN "I saw one of your classmates."
```

(15b) Speaker B: PCON [embu iðes]?

who.ACC.SG [saw.2.SG]

(15c) Speaker B: *PCON EMBU [iðes]? who.ACC.SG [saw.2.SG]

(15c), in which the sluicing remnants are the wh-pronoun and the realized *embu* complementiser, is ungrammatical. However, (15b) in which only the wh-element is the remnant constituent is well-formed. The CG data, therefore, seems to point out that only the constituent that occupies the specifier of CP (Spec, FocP in our analysis) is eligible to be the sluicing remnant.

```
(16a) Speaker A: O Petros espase kati.
the.NOM.SG Peter.NOM.SG broke.3.SG. something.ACC.SG
"Peter broke something."
```

(16b) Speaker B: *INDA [*mbu espase o Petros]?

what.ACC.SG [broke the Peter]

(16c) Speaker B: 'NDAMBU [espase o Petros]? what.ACC.SG [broke the Peter]

In (16c), though, the co-occurrence of *inda* and *embu* in the contracted form '*ndambu* in the sluicing construction does not induce ungrammaticality as in (15c), where the presence of *embu* complementiser along with the wh-pronoun *pcos* as sluicing remnants renders the construction ungrammatical. Furthermore, while in (15b) the wh-pronoun *pcos* (who) is licensed to be the sluicing remnant, the wh-word *inda* in (16b) is not allowed to appear on its own as a sluicing remnant.

Notice the contracted form 'ndambu in which inda and embu appear in (16c); an observation which is obviously related to the obligatory presence of 'mbu with inda in sluicing constructions and wh-arguments as well. It must be highlighted that *embu* does not undergo contraction with any other wh-pronoun in CG. Grohmann et al. (2006) underline the fact that *embu* does not allow contraction even in similar phonological contexts. Note also, that apart from *indambu* and 'ndambu, inda and embu appear in the 'ambu form as well, which is a further contraction of 'ndambu. The contracted forms in which *indambu* appears and the fact that *inda* may no longer occur on its own in sluices and wh-arguments suggest that *indambu* has undergone reanalysis. *Inda* and 'mbu have been reanalyzed from a wh-element and a C element respectively, into a wh-element. Unlike other wh-constructions, inda does not occupy Spec, CP and 'mbu C^0 , but (i)ndambu as a wh-element occupies the specifier of the complementiser projection (Spec, CP). Under this perspective the peculiar behavior of *inda* regarding sluicing is explained. If sluicing allows only for the element that is located in Spec, CP to be the sluicing remnant, then that is why (i)ndambu is licensed to appear in sluicing constructions, while any other wh-word cannot co-occur with the *embu* complementiser in CP, as sluicing remnant.

The reanalysis proposal regarding the synchronic status of *inda* is further supported by its history. A historical examination of the wh-word *inda* reveals that *inda* itself is the outcome of a reanalysis in the Middle Ages. According to Hatzidakis (1989-90) *inda* derives from the interrogative phrase "ti (what) eni (is) ta (relative pronoun)". It seems,

therefore, that the same element has undergone the same reanalysis in a similar context; a very important observation for theories that view language change as involving mechanisms that may trigger similar phenomena within the same language or cross-linguistically.

4. Sluices, IP deletion and the adapted deletion approach

Notice that the analysis defended in the previous section regarding the *indambu* asymmetries relies heavily on the empirical observation that only wh-operators, that is elements occupying the Spec,CP, are licensed to appear in sluices. According to the deletion approach to sluicing, however, TP is the syntactic element that undergoes deletion. This entails that not only elements hosted in the Spec, CP but C⁰ heads as well should be allowed to appear as sluicing remnants. Under this approach the empirical data exemplified in (15) cannot be accounted for. This section explores the deletion approach to sluicing drawing on Merchant (2001) and proposes an adapted approach to sluices in light of recent minimalist conventions on the derivational process.

4.1 The IP-deletion approach and the Sluicing-COMP generalization

Adopting a deletion approach to sluices, sluicing involves IP deletion (Merchant (2001)). However, the empirical data examined in this paper points out that not only IP but C^0 as well does not occur in sluices.

Although the sluicing approach suggested in the previous section seems at first glance to be at odds with Merchant's analysis according to which a sluice is claimed to be "a CP in which the sentential part, the IP, has gone missing" (Merchant 2001: 39), in fact, it is in accordance with the Sluicing-COMP generalization stipulated by him (Merchant 2001:62) as given in (17).

(17) Sluicing-COMP generalization

In sluicing, no non-operator material may appear in COMP.

The argument is strongly similar to the one suggested in this paper; only syntactic operators may be found overtly in sluicing constructions.

The generalization in (17) has been put forward by Merchant in order to subsume phenomena involving left dislocation -such as I-to-C movement in Germanic languages, complementiser agreement, Wackernagel clitics in South Slavic and other Balkan languages- as well as elements that are base-generated in the Complementiser field (namely complementisers), which, intriguingly, are not legitimate in sluices. These phenomena seem to contradict the hypothesis that a sluice is a CP in which the IP is deleted.

The stipulation of a generalization like the one in (17), however, does not account for the ban on the presence of non-operator syntactic elements in the C domain in sluices. In fact, an attempt by Merchant (2001: 78-82) to provide an explanation for the ill-formedness of sluices in which the interrogative C⁰ is pronounced in Dutch, Frisian and Slovene through the COMP-trace effect, ran into the fact that none of these languages exhibits the *that*-trace effect.

The classical COMP-trace effects are displayed in the English examples below (18a-b).

- (18a) *Who do you think that stole the diamonds?
- (18b) *Who were you wondering if had stolen the diamonds?

Merchant (2001:79) assumed a filter form to be operative in such constructions, given in (19).

(19) $*[_C \ a] \ [_x \ ...]$, where x is a prosodic constituent containing no phonetic exponence, if a has phonetic exponence.

Regarding CG and MG, the above filter form cannot be verified, as an overt complementiser can be followed by an element, which does not receive a PF realization. The examples in (19) below, which are the Greek counterparts of the English examples in (17), underline that unlike what happens in English, the *that*-trace effect does not hold in Greek.

```
(20a) Pcos nomizis oti eklepse ta ðjamantja?
who.NOM.SG think.2SG that stole the diamonds
(20b) Pcos anarotjosun an ihe klepsi ta ðjamantja?
who.NOM.SG wondered.2SG if had stolen the diamonds
```

Importantly, the filter form in (19) cannot be applied neither in Slovene nor in Dutch and Frisian as the last two do not display the classical case of the so-called *that*-trace effect (they allow extraction of subjects of embedded non-interrogative CPs) and Slovene also lacks the COMP-trace effect. In light of these empirical facts, the filter form in (19) had been proven to be inadequate, thus Merchant (2001:80) relativized it to refer only to Wh C^0 .

(21) *C[+wh] [x...], where x is a prosodic constituent containing no phonetic exponence, if C[+wh] has phonetic exponence.

The relativized filter form, as given above in (21), rules out ill-formed constructions containing non-operator elements in the C field in wh-sluices; without, at the same time, running into problems with constructions in which an overt complementiser is compatible with an ensuing trace, or in terms of the copy theory, with a phonetically unrealized constituent. It seems uneconomical, though, to assume that the sluicing remnant is not only the element that occupies Spec, CP but also the C head, and implement additional generalizations that would ban the phonetic realization of the C head. Furthermore, such generalizations do not explain why the presence of "non-operator material" in sluices should induce marginality.

Drawing on Phase Theory, I propose that sluicing derives from the *Non-Transfer* of the C phase domain to the Phonological Component (PC), a process which is semantically licensed when the computed phase has an appropriate antecedent. Diverging from Phase Theory assumptions regarding the domain of a phase, I suggest that the phase domain which is relevant for Transfer operations to the Interfaces involves the phase head as well³. The idea defended here is that the domain of a CP phase computed by narrow syntax is *Non-Transferred* to the PC (that is, its Transfer to the PC is blocked) when it has an appropriate antecedent. This yields the *non-pronunciation* of the sluiced material which as underlined, involves not only the IP but the C head as well. Due to space limitation, the theoretical and empirical advantages of this proposal cannot be discussed in detail. Nevertheless, it suffices to underscore that

³ On the assumption that the effects of the Spell-Out apply at the next strong phase level, the phase head can be part of the phase domain which is relevant for Transfer to the Interfaces.

this approach to sluicing accommodates the CG data as well as other cross-linguistic data, dispensing with postulating filter forms and generalizations. Furthermore, it dispenses with assuming deletion operations which apply at the PC. The sluiced material never reaches the PC, which is a more economical analysis than assuming that sluiced material is first Transferred to the PC and then is deleted. Finally, this approach dispenses with *look-ahead* in the derivation in establishing that a part of the structure has an appropriate antecedent, by assuming computed phases to be Transferred to the Semantic Component (SC) first and then to the PC. In this way, the SC can apply to the computed phases and define which of them have an appropriate antecedent before Transfer to the PC applies. This allows the SC to license *Non-Transfer* (block Transfer) of sluices to the PC.

5. Concluding remarks

This paper argued that the asymmetry with respect to the occurrence of *embu* in CG interrogatives derives from the fact that 'mbu in inda wh-arguments and embu in other wh-questions do not occupy the same syntactic position. Embu occupies a C head position in CG interrogatives, whereas 'mbu occupies along with inda the Spec,CP position in inda wh-arguments. This follows from the reanalysis of inda and 'mbu into a wh-element which occupies Spec,CP. The syntactic behavior of indambu with respect to sluicing was crucial to the development of the 'reanalysis' account. Specifically, in view of the empirical fact that only wh-elements, that is elements occupying the Spec,CP position, are legitimate to appear as sluicing remnants, I argued that the occurrence of inda along with 'mbu in sluices indicates that indambu is a wh-element occupying Spec,CP.

Finally, since an IP deletion approach to sluicing could not adequately account for the empirical generalization drawn from the data (that is, only elements hosted in Spec, CP can be sluicing remnants), I suggested a different approach to sluices drawing on current assumptions regarding the way syntax interacts with the PC. In short, I proposed that sluicing derives from the *Non-Transfer* of a C phase domain (which crucially involves the phase head (C^0)) to the PC which is licensed when this has an appropriate antecedent.

References

Agouraki, Y. (2010). "It-clefts and Stressed Operators in the Preverbal Field of Cypriot Greek". *Lingua* 120(3), 459-780.

Boeckx, C. (2000). "A note on contraction". Linguistic Inquiry 31, 357-366.

Chomsky, N. & Lasnik, H. (1978). "A remark on contraction". Linguistic Inquiry 10, 268-274.

Grohmann K., Panagiotidis P. & Tsiplakou S. (2006). "Properties of Wh-Question Formation in Cypriot Greek". Proceedings of the 2nd International Conference of Modern Greek Dialects and Linguistic Theory (Mytilene, Greece, 30 September–3 October 2004), 83–98.

Hatzidakis, G. (1989-90). Meseonika ce Nea Ellinika (Medieval and Modern Greek). Adolf M. Hakkert. Hornstein, N. (1999). "Movement and Control". *Linguistic Inquiry* 30, 69-96.

Merchant, J. (2001). The syntax of silence: sluicing, islands, and identity in ellipsis. New York: OUP.

Munaro, N. & Pollock, J. Y. (2005). "Qu'est-ce que (qu)-est-ce que? A case study in comparative Romance interrogative syntax". In G. Cinque and R.S. Kayne (eds), *The Oxford Handbook of Comparative Syntax*. New York: Oxford University Press, 542-606.

Panagidou, F. (2009). *Clefts and wh-question formation in Cypriot-Greek*. MA thesis. Utrecht University. Roussou, A. (2000). "On the left periphery: Modal particles and complementisers". *Journal of Greek Linguistics* 1: 65–94.