GENITIVE INTERROGATIVES AS INHERENTLY D-LINKED CONTENT QUESTIONS: EVIDENCE FROM IRAQI ARABIC[*]

Laura-Andreea Sterian
University of British Columbia

In this paper, I document a parallel between genitive interrogatives and D-linked content questions in Iraqi Arabic. In particular, I argue that genitive interrogatives are inherently D-linked and I explore the nature of this D-linking property. I first introduce the problem, the proposed analysis and its consequences (§1). I then consider in greater detail how genitive interrogatives differ from bare interrogatives and instead parallel D-linked content questions (§2). I argue that the property that ties together genitive and D-linked interrogatives is the fact that they both have an overt domain restriction (§3).

1.   The problem, the analysis and the consequences

1.1   The problem: the contrast between genitive and bare interrogatives

Consider the following context: a class of students is defending their theses; they all have different supervisors and the secretary of the board has to talk to each student's supervisor. In Iraqi Arabic a content question with a bare interrogative pronoun is not felicitous (1a). In contrast, a content question with a construct state genitive is felicitous (1b), as is a D-linked content question (1c).

(1)   a.   *content question with bare interrogative pronoun*
              ويا منو حاكت السكريتيرة ؟
              wu:ya: minnu: Haʧit   is-sikriti:ra
              with   who   spoke.3FS the-secretary.F
          #   'Whom did the secretary talk to ?'

         b.   *content question with genitive interrogative construction*
              السكريتيرة ويا أستاذ منو حاكت ؟
              is-sikriti:ra   wu:ya: ʔusta:ð   minnu: Ha:ʧit
              the-secretary.F   with   professor   who   spoke.3FS
              'With whose professor did the secretary talk ?'

         c.   *content question with D-linked interrogative*
              السكريتيرة وية يا أستاذ حاكت ؟
              is-sikri:ti:ra   wu:ya ya: ʔusta:ð   Ha:ʧit
              the-secretary with   which professor talk.3FS
              'With which professor did the secretary talk ?'

The pattern contrasts in (1) are a first indication that bare and genitive interrogatives don't pattern in the same way; they also indicate that there is a parallel between genitive and D-linked interrogatives. The question that I address is the following:

(2)   What accounts for the contrast between bare interrogatives and genitive interrogatives on the one hand, and the parallel between genitive interrogatives and D-linked interrogatives on the other hand?

1.2   The analysis: genitive interrogatives are inherently D-linked

The core of my analysis is that genitive interrogatives are inherently D-linked (Pesetsky 1987; 2000). Specifically, I argue that what defines D-linking is the presence of an overt domain restriction in the form of an overt noun. Consider Table 1. Bare interrogatives such as *minnu:* 'who' lack an overt domain restriction. In contrast, both genitive interrogatives and D-linked content questions have an overt domain restriction. With genitive interrogatives such as *ʔustaδ minnu:* 'whose professor', the domain restriction is supplied by the head noun. With D-linked interrogatives such as *ya ʔustaδ* 'which professor', the overt domain restriction is supplied by the noun that follows the interrogative operator**.**

	Syntax	**Example**	
Bare Interrogative	[$_D$ WH [$_N$ $\varnothing$]]	*minnu:*	'who'
Genitive Interrogative	[$_D$ [$_N$ **N** [$_D$ WH]]]	*ʔustaδ minnu:*	'whose professor'
D-linked interrogative	[$_D$ WH [$_N$ **N**]]	*ya: ʔustaδ*	'which professor'

Table 1. Internal structure of bare, genitive and D-linked interrogatives

1.3   D-linking arises whenever there is an overt domain restriction

I take the syntactic parallel between genitive and D-linked interrogatives to indicate that D-linking arises whenever there is an overt domain restriction. On the one hand, domain restriction is purely semantic and arises when a quantifier has an overt restriction on its domain of application. Quantifiers with no overt restriction — such as *each*, *who* and *what* in (3) — are generally taken to have a contextually defined domain restriction.

(3)   a.   They **each** attended the lecture.
        b.   **Who** attended the lecture?
        c.   **What** did they attend?

Of course, it's always possible to introduce an overt restriction: these are the underlined nouns in (4). It's the presence of an overt domain restriction that distinguishes D-linked interrogatives (e.g. *which student*, *which lecture*) from bare interrogatives (e.g. *who*, *what*).

(4) a. **Each** <u>student</u> attended the lecture.
     b. **Which** <u>student</u> attended the lecture?
     c. **Which** <u>lecture</u> did they attend?

2. Comparing bare, genitive and D-linked interrogatives

The behavior of the genitive interrogatives parallels D-linked content questions with respect to resumption (§2.1 – §2.2) and with respect to superiority effects (§2.3).

2.1 The resumptive strategy and the gap strategy: local extraction

Now let us look at extraction in interrogatives in more detail, in particular considering extraction with and without resumption. Resumption refers to the syntactic strategy of inserting a pronoun in the extraction site where other languages such as English leave a gap (5).

(5)   سهى يا مغني شافته بالمطعم ؟
         Suha ya: muɣanyy ʃa:fit=**hu**   bi-l-maTʕam
         Suha which singer   saw.3FS=**3MS**   in-the-restaurant
         'Which singer did Suha see **[him]** in the restaurant?'

2.1.1 Local extraction with bare interrogatives

First consider local extraction. Here bare interrogatives allow only the gap strategy with extracted subjects[1] and objects, as in (6) and (7). As for extracted prepositional objects (8), they permit neither the gap strategy (this reflects the general prohibition against P-stranding in Arabic), nor the resumptive strategy. PP-fronting allows only the gap strategy, because Arabic does not have resumptives for entire prepositional phrases (9).

(6)   *Subject extraction*
         منو ____/*هو اشترى الجريدة البارحة ؟
         minnu: ___/ ***hwu** iʃtara: il- dʒarida   il-ba:riha ?
         who   ___/ **he**   bought. 3MS the-newspaper   yesterday
         'Who___/ [**he**] bought the newspaper yesterday ?'

(7)   *Direct object extraction*
         إيمان منو شافت____/*ه ببيت عواطف ؟
         Iman minnu: ʃa:fat___/*=**hu**   bi-beyt   Awatif
         Iman who   saw.3SF___/=**3MS**   in-house   Awatif
         'Whom did Iman see___/[**him**] at Awatif's house ?'

---

[1] It is not the object of the current paper to investigate why subject extraction always prohibits resumption in Arabic. For a possible solution, see Sterian (2011).

(8)   *Object of preposition extraction with gap*
راغب منو التقى بالمكتبة ويا*____/*ه ؟
Ragheb minnu: iltaga   bi-l-maktaba   wu:ya: *____/*=**hu**
Ragheb who   met.3MS at-the-library with____/   =**3MS**
'Whom did Ragheb meet at the library with___/[**him**] ?'

(9)   *PP-fronting with bare interrogative*
راغب ويا منو التقى بالمكتبة ؟
Ragheb wu:ya: minnu: iltaga   bi-l-maktaba
Ragheb with   who   met.3MS at-the-library
'With whom did Ragheb meet at the library ?'

2.1.2 Local extraction with genitive interrogatives

The overall pattern with genitive interrogatives differs from that of bare interrogatives. As before, with extraction from subject position, the gap strategy but not resumption is possible, as in (10). In this respect, a genitive interrogative is like a bare interrogative. But local extraction from the direct object position, as in (11), differs from bare interrogatives in allowing not only the gap strategy, but also the resumptive strategy. As for extraction from a prepositional object position, the gap strategy is predictably prohibited because of the impossibility of P-stranding, as in (12). Finally, with PP-fronting, the gap strategy but not resumption is possible (13).

(10)   *subject extraction*
رجال منو____/ ***هو** شاف نجوى بالحفلة؟
ridʒa:l   minnu: ʃa:f ___/***hwu**   Najwa bi-l-Hafla
husband who   saw.3MS **he**   Najwa at-the-party
'**Whose husband ___/ [he]** saw Najwa at the party ?'

(11)   *object extraction*
نجوى رجال منو شافت____/*ه بالمكتبة؟
Najwa   ridʒa:l minnu: ʃa:fat___/*=**hu**   bi-l-maktaba
Najwa man   who   saw.3SF___/=**3MS** in-the-library
'**Whose husband** did Najwa see [**him**] at the library ?'

(12)   *prepositional object extraction*
نجوى صديق منو التقت وية *____/ه بالحفلة؟
Najwa Sadi:g minnu: iltagat   wu:ya: *___/=**hu** bi-l-Hafla
Najwa friend who   met.3FS with___/=**3MS**   at-the-party
'**Whose friend** did Najwa meet with __/[**him**] at the party ?'

(13)   *PP-fronting with genitive interrogative*
نجوى وية صديق منو التقت بالحفلة؟
Najwa wu:ya: Sadi:g minnu: iltagat   bi-l-Hafla
Najwa with   friend who   met.3FS at-the-party
'**With whose friend** did Najwa meet at the party ?'

2.1.3 Local extraction with D-linked interrogatives

Now consider local extraction with D-linked interrogatives. With a D-linked interrogative, subject extraction is possible only with gap (14); direct object extraction permits gap and resumption (15), prepositional object extraction permits only resumption (16) and PP-fronting permits only the gap strategy (17).

(14)   *subject extraction*
يا صديقة ____ / ***هي** اشترت شقة ببغداد؟
ya: Sadi:ga   iʃtarat ___/ ***hi:**   ʃigga   bi-Baghdad
which friend.F bought.3FS ___/**she**   flat   in-Baghdad
'Which friend ___/ [**she**] bought a flat in Baghdad ?'

(15)   *object extraction*
إيمان يا رجال شافت____/ه بالحفلة ؟
Iman ya: ridʒa:l ʃa:fit___/=**hu**   bi-l-hafla
Iman which man   saw.3FS___/=**3MS**   at-the-party
'Which man did Iman see___/[**him**] at the party ?'

(16)   *prepositional object extraction*
سهى يا معلم التقت وية * ____/ه بالكلية ؟
Suha ya: muʕallim iltagat   wu:ya: *___/=**hu** bi-l-kulli:a
Suha which   professor met.3FS with ___/=**3MS**   at-the-faculty
'Which professor did Suha meet with___/[**him**] at the faculty ?'

(17)   *PP-fronting with ḍ-linked interrogative*
سهى وية يا أستاذ التقت بالكلية؟
Suha wu:ya: ya   ʔusta:ð   iltagat   bi-l-kullyia
Suha with   which professor   met.3FS at-the-faculty
'With which professor did Suha meet at the faculty?'

2.1.4 Summary of the local extraction data

Table 2 summarizes the patterning of the gap and resumptive strategies in the context of local extraction with bare, genitive interrogatives and D-linked interrogatives.

Interrogative Type	Gap Strategy			Resumptive Strategy		
	Bare	Genitive	D-Linked	Bare	Genitive	D-Linked
Subject	√	√	√	x	x	x
Object of V	√	√	√	x	√	√
Object of P	x	x	x	x	√	√
PP-fronting	√	√	√	x	x	x

Table 2. Local extraction of bare, genitive and D-linked interrogatives

Table 2 indicates the following. The resumptive strategy is always prohibited with bare interrogatives. But with genitive and D-linked interrogatives, it is

permitted with direct objects and prepositional objects. More generally, we observe that, with respect to local extraction, genitive and D-linked interrogatives pattern in the same way. In the next section I turn to long-distance extraction.

2.2   The resumptive and gap strategy: long-distance extraction

2.2.1 Long-distance extraction with bare interrogatives

With bare interrogatives, long-distance extraction from subject position only allows the gap strategy, as in (18). Long-distance extraction from the object position permits both gap and resumption, as in (19). Long-distance extraction of the prepositional object is ruled out: neither gap nor resumption are possible, as in (20). PP-fronting is also possible with long-distance extraction (21).

(18)   *Subject extraction*
إيمان منو تعتقد ____ / *هو شاف أحمد بالحفلة؟
Iman minnu: taʕataqid ___/*hwu ʃa:f   Ahmad bi-l-Hafla
Iman who   think:3FS ___/ he   saw:3MS Ahmad at-the-party
'Who does Iman think ___/[he] saw Ahmad at the party ?'

(19)   *Direct object extraction*
سهى منو تعتقد راح يعزم____ه/ أحمد ؟
Suha minnu: taʕatagid   ra:H yaʕzim___/=hu   Ahmad ?
Suha who   think.3FS will invite.3MS ___/=3MS Ahmad
'Whom does Suha think that Ahmad will invite ___/ [him] ?'

(20)   *Prepositional Object*
إيمان منو تعرف إنه التق بهجت وية * ____/*ه ؟
Iman minnu: taʕarif   ennu iltaga Bahjat wuya: *___/*hu
Iman who   know:3FS that met.3MS Bahjat with ___/=3MS
'Whom does Iman know that Bahjat met with ___/[him] ?'

(21)   *PP-fronting*
إيمان وية منو تعرف إنه التق بهجت ؟
Iman wuya: minnu: taʕarif   ennu: iltaga Bahjat
Iman with who   know:3FS that   met Bahjat
'With whom does Iman know that Bahjat met ?'

To summarize extraction with bare interrogatives, the direct object allows both gap and resumption with long distance extraction, while with local extraction it only allows gap[2]. All the other arguments pattern in the same way with local and long-distance extraction.

---

[2] It is not the object of this paper to investigate why direct object extraction with bare interrogatives allows resumption only in embedded questions.

2.2.2 Long-distance extraction with genitive interrogatives

Now consider long-distance extraction with genitive interrogatives. As before, with subject extraction, only the gap strategy is possible (22). With object extraction, both gap and resumption are allowed (23). The same holds of long-distance extraction of a prepositional object: both gap and resumption are allowed (24). And with PP-fronting, only the gap strategy is possible (25).

(22)   *subject extraction*
سهى رجال منو تعتقد إنو شاف ____/ ***هو** نجوى ؟
Suha ridʒa:l minnu: taʕatagid ennu: ʃa:f ___/ ***hwu** Najwa
Suha husband who   think.3FS that saw.3MS ___/he Najwa
'**Whose husband** does Suha think that ___/ [he] saw Najwa ?'

(23)   *object extraction*
سهى رجل منو تعتقد إنو نجوى شافت____/**ه** ؟
Suha ridʒal minnu: taʕatagid ennu: Najwa ʃa:fat___/=hu
Suha man who   think.3FS that Najwa saw:3SF___/=3MS
'**Whose husband** does Suha think that Najwa saw___/[him]?'

(24)   *prepositional object extraction*
سهى صديق منو تدري إنو إيمان التقت وية * ____/**ه** ؟
Suha Sadi:g minnu: tdry   ennu: Iman iltagat wu:ya:*_/**hu**
Suha friend who   think.3FS that Iman met.3FS with__/=3MS
'**Whose friend** does Suha think that Iman met with __/[him]?'

(25)   *PP-fronting with genitive interrogative*
سهى وية صديق منو تعتقد إنو نجوى التقت ؟
Suha wu:ya: Sadi:g minnu: taʕatagid ennu: Najwa   iltagat
Suha with   friend who   think.3FS that Najwa met.3FS
'**With whose friend** does Suha think that Najwa met?'

2.2.3 Long-distance extraction with D-linked interrogatives

Finally, consider long-distance extraction of D-linked interrogatives. With subject extraction, only the gap strategy is possible (26). With object extraction, both gap and resumption are possible (27). With long-distance extraction of a prepositional object, only resumption is possible (28). And with PP-fronting, only the gap strategy is possible (29).

(26)   *subject extraction*
راغب يا صديقة يدري إنه اشترت ____/***هي** شقة ؟
Ragheb ya: Sadi:ga ydry   ennu: iʃtarat ___/***hi:** ʃigga
Ragheb which friend.F think.3MS that   bought.3FS __/she flat
'Which friend does Ragheb think that ___/ [she] bought a flat?'

(27)   *object extraction*

راغب يا رجال يدري إنو إيمان شافت____ه/؟

Ragheb ya: ridʒa:l ydry   ennu: Iman ʃa:fit ___/=**hu**
Ragheb which man   think.3MS that Iman saw.3FS___/=**3MS**
'Which man does Ragheb think that Iman saw___/[**him**]?'

(28)   *prepositional object extraction*

أحمد يا رجال إنو سهى التقت وية *____ه/ ؟

Ahmad ya: ridʒa:l ydry   ennu: Suha iltagat   wu:ya:*__/**hu**
Ahmad which man think.3MS that Suha met.3FS with __/=**3MS**
'Which man does Ragheb think that Suha met with___/[**him**]?'

(29)   *PP- fronting with d-linked interrogative*

راغب وية يا معلم يعتقد إنو سهى التقت ؟

Ragheb wu:ya ya: muʕallim yaʕatagid ennu: Suha iltagat
Ragheb with which professor think.3MS that Suha met.3FS
'With which professor does Ragheb think that Suha met ?'

2.2.4 Summary of the long-distance extraction data

Table 3 summarizes the patterning of the gap and resumptive strategy in the context of long-distance extraction with bare, genitive interrogatives and D-linked interrogatives.

	Gap strategy			Resumptive strategy		
Interrogative type	Bare	Genitive	D-linked	Bare	Genitive	D-linked
Subject	√	√	√	x	x	x
Object of V	√	√	√	√	√	√
Object of P	x	x	x	x	√	√
PP-fronting	√	√	√	x	x	x

Table 3. Comparison of bare, genitive and D-linked interrogatives with respect to long-distance extraction (extraction from an embedded clause)

As with local extraction, with long-distance extraction we observe that genitive and D-linked interrogatives pattern in the same way with respect to whether they use the gap or the resumptive strategy. And as before, bare interrogatives are distinct from genitive/D-linked interrogatives.

2.3   Superiority effects

Superiority effects arise in contexts where two interrogative expressions are contained in the same clause. In Iraqi Arabic bare interrogatives show superiority effects, while genitive and D-linked interrogatives do not. The ***superiority condition*** (Chomsky 1973), as stated in (30) is an attempt to account for the contrast between the well-formed (31) and ill-formed (32).

(30) **Superiority Condition**
No rule can involve X and Y in the structure …X… […Z… Y…]…
where the rule could also apply to X and Z , and Z is superior to Y (Z is
superior to Y if Z c-commands Y)

(31) a.   Who saw what ?
b.   I wonder who saw what.
(32) a.   *What did who see?
b.   *I wonder what who saw.

The superiority condition derives the fact that in sentences where both the
subject and object are interrogative expressions, only the subject (Z) can
undergo movement; i.e. the movement rule involves X and Z. It correctly
prohibits movement of the object over the subject, as this would be an instance
of a rule involving X (the object position) and Y (the A' landing site), with Z
(the subject) superior to Y (the object). As shown in (33), Iraqi Arabic bare
interrogatives obey the superiority condition:

(33) a.   *superiority effect observed*
منو شنو قال لسامر؟
minnu: **ʃenu:** ga:l   li-Samer
who   what   said.3MS to=Samer
Who said what to Samer ?

b.   *superiority effect violated*
* شنو قال منو لسامر؟
* ʃenu: ga:l   **minnu:**   li-Samer
what   said.3MS who   to=Samer
* 'What did who say to Samer ?'

With genitive interrogative constructions however, the superiority effect
disappears. This is illustrated by the grammaticality of both multiple questions in
(34), where (34a) shows SVO word order and (34b) shows OVS word order.

(34) a.   *SVO word order*
رجال منو شاف ولد منو ؟
ridʒa:l minnu: ʃa:f   walad   minnu:
man   who   saw.3MS boy   who
'Whose husband saw whose son ?'

b.   *OVS word order*
ولد منو شافه رجال منو؟
walad minnu: ʃa:f=hu   ridʒa:l   minnu:
boy   who   saw.3MS=3MS husband who
'Whose son did whose husband see ?'

With D-linked interrogatives superiority effects also disappear. This is illustrated
in the grammaticality of the D-linked questions in (35), where (35a) shows SVO

word order and (35b) shows OVS word order.

(35) a. *SVO word order*
          يا طالبة اشترت يا كتاب ؟
          ya: Ta:liba   iʃtarat   ya: kita:b
          which student.F bought.3FS which book
          'Which student bought which book ?'
      b. *OVS word order*
          يا كتاب اشترت يا طالبة؟
          ya: kita:b   iʃtarat   ya: Ta:liba
          which book   bought.3FS which student.F
          'Which book did which student buy ?'

3 Why genitive interrogatives are inherently D-linked

I propose that it is the syntactic structure which causes genitive and D-linked interrogatives to pattern in the same way with respect to local extraction, long-distance extraction and superiority. In particular, I suggest that the structural parallel between genitive and D-linked interrogatives lies in the fact that they both contain an overt domain restriction (§3.1). I then show how the derivation of the gap and resumptive strategy proceeds with genitive interrogatives (§3.2).

3.1 D-linking arises if there is an overt domain restriction

In (Sterian 2011) it is argued that the D-linked interrogative in the gap strategy has a D-N structure as in (36a) and the D-linked interrogative expression of the resumptive strategy has a D-φ-N structure as in (36b).

(36) a. *the gap structure*
          [$_D$ D [$_N$ N]]
      b. *the resumptive structure*
          [$_D$ D [$_φ$ φ [$_N$ N]]]

A comparison of the syntax of bare interrogatives, D-linked interrogatives and genitive interrogatives is given in (37).

(37) a. *syntax of bare interrogatives*
          [$_D$ wh [$_N$Ø]]   the gap strategy
          [$_D$ wh [$_φ$ hu [$_N$Ø]]]   the resumptive strategy (only long-distance)

      b. *syntax of D-linked interrogatives*
          [$_D$ wh [$_N$ **N**]]   the gap strategy
          [$_D$ wh [$_φ$ *hu* [$_N$ **N**]]   resumption (local & long-distance)

      c. *syntax of genitive interrogatives*
          [$_D$ [$_N$ **N** [$_D$ wh]]]   the gap strategy
          [$_D$ [$_N$ **N** [$_D$ wh] [$_φ$ *hu* [$_N$]]] resumption (local & long-distance)

There are two observations to note here. First, the structure of the genitive in Arabic and Hebrew is known as the construct state, where the head noun is left-adjacent to a noun phrase or interrogative pronoun (Borer 1999; Fehri 1988; Ritter 1988; Shlonksy 2004). Second, with both genitive and D-linked interrogatives there is an overt noun which specifies a domain restriction. It seems that the D-linked interrogative expressions and the genitive interrogative expressions are domain restricted because of the overt noun, whereas the bare interrogative expressions do not have this restriction since they do not have an overt noun. I speculate that the domain restriction is supplied by the overt noun that allows the resumption strategy to be used in a wider range of contexts that is possible with bare interrogatives. This suggests that there is a close connection between domain restriction and the presence of a resumptive pronoun, because resumption selects an element from a domain. The bare interrogative expressions do not have any such domain restriction and therefore resumption is not allowed. The claim made here is that genitive interrogatives are inherently D-linked. Therefore, they should have a D-N structure in content questions which employ the gap strategy and a D-φ-N structure in content questions which employ the resumptive strategy (Sterian 2011). With this in mind I now look at the derivation of content questions with genitive constructions in more detail.

3.2   Derivation of the genitive interrogative with the gap strategy

Consider (38a) which is a genitive interrogative employing the gap strategy. The numeration is given in (38b).

(38)   a.   *Genitive interrogative with gap*
             نجوى رجال منو شافت ؟
             Najwa   ridʒal   minnu: ʃa:fit
             Najwa   husband   who   saw:3SF
             'Whose husband did Najwa see ?'

        b.   Numeration: {$_{TOP}$Ø, $_{C}$Ø, $_{I}$Ø, *Najwa*$_D$, *Sa:fit*$_V$, *minnu:*$_D$, *ridza:l*$_N$,}

Consider (39) which shows the derivation of (38a). At the VP phase (39b), the DP is built by (39bI) merging the interrogative pronoun *minnu:* 'who' with the noun *ridʒal* 'husband'; in accordance with Ritter's (1991) N-to-D raising in construct states, N raises to SpecD via a successive application of Copy and Delete (39bII-III). Then the verb *ʃa:fit* 'she saw' merges with the DP *ridʒa:l minnu:* 'whose husband' (39bIV). The subject DP *Najwa* merges with the V at SpecVP (39bV). At the IP phase (39c), the inflectional head merges with the VP (39cI), then the subject DP *Najwa* is moved to SpecIP via successive application of Copy and Delete (39cII-III). At the CP phase (39d), the DP *ridʒa:l minnu:* 'whose husband' is moved to SpecCP via successive application of Copy and Delete (39dI-II). At the TopP phase (39e), the topical head Top merges with the CP (39eI) and the subject DP *Najwa* is moved to SpecTopP via successive application of Copy and Delete (39eII-III).

(39)   a.   Numeration: {$_{TOP}$Ø, $_{C}$Ø, $_{I}$Ø, *Najwa*$_D$, *Sa:fit*$_V$, *minnu:*$_D$, *ridza:l*$_N$,}

b.   VP phase
  I.   Merge <D, N>
        [$_D$ [**minnu:**$_D$] [*ridʒa:l*$_N$]]]
  II.   Copy ***ridʒa:l*$_N$** and Merge <N, D>
        [$_D$ [***ridʒa:l*$_N$**] [$_D$ [*minnu:*$_D$] [*ridʒa:l*$_N$]]

  III. Delete ***ridʒa:l*$_N$**
        [$_D$ [***ridʒa:l*$_N$**] [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]]
  IV.   Merge <V, D>
        [$_V$ [***Sa:fit*** $_V$] [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]]]
  V.   Merge <D, V>
        [$_V$ [***Najwa*$_D$**] [$_V$ [*Sa:fit* $_V$] [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$]
        [~~***ridʒa:l*$_N$**~~]]]]

c.   IP phase
  I.   Merge <I, V>
        [$_I$ [$_V$ [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$]
        [~~***ridʒa:l*$_N$**~~]]]]
  II.   Copy ***Najwa*$_D$** & Merge <D, I>
        [$_I$ [***Najwa*$_D$**] [$_I$ [$_V$ [***Najwa*$_D$**] [$_V$ [*Sa:fit* $_V$] [$_D$ [*ridʒa:l*$_N$]
        [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]]]]]
  III. Delete ***Najwa*$_D$**
        [$_I$ [***Najwa*$_D$**] [$_I$ [$_V$ [~~***Najwa*~~$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [*ridʒa:l*$_N$] [$_D$
        [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]]]]]

d.   CP phase
  I.   Copy [$_D$ [***ridʒa:l*$_N$**] [$_D$ [**minnu:**$_D$] [~~***ridʒa:l*$_N$**~~]] & Merge <C, I>
        [$_C$ [$_D$ [***ridʒa:l*$_N$**] [$_D$ [**minnu:**$_D$] [~~***ridʒa:l*$_N$**~~]] [$_I$ [*Najwa*$_D$] [$_I$ [$_V$
        [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [***ridʒa:l*$_N$**] [$_D$ [**minnu:**$_D$]
        [~~***ridʒa:l*$_N$**~~]]]]]
  II.   Delete [$_D$ [***ridʒa:l*$_N$**] [$_D$ [**minnu:**$_D$] [~~***ridʒa:l*$_N$**~~]]
        [$_C$ [$_D$ [***ridʒa:l*$_N$**] [$_D$ [**minnu:**$_D$] [~~***ridʒa:l*$_N$**~~]] [$_I$ [*Najwa*$_D$] [$_I$ [$_V$
        [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [~~***ridʒa:l*$_N$**~~] [$_D$ [~~**minnu:**$_D$~~][***ridʒa:l*$_N$**]]]

e.   TopP phase
  I.   Merge <Top, C>
        [$_{Top}$ [$_C$ [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]] [$_I$ [*Najwa*$_D$]
        [$_I$ [$_V$ [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [~~***ridʒa:l*$_N$**~~] [$_D$ [~~***minnu:***$_D$~~]
        [~~***ridʒa:l*$_N$**~~]]]]]
  II.   Copy ***Najwa*$_D$** & Merge <Top, C>
        [$_{Top}$ ***Najwa*$_D$** [$_C$ [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]] [$_I$
        [*Najwa*$_D$] [$_I$ [$_V$ [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [~~***ridʒa:l*$_N$**~~] [$_D$
        [~~***minnu:***$_D$~~] [~~***ridʒa:l*$_N$**~~]]]]]
  III. Delete ***Najwa*$_D$**
        [$_{Top}$ ***Najwa*$_D$**[$_C$ [$_D$ [*ridʒa:l*$_N$] [$_D$ [*minnu:*$_D$] [~~***ridʒa:l*$_N$**~~]]
        [$_I$ [~~***Najwa*~~$_D$] [$_I$ [$_V$ [*Najwa*$_D$] [$_V$ [*Sa:fit* $_V$] [$_D$ [~~***ridʒa:l*$_N$**~~] [$_D$
        [~~***minnu:***$_D$~~] [***ridʒa:l*$_N$**]]]]]

In this section I have shown that the derivation of the Iraqi Arabic genitive interrogatives employing the gap strategy parallels the derivation of Iraqi Arabic D-linked content questions employing the gap strategy (Sterian 2011), in that both have a D-N structure.

3.3 Derivation of the genitive interrogative with the resumptive strategy

Let us now look at the derivation of a genitive interrogative employing the resumptive strategy (40a). The numeration is given in (40b); notice that it contains the φ-element *hu* 'him'.

(40) a. *Genitive interrogative with resumption*
إيمان رجل منو شافته ؟

Iman riʤa:l minnu: ʃa:fat=**hu**
Iman husband who saw:3SF.**3MS**
'Whose husband did Najwa see **[him]** ?'

  b. Numeration: {$_{TOP}$Ø, $_C$Ø, $_I$Ø, *Najwa$_D$*, *Sa:fit$_V$*, *minnu:$_D$*, *ridza:l$_N$*, *hu$_φ$*}

Consider (41) which gives the derivation of (40a). At the VP phase (41b), the DP is built by: (41bI) merging the pronoun *hu* 'him' with the noun *riʤal* 'husband' and (41bII) merging this complex syntactic object with the interrogative pronoun *minnu:* 'who'. In keeping with the N-to-D raising of the construct state, N raises to SpecD via a successive application of Copy and Delete (41bIII-IV). Then the verb *ʃa:fit* 'she saw' merges with the DP *riʤa:l hu minnu:* 'whose him husband' (41bV) and cliticizaton of the pronoun *hu* 'him' immediately takes place via successive application of Copy and Delete (41bVI-VII). The subject DP *Najwa* merges with the V at SpecVP (41bVIII). At the IP phase (41c), the inflectional head merges with the VP (41cI), then the subject DP *Najwa* is moved to SpecIP via successive application of Copy and Delete (41cII-III). At the CP phase (41d), the DP *riʤa:l* ~~him~~ *minnu:* 'whose husband' is moved to SpecCP via successive application of Copy and Delete (41dI-II). At the TopP phase (41e), the topical head Top merges with the CP (41eI) and the subject DP *Najwa* is moved to SpecTopP via successive application of Copy and Delete (41eII-III).

(41) a. Numeration: {$_{TOP}$Ø, $_C$Ø, $_I$Ø, *Najwa$_D$*, *Sa:fit$_V$*, *minnu:$_D$*, *ridza:l$_N$*, *hu$_φ$*}

  b. VP phase
  I. Merge <φ, N>
      [$_φ$ [*hu* $_φ$] [*riʤa:l* $_N$]]
  II. Merge <D, φ>
      [$_D$ [*minnu$_D$*] [*hu$_φ$ riʤa:l$_N$*]]
  III. Copy *riʤa:l$_N$* and Merge <N, D>
      [$_D$ [*riʤa:l$_N$*] [$_D$ [*minnu$_D$*] [*hu$_φ$ riʤa:l$_N$*]]
  IV. Delete *riʤa:l$_N$*
      [$_D$ [*riʤa:l$_N$*] [$_D$ [*minnu$_D$*] [*hu$_φ$* ~~*riʤa:l$_N$*~~]]

V. Merge <V, D>
[ᵥ [***Sa:fit*** ᵥ] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]]

VI. Copy ***hu***_φ_ & Merge <V, φ>
[ᵥ [*ʃa:fit* ᵥ ***hu***_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]]]

VII. Delete ***hu***_φ_ & Merge <V, φ>
[ᵥ [*ʃa:fit* ᵥ ***hu***_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]

VIII. Merge <D, V>
[ᵥ [***Najwa***_D_] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]

c. IP phase

I. Merge <I, V>
[ᵢ [ᵥ [***Najwa***_D_] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]

II. Copy ***Najwa***_D_ & Merge <D, I>
[ᵢ [***Najwa***_D_] [ᵢ [ᵥ [***Najwa***_D_] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]

III. Delete *Najwa*_D_
[ᵢ [***Najwa***_D_] [ᵢ [ᵥ [~~***Najwa***_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]

d. CP phase

I. Copy [_D_ [***ridʒa:l***ₙ] [_D_ [***minnu***_D_] [***hu***_φ_ ~~***ridʒa:l***ₙ~~]]
&Merge <C, I>
[c [_D_ [***ridʒa:l***ₙ] [_D_ [***minnu***_D_] [***hu***_φ_ ~~***ridʒa:l***ₙ~~]] [ᵢ [*Najwa*_D_] [ᵢ [ᵥ [~~*Najwa*_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]]]

II. Delete [_D_ [***ridʒa:l***ₙ] [_D_ [***minnu***_D_] [***hu***_φ_ ~~***ridʒa:l***ₙ~~]]
& Merge <C, I>
[c [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]] [ᵢ [*Najwa*_D_] [ᵢ [ᵥ [~~*Najwa*_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [***ridʒa:l***ₙ] [_D_ [***minnu***_D_] [***hu***_φ_ ~~***ridʒa:l***ₙ~~]]]]]]]]

e. TopP phase

I. Merge <Top, C>
[_Top_ [c [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]] [ᵢ [*Najwa*_D_] [ᵢ [ᵥ [~~*Najwa*_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [~~*ridʒa:l*ₙ~~] [_D_ [~~*minnu*_D_~~] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]]]

II. Copy ***Najwa***_D_ & Merge <Top, C>
[_Top_ ***Najwa***_D_ [c [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]] [ᵢ [*Najwa*_D_] [ᵢ [ᵥ [~~*Najwa*_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [~~*ridʒa:l*ₙ~~] [_D_ [~~*minnu*_D_~~] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]]]

III. Delete *Najwa*_D_
[_Top_ ***Najwa***_D_ [c [_D_ [*ridʒa:l*ₙ] [_D_ [*minnu*_D_] [*hu*_φ_ ~~*ridʒa:l*ₙ~~]] [ᵢ [~~*Najwa*_D_~~] [ᵢ [ᵥ [~~*Najwa*_D_~~] [ᵥ [*ʃa:fit* ᵥ *hu*_φ_] [_D_ [~~*ridʒa:l*ₙ~~] [_D_ [~~*minnu*_D_~~] [~~*hu*_φ_~~ ~~*ridʒa:l*ₙ~~]]]]]]]]

In this section I have shown that the derivation of the Iraqi Arabic genitive

interrogatives employing the resumptive strategy parallels the derivation of Iraqi Arabic D-linked content questions employing the resumptive strategy (Sterian 2011), in that both have a D-φ-N structure.

4.   Conclusions

In this paper I presented a parallel between genitive interrogatives and D-linked content questions in Iraqi Arabic. I argued that genitive interrogatives are inherently D-linked and that it is the syntactic structure which causes genitive interrogatives and D-linked interrogatives to pattern in the same way with respect to local extraction, long-distance extraction and superiority and that this D-linking nature arises whenever there is an overt domain restriction. Thus, genitive interrogatives have a D-N structure in content questions which employ the gap strategy and a D-φ-N structure in content questions which employ the resumptive strategy. This has consequences for our understanding of how D-linking interacts with the resumptive strategy.

References

Borer, Hagit. 1999. Deconstructing the construct. In *Beyond Principles and Parameters*, eds. Johnson, K. and I. Roberts. Dordrecht: Kluwer Publications.

Chomsky, Noam. 1973. Conditions on transformations. In *A Festschrift forMorris Halle*, eds. S.Anderson and P. Kiparsky, 232-286. New York: Holt, Reinhart & Winston

Fassi, Fehri A. 1988. Case inflection, VS order and X'-Theory. In *Proceedings of the 1ˢᵗInternational Conference of the Linguistic Society of Morocco,* ed. A. Fassi Fehri

Pesetsky, David. 1987. Wh-in-situ: Movement and Unselective Binding. In *The Representation of (In)definiteness*, eds. Eric J. Reuland and Alice G. B. Ter Meulen, 98-129. Cambridge, MA: MIT Press

Pesetsky, David. 2000. *Phrasal movement and its kin*. Cambridge, MA: MIT Press

Ritter, Elizabeth Ann. 1988. A case study in the Syntax of Agreement: Hebrew Noun Phrases and Benoni Verb Phrase. Doctoral Dissertation, MIT

Shlonsky, Ur. 2004. Enclisis and proclisis. In *The structure of CP and IP*, ed. Luigi Rizzi, 329-353. New York: Oxford University Press.

Sterian, Laura-Andreea. 2011.*The syntax and semantics of gap and resumptive strategies in Iraqi Arabic D-linked content questions.* MA thesis, University of British Columbia.