Sluicing in Dravidian: Tracing the source [1]

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1.   Introduction

Conventionally, Dravidian languages are described as being *wh*-in-situ (Subba Rao 2012). Jayaseelan (2001 *et seq.*) proposes that there is (partial) *wh*-movement to IP internal Focus positions, taking the fact that the *wh*-subject surfaces not clause-initially but between the objects and the final verb, as the primary evidence, among other diagnostics. In a revival of the *wh*-in-situ idea, Mathew (2014) argues that the finite verb in Dravidian is in C, with the *wh*-material in-situ, while the other arguments move to Topic positions, creating the illusion of *wh*-movement to a preverbal position. This paper seeks to establish which of these proposals is on the right track for Dravidian, using as the divining rod, characteristics of sluicing, a phenomenon that has not been discussed in any of the previous literature on Dravidian.

Dravidian has sluicing, as shown in (1), with a matrix sluice in (1a), and an embedded sluice in (1b) —all the data in this paper are from Telugu, but the same essential facts obtain in the other major Dravidian languages. Cross-Dravidian differences will surely crop up at various points as the finer details of the terrain of sluicing are covered, and will be explored as the project progresses. I am using here the terminology of Vicente (2014), where the term 'sluicing' applies to any construction with a *wh*-remnant.

(1)   a. raamu eed-oo   konnaaDu. —avunaa?! eemiTi?
          Ramu what-DISJ bought.   Really   what
          'Ramu bought something. —Really?! What?'

       b. raamu eed-oo   konnaaDu, kaani eemiT-oo naa-ku tel-iyadu.
          Ramu what-DISJ bought,   but   what-DISJ I-DAT   know-not
          'Ramu bought something, but I don't know what.'

If Dravidian is *wh*-in-situ (and *wh*-movement to Spec CP, followed by deletion of IP, is

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unavailable), there are two possibilities for the source. The first, the source for sluicing (or in another terminology, pseudo-sluicing[2] (Merchant 1998)) is copular –either a simple copular structure, with null subject and null copula (as in Chinese; Adams (2004), Wei (2004)), or a reduced cleft structure[3] (as in Japanese; Kizu 1997). The second, is the view of sluicing proposed for *wh*-in-situ languages like Farsi (Toosarvandani 2008) and Turkish (Ince 2012), that there is exceptional *wh*-movement to Spec CP in sluicing, followed by deletion of IP, and that it is not the weak *wh*-features that result in the overt *wh*-movement, but what causes and permits the overt raising of *wh*-expressions to the CP-domain is the checking of focus rather than *wh*-features, that come into play in the information structure mechanism needed for sluicing.

On the face of it, the IP-internal *wh*-movement structure for Dravidian (Jayaseelan 2001, *et seq*.) runs into trouble as a possible source for the sluice, because the *wh*-remnant would be an intermediate position that is pronounced, while phrases on either side of it are elided, and they don't form a constituent, as shown in (2). But another structure[4] that is formed in this derivation, prior to the subject moving out of the vP could be a viable source for the sluice, as shown in (3), because the elided material is one contiguous constituent separate from the *wh*-remnant.

(2) ..., kaani [$_{IP}$ ~~raamu$_j$~~ I [$_{FocusP}$ eed$_i$] [$_{vP}$~~t$_j$ konnaaDu t$_i$~~]] -oo] naa-ku tel-iyadu
  ..., but   what   bought   -DISJ I-DAT   know-not

(3) ..., kaani [$_{IP}$ I [$_{FocusP}$ eed$_i$] [$_{vP}$~~raamu konnaaD t$_i$~~]] -oo] naa-ku tel-iyadu
  ..., but   what   bought   -DISJ I-DAT   know-not

This account will not have any problem accounting for the case-matching effects that we will see later on, because the *wh*-remnant comes from a case-marking position. It will also not have a problem with multiple-sluicing (that is possible in Telugu), because multiple *wh*-elements can occur in focus positions in the preverbal field in the IP (Jayaseelan 2001).

Mathew (2014) claims that in the verb-final construction in Malayalam, the verb undergoes V-to-C movement, while the *wh*-phrase is in-situ, and it has no freedom of movement[5]. All the other elements in the clause mandatorily move out of the vP to higher Topic positions, making the *wh*-word appear in the immediately preverbal position, creating the illusion that the *wh*-word has moved to the left of V. [6] The sluice source in such an analysis

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[2]If sluicing is defined as IP-deletion, leaving behind a CP remnant, where the moved *wh*-element is pronounced in SpecCP, then the term cannot apply to *wh*-in-situ languages. Instead such constructions are called Sluicing Like Constructions (SLC), as in Manetta (2013), Paul & Potsdam (2012), Gribanova (2013).

[3]This is also termed a Truncated Cleft. Even some languages exhibiting overt *wh*-movement have been claimed to exhibit cleft strategies to form sluicing structures (Vicente 2008, van Craenenbroeck 2010).

[4]A structure with a null subject in Spec IP is also a possible source, but that would mean the subject can sometimes be overt. But it never shows up in the sluices, and therefore rules this possibility out.

[5]She proposes another structure for clefts, the *aanu* construction, that demands obligatory movement of certain *wh*- phrases to the pre-auxiliary position, which is much like the exceptional *wh*-movement to SpecCP structure we have already enumerated. Hence we won't consider it separately.

[6]This analysis is contra the analysis in Jayaseelan (2001), that the *wh*-phrases undergo obligatory movement to a Focus phrase at the left periphery of the vP in Dravidian, and that the other elements in the complement of V then moves to the left of the Focus position, to higher Topic positions.

would be a structure like the one given in (4). At no point in the derivation would the subject and the verb form a constituent to the exclusion of the *wh*-remnant. Therefore, deletion would have to involve a discontinuous string, or there would have to be two deletion operations targeting two different constituents. This problem seems unsurmountable for this approach, if the source of the sluice has to come from a normal *wh*-structure derivation.

(4) ..., kaani [$_{CP}$[$_{TopP}$~~raamu$_j$~~] [$_{vP}$t$_i$ eedi ~~konnaaDu~~] -oo] naa-ku tel-iyadu
    ..., but   what bought   -DISJ I-DAT   know-not

As pro-drop and null copula are both features of Dravidian, as shown in (7)-(9), a copular structure, like in (6), could be a possible source for the sentence in (1b). But a copular structure is ruled out because the *wh*-remnant gets variously case-marked, obligatorily matching the case on the correlate[7], as shown in (11). The subjects in copular structures mostly bear nominative case, and cannot bear accusative case as shown in (10).

(6) raamu eed-oo   konnaaDu, kaani [*pro* eemiT-oo ϕ] naa-ku tel-iyadu.
    Ramu what-DISJ bought,   but   what-DISJ I-DAT   know-not
    'Ramu bought something, but I don't know what.'

(7) vacc-eeDu
    came-3MS
    '(He) came.'

(8) idi pustakamu
    this book
    'this is a book'

(9) naa-ku rendu carlu
    I-DAT two   cars
    'I have two cars'

(10) *nannu presidentu
     I-ACC   president
     'Me, President'

(11) a. raamu evari-n-oo   koTTeeDu, evari-n-oo/*evar-oo   naa-ku telusu.
       Ramu who-ACC-DISJ hit,   who-ACC-DISJ/who-DISJ I-DAT   know
       'Ramu hit someone, I know who(m).'

     b. raamu evari-k-oo   pustakam icceeDu, evari-k-oo/*evar-oo   naa-ku telusu.
       Ramu who-DAT-DISJ book   gave,   who-DAT-DISJ/who-DISJ I-DAT   know
       'Ramu gave the book to someone, I know who (to).'

However, when a demonstrative is present along with the *wh*-word, a copular structure is clearly the source, as shown in (12).

(12) raamu eed-oo   konnaaDu, kaani [adi eemiT-oo] naa-ku tel-iyadu.
    Ramu what-DISJ bought,   but   that what-DISJ I-DAT   know-not
    'Ramu bought something, but I don't know what that (is).'

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[7]Telugu obeys the 'Form Identity Generalisation I' of Merchant (2001):

(5) *Form Identity Generalisation I: Case-Matching*
    The sluiced *wh*-phrase must bear the case that its correlate bears.

At this point, after our initial exploration of sluicing in Dravidian, we are left with three viable options for the source structure in sluicing constructions –a cleft source (with ellipsis of the CP cleft clause that the *wh*-pivot comes out of); a source with exceptional *wh*-movement to SpecCP (induced by focus features) and deletion of IP; and, an IP-internal move-and-delete source (with movement of *wh*-remnant to IP-internal FocusP and deletion of the vP with the subject in Spec vP). In one source the CP is deleted (reduced cleft), in the second source, the IP is deleted (exceptional full *wh*-movement), and in the third, the vP is deleted (IP-internal *wh*-movement). We can test for the height and extent of the deletion in Dravidian sluicing by testing with various elements that occur at various heights in the clausal tree, like adverbs, negation, auxilliaries, etc., to see if they survive elision in the sluice or not. If they do, elision is below that height, and if they don't, elision encompasses that height. Thus, such carefully constructed data will help us choose between these three possible sources for Dravidian sluicing.

2.   Tracing the source: Is it CP, IP, or, vP deletion?

2.1   Testing with material positioned between IP and vP

Here we will use some of the tests developed by Manetta (2013) for diagnosing the sluicing structure in Hindi-Urdu.

2.1.1   Sentential negation in sluicing structures

In Telugu, when the correlate has negation, negation has to be interpreted inside the site of the ellipsis, as shown in (13).

(13)   a. raamu eed-oo   kon-a-leedu. eemiT-oo naaku teliy-adu
            Ramu what-DISJ buy-NEG.   what-DISJ I-DAT   know-NEG
            'Ramu did not buy something. I don't know what.'
       b. = Ramu did not buy something. I don't know what Ramu did not buy.
       c. ≠ Ramu did not buy something. I don't know what Ramu bought.

   Also, negation cannot appear outside the ellipsis site, as shown in (14).

(14)   raamu eed-oo   kon-a-leedu. *eemiTi kaad-oo naaku teliy-adu
        Ramu what-DISJ buy-NEG.   what   not-DISJ I-DAT know-NEG
        'Ramu did not buy something. I don't know what not.'

It is standardly assumed that negation is projected below the IP, and the verb picks up the negation suffix along the way to I. If sluicing in Dravidian is elision of the vP, with the *wh*-remnant in the IP-internal, vP left-adjacent FocusP, then negation should not be present in the interpretation in (14), and it should be possible for negation to appear outside the site of ellipsis in (14), along with the *wh*-remnant. But neither of them is the case here.

2.1.2 Speaker/Subject oriented adverbs

Along the same lines as the tests with negation, testing with adverbs adjoined above the vP, as shown in (15) and (16), again reveals that the elision has to include material above the vP.

(15) a. telivi-gaa   evar-oo daakunnaaru. evar-oo naaku telusu
           intelligence-gaa who-DISJ hid.   who-DISJ I-DAT know.
           'Cleverly, someone hid. I know who'
    b. = Cleverly, someone hid. I know who clevery hid.
    c. ≠ Cleverly, someone hid. I know who hid.

(16) telivi-gaa   evar-oo daakunnaaru. *telivi-gaa   evar-oo naaku telusu
      intelligence-gaa who-DISJ hid.   intelligence-gaa who-DISJ I-DAT know.
      'Cleverly, someone hid. I know who cleverly.'

2.1.3 Does Dravidian have vP ellipsis in general?

If the elision of vP-sized constituents is generally not possible in Dravidian, it will make the vP level elision in sluicing a less likely possibility, as that would make it a special and exceptional mechanism, that is not otherwise available in the language. By examing V/v-stranding vP ellipsis, and possibly light-verb ellipsis (Toosarvandani 2009), we can figure out how widely available vP ellipsis is as a strategy in Dravidian. This exploration is left for future research, following the lead of Takahashi (2013), and Simpson *et al.* (2013).

    At the end of this sub-section, we can conclude that the height of the elision in the Dravidian sluice is above the level of the vP, based on the two tests we deployed.

2.2   Is the sluice derived by IP deletion after high focus movement?

There are languages where *wh*-fronting triggered by high focus movement, mediated by a [Foc]-feature, followed by deletion of the IP, feeds sluicing, as is proposed for *wh*-in-situ languages like Farsi (Toosarvandani 2009), & Turkish (Ince 2012), and *wh*-movement languages like Hungarian, Czech & Romanian (van Craenenbroeck & Liptak 2013). Could the Dravidian sluice structure also involve exceptional focus movement of the interrogative phrase to a left peripheral position in the C domain, followed by deletion of the rest of the clause, the IP?

    Toosarvandani (2009) proposes that sluicing in Persian is fed by movement to a high focus projection (above IP). There is evidence that this position is independently active in Persian for contrastive focus (Karimi 2003), as shown in (17)

(17) giti midune ke pesTE   sohraab xaride.   FARSI
      Giti know.3SG that pistachio Sohrab bought.3SG
      'Giti knows that Sohrab bought PISTACHIOS.'

While Dravidian features focus movement, it is not left-peripheral but to a preverbal position inside the IP. Previous work (Jayaseelan 1999, 2001) suggests that the unmarked position for both interrogative and non-interrogative focus in Dravidian is low, immediately preceding the clause-final verb, as shown in (18)-(20).

(18) raamu pustakam ravi-ki   icceeDu
      Ramu book   Ravi-DAT give-PST
      'Ramu gave the book to RAVI.'

(19) pustakam ravi-ki   raamu icceeDu
      book   Ravi-DAT Ramu give-PST
      'RAMU gave the book to Ravi.'

(20) giti-ki   telusu sohrab pistacio-lu konnaaDu   ani
      Giti-DAT know Sohrab pistachios bought.3SG that
      'Giti knows that Sohrab bought PISTACHIOS.'

So there is no evidence that a high focus position is independently active in Telugu, and a sluicing structure derived by high focus movement of the *wh*-element to the CP, followed by IP deletion is unlikely.

2.2.1 Comparison with focus fronting in Persian

If sluicing involves deletion of IP, then we expect that the complementizer should be able to appear in a sluice. This expectation is borne out in Persian (Toosarvandani, to appear). Sluicing in Persian can leave behind not just a *wh*-phrase remnant, but also a complementizer and a topicalized phrase.

But this is not possible in Dravidian. Sluicing can leave behind neither the complementizer nor a topicalized phrase along with the *wh*-remnant, as shown in (21)-(22)

(21) raamu eed-oo   konnaaDu, *kaani eemiT-oo ani naa-ku tel-iyadu.
      Ramu what-DISJ bought,   but   what-DISJ that I-DAT   know-not
      'Ramu bought something, *but I don't know that what.'

(22) raamu pustakaalu bommalu evari-koo icceeDu. *naa-ku telusu pustakaalu
      Ramu books   toys   who-DISJ gave.   I-DAT   know books
      evari-koo.
      who-DISJ
      'Ramu gave books and toys to someone. *I know the books to whom'

At the end of this sub-section, we have successfully excluded an IP-deletion account for Dravidian sluicing.

2.3 Could it be a case of stripping?

Before going further, we should check to make sure that the construction we are examining in Telugu is, in fact, a type of sluicing and not stripping (Hankamer 1979, Merchant 2005), also called bare argument ellipsis, e.g. *Suzanne plays cello, and Michael too*, where

everything in the second conjunct goes missing except for the single constituent *Michael*, the non-*wh*-phrase which is focus-moved.

There are two properties of stripping that distinguish it from sluicing (and the other ellipsis constructions like verb phrase ellipsis and noun phrase ellipsis) (Lobeck 1995). First, stripping is ungrammatical in embedded contexts (23), while sluicing is fine in this environment (24)

(23)   *Suzanne plays cello, and I think that Michael too.   STRIPPING

(24)   Suzanne plays something, but I don't think she ever told me what.   SLUICING

The sluicing construction in Telugu, too, can be embedded, as shown in (25)b, whereas the stripping structure cannot, as shown in (25)a.

(25)   a. raamu oka pustakam konnaaDu. ravi kuuDaa *(konnaaDu) *pro* anukunnaanu
            Ramu a   book   bought. Ravi too   (bought)   thought
            'Ramu bought a book. *I thought Ravi too.'
        b. ii   vigraham 3rd century-loo ceyya-baDDadi. evari-dwaaraa-n-oo naaku
            this statue   3rd century-IN made-PSV.   who–BY-DISJ   I-DAT
            telusu ani anukunnaanu
            know that thought
            'This statue was made in the 3rd century. I thought that I know by who'

Second, stripping cannot occur before its antecedent, as illustrated in (26). This contrasts with sluicing which, as shown in (27), can precede its antecedent (as long as it does not command it).

(26)   *Michael too, and Suzanne plays cello.   STRIPPING

(27)   I don't know what, but I'm sure Suzanne plays something.   SLUICING

In Telugu, a sluice is also able to precede its antecedent, as shown in (28).

(28)   eemiT-oo teliyadu   kaani, raamu eed-oo   vastu konnaaDu ani naaku telusu
        what-DISJ know-not but,   Ramu what-DISJ thing bought   that I-DAT know
        'I don't know what, but I know that Ramu bought something.'

Hankamer (2011) criticizes the analysis of Turkish sluicing in Ince (2012), pointing out that the seemingly embedded context is actually a root question which has undergone stripping, followed by the separate assertion *I don't know*. But this can't be a possible analysis in Telugu, because the *wh*-remnant can intervene between the matrix subject and predicate as shown in (29), thus ruling out an intonational aside.

(29)   raamu eed-oo   konnaaDu, kaani naaku eemiT-oo tel-iyadu.
        Ramu what-DISJ bought,   but   I-DAT what-DISJ know-not
        'Ramu bought something, but I don't know what.'

Therefore, we can conclude that what we see in Telugu is not an instance of stripping, because the sluicing construction can tolerate some distance and complexity in structure between the antecedent and the ellipsis site, whereas stripping has to be extremely local.

2.4 The source is not a deep cleft / pseudocleft

The source can't be a pseudocleft either, because the pivot of the pseudocleft always bears nominative case, it cannot bear any other case, as shown in (30). The sluice in Telugu shows obligatory case-matching, and can bear non-nominative case, as we saw in (11).

(30)   a.   *neenu koTT-in-a-vaaDu raamu-ni
            I   hit-PST-REL-3MS   Ramu-ACC
            'Who I hit is Ramu'

   b.   *neenu pustakamu icc-in-a-vaaDu   raamu-ki
            I   book   give-PST-REL-3MS Ramu-DAT
            'Who I gave the book to is Ramu'

   The pivot of the pseuodcleft can't be non-subject arguments. Objects/adjuncts cannot be pivots, as shown in (31)-(32). The *wh*-remnant of a sluice can be an object/adjunct.

(31)   *neenu koTT-in-a-vaaDu raamu   (32)   *neenu bomma icc-in-a-vaaDu   raamu
         I   hit-PST-REL-3MS   Ramu   I   toy   give-PST-REL-3MS Ramu
         'Who I hit is Ramu'   'Who I gave the toy to is Ramu'

   The verb in the Dravidian pseudocleft agrees with the pivot DP, as shown in (33).

(33)   nannu koTT-in-a-vaaDu/vaallu raamu/pillalu
         I-ACC   hit-PST-REL-3MS/3P   Ramu/kids
         'Who hit me is Ramu/kids'

   The differences between clefts and pseudoclefts in general are listed in (34), and they are true of Dravidian as well, as we see from the above data for pseudoclefts, and the properties of clefts in Telugu that will be presented in the next subsection. So we can draw a clear line between the two constructions —clefts and pseudoclefts in Dravidian. This is necessary because the two are sometimes quite similar on the surface, and we don't want to mix up the properties of clefts and pseudoclefts in our analysis of sluicing.

(34)

Pseudocleft / Deep cleft	*Cleft / Shallow cleft*
Verb agrees with the pivot DP	Verb bears default agreement
No case matching on the pivot	Case matching on the pivot
Pivot can only be an argument	Pivot is an argument or adjunct

2.5 The source is a cleft: CP deletion at work

Obligatory case-matching on the remnant[8], and a remnant that can be argument or adjunct, still leaves a reduced cleft structure as a possible source (also considering that cleft ques-

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[8]This also eliminates a base-generation model of sluicing as in Chung et al. (1995), where the sluiced *wh*-phrase is directly merged in Spec CP, because it cannot account for case marking that would have to be assigned in a case-marking position or merged in a theta position with lexical case. For case-matching, the *wh*-phrase must be assigned case in a clause-internal position and then moved before deleting the rest of that clause.

tions are such a prevalent strategy in this language family) for sluicing, because the pivots of clefts can be variously case-marked in Dravidian, as shown in (36)[9]. In clefts in Telugu, an overt expletive is absent, and the copula is also null.

(35) raamu koTT-in-di ravi-ni
  Ramu hit-PST-CLM Ravi-ACC
  'It is Ravi that Ramu hit.'

(36) raamu pustakam is-tun-di   ravi-ki
  Ramu book   give-CONT-CLM Ravi-DAT
  'It is Ravi that Ramu is giving the book to.'

Reduced-cleft sources of sluicing are possibly formed by ellipsis of a CP constituent in underlying cleft constructions, as shown in (37). This source is clear in a sentence like (38), where the cleft marked verb is overt.

(37)   ..., kaani [*pro*[$_{TopicP}$[$_{CP}$ ~~ramu t$_i$ konnadi~~]] [$_{FocusP}$ eemiT$_i$]-oo] naa-ku tel-iyadu
   ..., but   what-DISJ I-DAT know-not
   'Ramu bought something, but I don't know what (it is that Ramu bought).'

(38)   a. raamu eed-oo   konnaaDu, kaani konn-adi   eemiT-oo naa-ku tel-iyadu.
     Ramu what-DISJ bought,   but   bought-CLM what-DISJ I-DAT   know-not
     'Ramu bought something, but I don't know what (it is that Ramu) bought .'
   b. ..., kaani [*pro*[$_{TopicP}$[$_{CP}$ *~~pro~~* t$_i$ konnadi]] [$_{FocusP}$ eemiT$_i$]-oo] naa-ku tel-iyadu
     ..., but   what-DISJ   I-DAT   know-not

There are *wh*-in-situ languages, like Turkish, which also show case-matching on the *wh*-remnant, where a reduced-cleft source for sluicing can be discounted based on multiple sluicing. In Turkish, while multiple *wh*-remnants are possible in a sluiced structure, multiple *wh*-pivots are not possible in a cleft structure (Ince 2012), ruling out ellipsis in a cleft structure as the source. A number of languages, including English, do not allow multiple pivots in clefts. So multiple sluicing could be a good test to rule out a cleft source —if a language allows multiple sluicing, but not multiple pivots in clefts, then clefts can't be the source for the sluice.

  Telugu allows multiple *wh*-remnants in the sluice, as illustrated in (39), with multiple arguments –(39)a, and, an argument plus an adjunct –(39)b.

(39)   a. raamu evar-ik-oo   eed-oo   icceeDu, evar-ik-oo   eed-oo   naa-ku telusu.
     Ramu who-DAT-DISJ what-DISJ gave,   who-DAT-DISJ what-DISJ I-DAT   know
     'Ramu gave someone something, I know whom what.'
   b. raamu ekkaD-oo eed-oo   konnaaDu, ekkaD-oo eed-oo   naa-ku telusu.
     Ramu where-DISJ what-DISJ bought,   where-DISJ what-DISJ I-DAT   know
     'Ramu bought something somewhere, I know what where.'

Does Telugu also allow multiple pivots in clefts? Controlling for non-interference of comma intonation, while keeping the focus intonation on the multiple cleft pivots is tricky, but it does seem like multiple pivots are allowed in clefts, as shown in (40).

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[9]Here CLM = Cleft marker (3rd Person non-masculine agreement).

(40)   a.   raamu icc-in-di   ravi-ki   pustakam
             Ramu   give-PST-CLM Ravi-DAT   book
             'It is a book to Ravi that Ramu gave.'

        b.   raamu icc-in-di   evari-ki   eemiTi?
             Ramu   give-PST-CLM who-DAT   what
             'What is it to whom that Ramu gave?'

The properties of the sluicing remnants and cleft pivots match (more data will be illustrated in §3). In sluicing in Telugu, the *wh*-remnant obligatorily case-matches the correlate. In addition, not only argument, but also adjunct *wh*-phrases can be sluiced. Postposition pied-piping is obligatory in sluicing structures –Telugu obeys the 'Form Identity Generalisation II' of Merchant 2001, as shown in (41), and multiple sluicing is permitted.

(41)   a.   raamu pustakamu deeni pakka-noo daaceeDu. kaani deeni pakka-n-oo
             Ramu   book   which next-DISJ   hid.   But   which next-DISJ,
             naaku teliyadu
             I-DAT know-not

             'Ramu hid the book next to something, but I don't know next to which.'
        b.   raamu ninna   raattiraa pustakamu cadiveeDu. kaani eppuDu vara-k-oo
             Ramu   yesterday night   book   read.   But   when   till-DISJ,
             naaku teliyadu
             I-DAT know-not

             'Ramu read the book last last night. But I don't know till when.'

In cleft structures in Telugu, the pivot can bear various cases. Not only argument, but also adjunct pivots are possible. Postposition pied-piping is obligatory with the pivot, and multiple pivots are permitted. So clefting in Telugu has all the properties that make it a good candidate for the sluice source –the pivot can get various cases, the pivots can be multiple, and the elided material in the cleft clause forms a single constituent.

Cross-linguistically, apparently *wh*-in-situ, SOV languages have shown two patterns of sluicing, as given in (42). In the Japanese[10] type of *wh*-in-situ language, the characteristics of sluicing match with the characteristics of clefting, making a cleft-source for sluicing very likely. In the Turkish type of *wh*-in-situ language, the characteristics of sluicing are very unlike the characteristics of clefting, making the cleft-source unviable[11]. As shown in (42), Dravidian patterns with the Japanese type of languages, with the important exception of contrastive clefting/sluicing, which is discussed next.

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[10]The data is more complex than is presented here for Japanese, which pertains to a certain subset of the Japanese sluicing data.

[11]Ince (2012) proposes that in Turkish sluicing structures, what causes and permits the overt raising of *wh*-expressions to the CP-domain is the checking of focus rather than *wh*-features, because in Turkish, *wh*-features are weak, as the language is *wh*-in-situ, and so it cannot be *wh*-features that result in the overt *wh*-movement of sluicing.

(42)

	Japanese		Telugu		Turkish	
	Cleft	Sluice	Cleft	Sluice	Cleft	Sluice
Case matching	Y	Y	Y	Y	N	Y
Multiple *wh*	Y	Y	Y	Y	N	Y
Adjunct *wh*	Y	Y	Y	Y	N	Y
Pied-piped post-positions	Y	Y	Y	Y	N	Y
Contrastive *else* modification			Y	N		

2.6   A puzzle: no contrast sluicing

In a kind of sluicing construction called contrast sluicing (Merchant 2001), the correlate is definite and the remnant asks for alternatives to the correlate. An example from English is given in (43). In Dravidian, contrast sluicing is not possible, as shown in (44). The vP is obligatory in the contrastive phrase in these constructions, as shown in (45).

(43)   She met RINGO, but I don't know who else.   Merchant (2001, 2008)

(44)   a.   raamu podduna oka iDli tinnaaDu. *kaani inkaa eemiT-oo naa-ku tel-iyadu
             Ramu morning one idly ate.   but   still   what-DISJ I-DAT   know-not
             'Intended: Ramu ate an idly in the morning, but I don't know what else. '
       b.   raamu siita-ki oka pustakam icceeDu, *kaani inkaa emiT-oo naa-ku
             Ramu Sita-DAT one book   gave,   but   still   what-DISJ I-DAT
             tel-iyadu
             know-not
             'Intended: Ramu gave Sita a book, but I don't know what else. '

(45)   a.   ... kaani raamu podduna tinnadi inkaa eemiT-oo naa-ku tel-iyadu
             but   Ramu morning ate-CLM still   what-DISJ I-DAT   know-not
             '... but I don't know what else it is that Ramu ate in the morning. '
       b.   ... kaani raamu siita-ki iccindi   inkaa emiT-oo naa-ku tel-iyadu
             but   Ramu Sita-DAT gave-CLM, still what-DISJ I-DAT   know-not
             '...I don't know what else it is that Ramu gave to Sita. '

Why is contrast sluicing not possible in Telugu, when regular and multiple sluicing are? Could the explanation be a cleft source? After all, clefts don't allow contrasting in English, as shown in (46).

(46)   John ate an apple. *But I don't know what else it is that he ate.

So could a cleft source explain why a contrast sluice is not possible in Telugu? As it turns out, contrastive pivots are possible in clefts in Telugu, as shown in (60).

(47)   raamu apple tinnaaDu. vaaDu tin-in-di   inkaa eemiT-oo naaku teliyadu
         Ramu apple ate.   He   eat-PST-CLM still   what-DISJ I-DAT know-not
         'Ramu ate an apple. I don't know what else it is that he ate.'

The puzzle therefore still remains unsolved. To be in a position to solve it, we first need to determine the structure of the Dravidian cleft that is the source for the sluice. This will be taken up in the next section.

At the end of this section we are forced to conclude that the only viable option for the source of sluicing in Dravidian is a reduced or truncated cleft. In the next section we get down to analyzing the exact structure of the copular cleft that feeds sluicing.

3. The structure of the sluicing cleft in Dravidian

The source of the sluicing structure in Dravidian is the cleft, more precisely, the *wh*-cleft. A normal *wh*-cleft construction in Telugu is illustrated in (48)-(49). The neutral position for the cleft focus is at the end of the sentence, after the cleft-marked verb.

(48) raamu koTT-in-di evari-ni
Ramu hit-PST-CLM who-ACC
'Who is it that Ramu hit?'

(49) evari-ni raamu koTT-in-di
who-ACC Ramu hit-PST-CLM
'Who is it that Ramu hit?'

I follow Jayaseelan (1999, 2001) in analyzing cleft constructions in Dravidian as movement to focus positions[12] in IP, as shown in (50) —The verb 'be' takes a clausal complement; and a focused phrase from within this clausal complement is moved into the focus position above the VP headed by 'be'. The copula is null in Telugu; and since Dravidian has pro-drop, the subject position can be filled by *pro*.

(50)
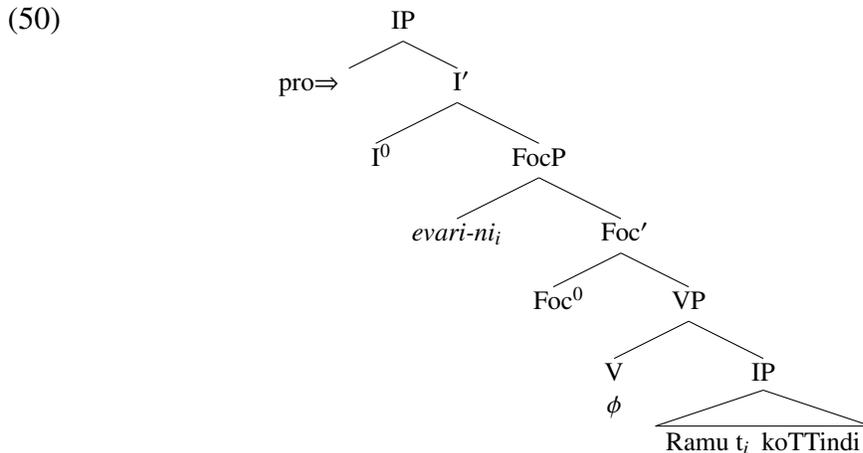
As Jayaseelan & Amritavalli (2005) point out, normally, the movements to IP-internal topic and focus positions are clause internal, not long-distance [13]. There is no independent evidence for successive-cyclic movement of *wh*-phrases in any Dravidian language. A *wh*-phrase in an embedded clause cannot move to the focus position of the matrix clause, as illustrated with Telugu data in (51).

---

[12]A non-movement analysis of clefts is proposed for Malayalam clefts in Mohanan (1982).

[13]But long-distance topicalization, as they note, is always possible to clause-initial position in Dravidian. So in the default order in Telugu, shown in (48), the entire presuppositional cleft clause is long-distance topicalized to the left of the cleft pivot, which is in the focus position.

(51)   a. *ravi [raamu t_i cuuseeDu ani] evari-ni$_i$ annaaDu ?
         Ravi Ramu   saw   COMP who-ACC said

      b. *ravi evari-ni$_i$ annaaDu [raamu t_i cuuseeDu ani] ?
         Ravi who-ACC said   Mary . saw   COMP
         Intended: 'Who did Ravi say that Ramu saw?'

This presents a problem for the cleft analysis because the *wh*-phrase does move out of the embedded clause to the pivot position in the matrix clause. There is also an asymmetry of floating in short-distance clefts (clefts with pivots from matrix clauses) but lack of floating in long-distance clefts (clefts with pivots coming out of embedded clauses[14]).

They solve the two problems by analyzing the operations underlying short-distance and long-distance clefting as different, and showing that the operation that results in the long-distance cleft allows long-distance extraction but not floating, and the operation that results in the short-distance cleft allows floating but not long-distance extraction.

We will look at the properties and structure of long-distance and short-distance clefts next.

3.1   Short and long-distance clefts: IP clefts & CP clefts

Long-distance clefts are clefts whose pivots come out of embedded clauses, as shown in (52)a - (53)a. The Long-distance cleft does not allow floating, as shown in (52)b,c - (53)b,c.

(52)   a. ravi naa-ku raamu koTTeeDu ani ceppin-(a)-di **ramesh-ni**
         Ravi I-DAT Ramu hit   that said-REL-CLM Ramesh-ACC
         'It is Ramesh that Ravi told me that Ramu hit.'

      b. * V **rameshni** naaku M koTTeeDu ani ceppindi

      c. * V naaku **rameshni** M koTTeeDu ani ceppindi

(53)   a. ravi raamu koTTeeDu ani ceppin-(a)-di **evari-ni**
         Ravi Ramu hit   that said-REL-CLM who-ACC
         'Who is it that Ravi said that Ramu hit?'

      b. * V **evari-ni** M koTTeeDu ani ceppin-(a)-di

      c. * V M **evari-ni** koTTeeDu ani ceppin-(a)-di

Jayaseelan & Amritavalli (2005) propose that the pivot moves out of the CP cleft clause in long-distance clefts by relativization[15], a well known long-distance movement, into the focus position of the (null) copular clause. Relativization uses an 'escape hatch' in the C-system to extract the phrase out of the relativized clause, as shown in (54). So like relativization, this clefting operation is also long-distance, is also island sensitive, and also does not allow floating.

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[14]Crucially, even floating from the matrix part of the cleft clause is not possible in a long-distance cleft, as they mention, thus ruling out a 'finiteness' based solution, a possibility, considering that the cleft clause is nonfinite.

[15]They reanalyze the cleft marking, not as default agreement, but as a form of the relativizer.

(54) Jayaseelan and Amritavalli (2005) structure for the Dravidian long-distance cleft

IP
pro⇒ I′
I⁰ FocP
evari-ni$_i$ Foc′
Foc⁰ VP
V CP
φ
Ravi [Ramu t$_i$ koTTeeDu] ani ceppinadi
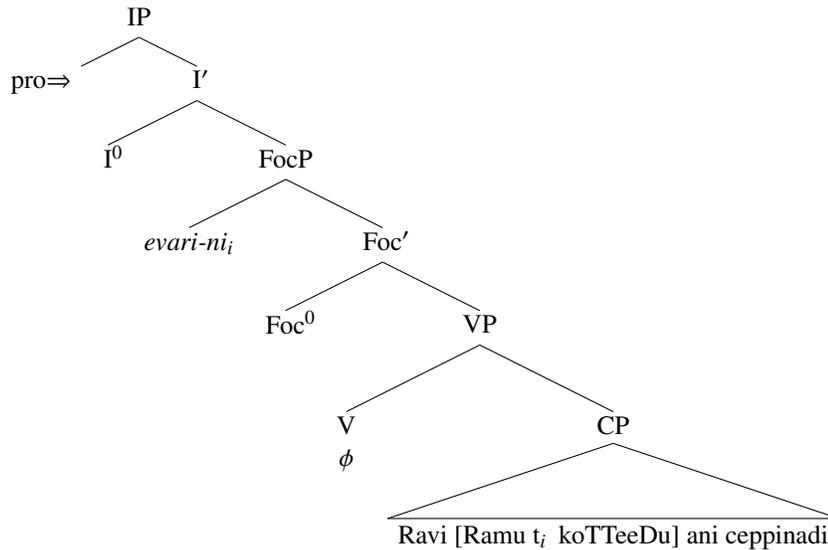
On the other hand, in the short-distance cleft, with the pivot extracted from a matrix clause, the cleft focus can freely float into the cleft clause, as shown in (55)-(56). I again adopt the proposal in Jayaseelan (1999, 2001) that the effect of floating is created by the movement to topic positions in the copular clause, above the focus phrase, of the elements that appear to the left of the cleft focus.
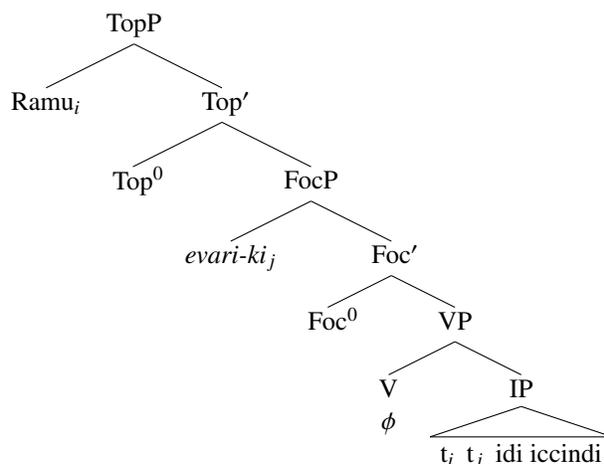
(55) a. R. idi iccin-(a)-di **evari-ki**
R. this gave-REL-CLM who-DAT
'Who is it that R. gave this to?'
b. R. idi **evari-ki** iccin-(a)-di
c. R. **evari-ki** idi iccin-(a)-di
d. **evari-ki** R. idi iccin-(a)-di

(56) a. R. idi iccin-(a)-di **Pavan-ki**
R. this gave-REL-CLM Pavan-DAT
'It is Pavan that R. gave this to?'
b. R. idi **Pavan-ki** iccin-(a)-di
c. R. **Pavan-ki** idi iccin-(a)-di
d. **Pavan-ki** R. idi iccin-(a)-di

According to Jayaseelan & Amritavalli (2005), this clefting operation does not use the relativization operation at all[16], it does not move the pivot phrase through any phase-edge location in the C-system, but instead, moves both the pivot phrase and any phrases that get topicalized directly from within the transparent cleft clause into the matrix clause, without any landing site in the C-domain (essentially it is extraction out of a nonfinite clause, which shows independent transparency to such operations.)

So in the short-distance cleft, the cleft clause does not project the C-domain at all, it is merely an IP. Its transparency for extraction in terms of the phase theory does not count as a violation because the cleft clause does not count as a phase, and therefore a matrix topic/focus probe can extract a phrase from inside this cleft, which is accessible to the next phase, as shown in (57). In long-distance clefts, however, as we saw above, the cleft clause is a CP, a phase boundary, and it does not allow for topic extraction.

---

[16]They provide some morphological evidence, through an indirect route, by bringing up another clefting structure in Malayalam which clearly does not have a relative marker. Their prediction then would be that this cleft structure will be 'transparent' to extraction, will allow floating, but will not allow long-distance clefting (extraction of the cleft pivot from within an embedded clause). This is borne out.

(57)

```
                              TopP
                          ╱        ╲
                      Ramu_i       Top′
                               ╱        ╲
                            Top⁰        FocP
                                    ╱        ╲
                               evari-ki_j    Foc′
                                          ╱      ╲
                                       Foc⁰      VP
                                        φ      ╱    ╲
                                             V      IP
                                             φ    ╱  |  ╲
                                               t_i t_j idi iccindi
```

In conclusion, the long-distance cleft has a CP-layer, and employs a relativization mechanism to extract the pivot out of the opaque cleft clause. In contrast, the short-distance cleft has only an IP-layer, and does not need a relativization mechanism to extract the pivot, as it is transparent to the next phase. Therefore, floating is also possible in this non-phasal cleft.

We have so far established that the Dravidian sluice is a clefting structure, and we also saw that there are two kinds of clefts in Dravidian. But which of the two clefting strategies is the source of the Telugu sluice? We will find the answer to this next.

3.2   The Telugu sluice is a long-distance cleft

We are armed with one very clear test to differentiate short-distance and long-distance clefts –short-distance clefts allow floating, long-distance clefts prohibit floating. Applying this test to the sluicing cleft structure will tell us which of the two clefts it is. The Telugu sluice does not allow floating, as shown in (58). Topicalization of non-wh remnants is not possible, which it should be, if sluicing in Telugu is based on short-distance clefts, which allow topic extraction, and this happens before deletion of the cleft clause. Hence we conclude that it must be a long-distance cleft.

(58)   *raamu evari-k-oo   idi icceeDu, kaani raamu evari-k-oo   naa-ku tel-iyadu.
        Ramu who-DAT-DISJ this gave,   but   Ramu who-DAT-DISJ I-DAT know-not
        'Intended: Ramu gave this to someone, but I don't know Ramu who to.'

3.3   No contrastive focus in sluices and long-distance clefts

We are finally in a position to solve the contrast sluicing puzzle that we raised in §2.6. We saw that contrast sluicing is not possible in Telugu, as given again in (59). However, contrastive pivots are possible in clefts in Telugu, as shown again in (60).

(59) raamu siita-ki bommalu icceeDu. *inkaa evari-k-oo   naa-ku tel-iyadu
Ramu Sita-DAT toys   gave.   still who-DAT-DISJ I-DAT know-not
'Intended: Ramu gave toys to Sita. I don't know to who else.'

(60) raamu oka battaai tinnaaDu. vaaDu tinn-(a)-di inkaa eemiT-oo naa-ku tel-iyadu
Ramu one orange ate.   He   ate-REL-CLM still what-DISJ I-DAT know-not
'Ramu ate an orange. I don't know what else it is that he ate.'

Now that we know that the sluice is a long-distance cleft, we need to check for contrastive focus not in the short-distance cleft as above, but in the long-distance cleft, the source for the sluice. The long-distance cleft prohibits contrastive pivots, as shown in (61) - (63).

(61) *ravi naa-ku raamu koTTeeDu ani ceppin-(a)-di inkaa ramesh-ni
Ravi I-DAT Ramu hit   that said-REL-CLM still Ramesh-ACC
'Intended: It is also Ramesh that Ravi told me that Ramu hit.'

(62) *ravi naa-ku raamu koTTeeDu ani ceppin-(a)-di ramesh-ni   kuuDaa
Ravi I-DAT Ramu hit   that said-REL-CLM Ramesh-ACC also
'Intended: It is also Ramesh that Ravi told me that Ramu hit.'

(63) *ravi raamu koTTeeDu ani ceppin-(a)-di inkaa evari-ni
Ravi Ramu hit   that said-REL-CLM still who-ACC
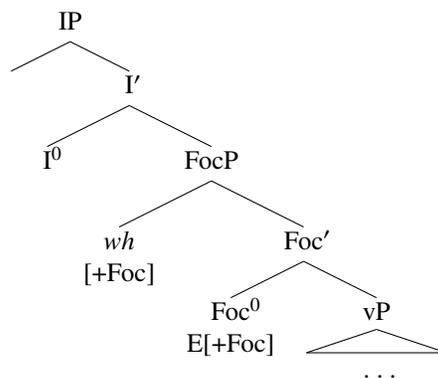'Intended: Who else is it that Ravi said that Ramu hit?'

So the solution to the puzzle is very clear. Sluicing in Telugu does not allow contrastive *wh*-phrases because the source, long-distance clefts, do not allow contrastive pivots. But why don't long-distance clefts allow contrastive pivots, whereas short-distance clefts do? I leave this question open for future research.

3.4   The mechanics of sluicing in Dravidian

Merchant's (2001, 2006) technical implementation of sluicing involves a formal feature (called [E]), which has syntactic, semantic and phonological effects, that determine ellipsis. Merchant implements the syntactic restriction of sluicing to *wh*-phrases in a language like English, by giving [E] an uninterpretable [*wh*]-feature.

What is the specification of the [E]-feature in Telugu? Since we know now that the source of sluicing is the cleft, and the *wh*-remnant is a cleft pivot, the [E]-feature in Dravidian has to contain a [Foc]-feature, not unlike the specification in Hungarian (van Craenenbroeck & Liptak 2013), as shown in (64).

(64) The specification of the [E]-feature in Dravidian

```
                         IP
                        /  \
                            I′
                           /  \
                         I⁰     FocP
                               /    \
                            wh        Foc′
                          [+Foc]     /   \
                                  Foc⁰     vP
                                 E[+Foc]   /\
                                          ·· ·
```

3.5   The *wh-*/sluicing correlation

van Craenenbroeck & Liptak (2013) propose that the syntax of sluicing should track that of *wh*-movement in all languages, and formalize it as given in (65).

(65)   THE WH/SLUICING-CORRELATION: The syntactic features that the [E]-feature has to check in a language L are identical to the strong features a *wh*-phrase has to check in a regular constituent question in L.

Going by this hypothesis, if the content of the [E] feature in Dravidian is [+Foc], then *wh*-phrases in Dravidian also have to check a [+Foc] feature in regular constituent questions. This indirectly lends support to the proposal in Jayaseelan (1999, 2001) that in Dravidian there is (partial) *wh*-movement to IP-internal Focus positions, and that Dravidian is not *wh*-in-situ.

van Craenenbroeck & Liptak (2013) also note that "The restriction to *wh*-phrases is no longer a reliable diagnostic for sluicing: the syntax of overt *wh*-movement in a language determines the syntactic properties of [E], which in turn determines what kind of remnants can occur in sluicing." They note that "if a language has overt movement of *wh*-phrases to Spec of FocP, it should also allow focus sluicing.", with a non-*wh*-phrase as remnant. Indeed, Telugu allows non-*wh* remnants. They can be referential NPs, as shown in (66), or adverbs, as shown in (67), or PPs, as shown in (68).

(66)   raamu evari-n-oo   koTTeeDu, neenu ravi-ni   anukunnaanu
       Ramu who-ACC–DISJ hit-PST,   I   Ravi-ACC thought
       'Ramu hit someone, I thought Ravi.'

(67)   raamu America velleeDu, neenu ninna   ani anukunnaanu
       Ramu America go-PST,   I   yesterday that thought
       'Ramu went to America, I thought that yesterday.'

(68)   raamu evari-too-noo velleeDu, naaku ravi-too   ani teliyadu
       Ramu who-with-DISJ go-PST,   I-DAT Ravi-with that know-not
       'Ramu went with someone, I didn't know that with Ravi.'

The indicative complementizer can also be one of the non-wh remnants as seen in (68), (67), and in (66b-c). These cannot be cases of stripping, because stripping cannot occur in embedded clauses.

But if the structure allows non-*wh*-elements to be remnants, does it mean that we can no longer call it sluicing? van Craenenbroek & Liptak (2013) point out that the restriction to *wh*-questions is actually not a reliable diagnostic of sluicing and they warn against being too construction or language specific: "A revealing example in this respect is the line of reasoning initiated by Jayaseelan (1990), who tries to reduce pseudogapping to VP-ellipsis. To the extent that this analysis is on the right track, it suggests that whatever properties set apart pseudogapping from VP-ellipsis (e.g. sensitivity to the Backwards Anaphora Constraint) is not a distinctive trait of VP-ellipsis and hence should not be used in the identification of this construction."

4.   Conclusion

While Jayaseelan (1999, 2001) and Jayaseelan & Amritavalli (2005) have linked IP-internal focus constructions and cleft constructions in Dravidian and found evidence for two kinds of clefts in the language family –short and long-distance clefts, this paper establishes the link between sluicing and clefts in Dravidian.

All the properties of sluicing in Telugu can be assimilated to and according to this analysis fall out of the properties of long-distance clefts. The IP-internal Topic/Focus analysis also receives indirect support via the wh/sluicing correlation.

Given that the source of the Dravidian sluice is a cleft, and the antecedent is not a cleft, the identity requirement for sluicing cannot exactly be syntactic isomorphism. The implication this has for the identity requirement in ellipsis is similar to the implications of Potsdam (2007)'s pseudocleft analysis of Malagasy sluicing.

One question that remains unanswered is why the sluicing source is always a long-distance cleft and never a short-distance cleft in Telugu. I speculate that this has to do with the remnant requiring to land in the C-space to check features, before moving further. Hence the CP-domain always has to be projected in the cleft, making it a long-distance cleft.

Another interesting puzzle raised by a cleft source for sluicing in Telugu is Sprouting –a sub-type of sluicing, in which the remnant *wh*-phrase has no overt correlate in the antecedent (Chung *et al*. 1995). Sprouting is possible in Telugu, as shown in (69). But if there is no overt correlate for the cleft in the antecedent, how is the presuppositional cleft clause generated?

(69)   a.   raamu pustakam raaseeDu, kaani deeni-gurinc-oo naa-ku teliyadu
           Ramu book   write-PST, but   what-about-DISJ I-DAT   know-not
           'Ramu wrote a book. But I don't know what about.'

       b.   raamu pustakam konnaaDu, kaani evari-koosam-oo naa-ku teliyadu
           Ramu book   buy-PST, but   who-for-DISJ   I-DAT   know-not
           'Ramu bought a book. But I don't know who for.'

Finally, it will be fruitful to extend this project to a comparison of Japanese & Dravidian vis-a-vis sluicing and clefting because clefts, in-situ focus, and sluicing/stripping in Japanese have also been proposed to share the same underlying structure by Hiraiwa & Ishihara (2012), but with a completely different syntactic structure than the one explored in this paper –they propose a monoclausal structure with focus movement to the CP domain for clefts and sluicing in Japanese, whereas we have pursued a biclausal structure with IP-internal focus movement for clefts and sluicing in Dravidian. It would be interesting to see how much of the Japanese data is amenable to an IP-internal Topic/Focus structure.

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