The interaction between Topic and Focus

C.-T. James Huang 02-14-2014

1. Introduction

- Information structure: topic, focus, discourse linking, etc.
- Deriving information structure from syntactic structure
 - The left periphery = fine structure of CP
 - $\left[\dots \left[\text{TopP} \cdots \right]_{\text{focP}} \left[\dots \right]_{\text{TP}} \cdots \left[\dots \right] \right] \right]$
- Overt and null topics

2. Topic prominence and topic structures

- Kinds of topic
 - Gapped vs. non-gapped
 - Overt vs. covert topic (null topic, topic drop)
- The hallmark of topic prominence
 - The existence of non-gapped topic sentences
 - The existence of covert-topic structures (Chinese, German, etc.)
 - Topic chain structures
- Structure of the periphery
- Topic structures and their derivations
 - Non-gapped topics:
 - Directly merged at Spec/CP (TopP)
 - Gapped topics:
 - Overt topic or null topic

3. The derivation of overt gapped topics:

- Some gaps may be produced by the "pro strategy"
- Some gaps are produced by movement
- The effect of focus on topics

3.1. Left-right asymmetries in extraction

- **CNPC** asymmetries:
- a. Zhangsan, [[e chang-ge de shengyin] hen haoting].
 Zhangsan, sing-song de voice very good-to-hear
 'Zhangsan, his voice of singing is very good.'
 - b. *Zhangsan, [wo hen xihuan [e chang-ge de shengyin]].
 Zhangsan I very like sing-song de voice
 'Zhangsan, I like [his] voice of singing.'

- c. Zhangsan, $[e \text{ chang-ge de shengyin}]_i$ [wo hen xihuan t_i]. Zhangsan sing-song de voice I very like 'Zhangsan, I like [his] voice of singing.'
- (2) a. Zhangsan, [[e xie de shu] bu shao]Zhangsan write de book not fewZhangsan, books that he has written are numerous.
 - b. *Zhangsan, [wo nian le bu shao [e xie de shu]]
 Zhangsan I read le not few write de book
 Zhangsan, I have read many books that [he] has written.
 - c. Zhangsan, [e xie de shu]_i [wo nian le bu shao t_i] Zhangsan write de book I read le not few Zhangsan, I have read many books that [he] has written.
- (3) a. Zhangsan, [[piping e de ren] bu shao]Zhangsan criticize de person not fewZhangsan, people who criticize [him] are numerous.
 - b. *Zhangsan, [wo renshi hen duo [piping e de ren]]
 Zhangsan I know very many criticize de person
 Zhangsan, I know many people that criticize [him].
 - c. Zhangsan, [piping e de ren]_i [wo renshi hen duo t_i] Zhangsan criticize de person I know very many Zhangsan, I know many people that criticize [him].
- LBC asymmetries:
- (4) a. Zhangsan, [e baba] hen youqian.Zhangsan, father very rich'Zhangsan, [his] feature is very rich.'
 - b. *Zhangsan, wo kanjian [e baba]. Zhangsan, I saw [his] father.
 - c. Zhangsan, [e baba]_i wo kanjian le t_i . Zhangsan, [his] father, I saw.

- (5) a. nage nühai, [e yanjing] hen haokan. that girl, eyes very pretty.'That girl, [her] eyes are very pretty.
 - b. *nage nühai, wo xihuan [e yanjing]. That girl, I like [her] eyes.
 - c. nage nühai, [e yanjing]_i, wo xihuan t_i . That girl, [her] eyes, I like.
 - Notes on all of (1)-(5):
 - There is a subject-object asymmetry in "extraction" out of an island into a topic position: extraction out of a subject island is ok, as shown in (a); but not from an object island, as shown in (b).
 - Extraction from an object island is possible, however, if the object is preposed before the subject, as shown in (c).
 - The asymmetry disappears if the gap is replaced by an overt pronoun: all of (a-c) are good.
 - Also: the asymmetries shown above w.r.t. topic structures obtains fully with relativization structures as well.
- CED (Adjunct Condition) asymmetries
- a. Zhangsan_i, yinwei [e_i] bu neng lai canjia wanyan, Lisi juede hen shiwang.
 Zhangsan because not can come join dinner Lisi feel very disappointed
 'Zhangsan, because he could not attend the dinner, Lisi felt very disappointed.'
 - *Zhangsan_i, Lisi yinwei [e_i] bu neng lai canjia wanyan, juede hen shiwang.
 Zhangsan Lisi because not can come join dinner feel very disappointed
- Note on (6): The difference between (a) and (b) is whether the adjunct clause is before or after the main clause subject Lisi. Again, an overt pronoun in place of [e] shows no asymmetry.

3.2. Account of the left-right asymmetry

An account of the asymmetry observed above was proposed in Huang (1984, 1989) that has the following features:

- (7) a. Availability of pro: Chinese being a pro drop language. The null category [e] may originate as a PRO/pro that gets coindexed with the topic without movement.
 - b. The identification of PRO/pro is subject to a minimality requirement, i.e.:

The GCR:

Co-index PRO/pro with the closest potential antecedent:

- c. The (a) and (c) sentences with apparent island violations are grammatical when Topic is directly merged at Spec of TopP, without movement, and is related to the main clause by coindexing with the closest available *pro* below.
- d. The (b) sentences cannot be obtained through this non-movement route, because the *pro* is located within a post-verbal constituent, too far to be coindexed with the topic.
- e. Since the movement option is also excluded by island constraints, the (b) cases are ill-formed.
- (8) The (a) and (c) cases:

(a) Topic, [[island pro 唱歌的聲音] 很好聽]

(Coindex under GCR is OK; movement is blocked by CED/Subjacency)

(b) Topic, [我很喜歡 [island pro 唱歌的聲音]]

x

(Coindex under GCR is blocked, too far; movement also blocked by CED/Subjacency) $% \left(\frac{1}{2} \right) = 0$

- Implication of the above account: Movement *is needed* for derivation of sentences like the following:
- (9) Zhangsan, Lisi bu xihuan [e].'Zhangsan, Lisi does not like [e].'
- (10) Zhangsan, wo zhidao ni shuo-guo Lisi bu xihuan [e].'Zhangsan, I know you have said that Lisi does not like [e].'
 - These sentences cannot be derived by merging a Pro at [e] and coindexing it with the topic under the GCR.

(11) The (a) and (c) cases:

(a) Topic, [[island pro 唱歌的聲音] 很好聽]

(Coindex under GCR is OK; movement is blocked by CED/Subjacency)

(b) Topic, [我很喜歡 [island pro 唱歌的聲音]]

(Coindex under GCR is blocked, too far; movement also blocked by CED/Subjacency)

(c) Topic, [[island pro 唱歌的聲音]; 我很喜歡 t_i]

(Step 1 movement ok; step 2 coindex under GCR is OK)

- Implication of the above account: Movement *is needed* for derivation of sentences like the following:
- (12) Zhangsan, Lisi bu xihuan [e].'Zhangsan, Lisi does not like [e].'
- (13) Zhangsan, wo zhidao ni shuo-guo Lisi bu xihuan [e].'Zhangsan, I know you have said that Lisi does not like [e].'

These sentences cannot be derived by merging a Pro at [e] and coindexing it with the topic under the GCR.

3.3. Focus and minimality

- Some apparent counterexamples to the left-right asymmetric pattern and the GCR account of it have been suggested by a number of linguists, including Xu and Liu 2003, who show that extraction is possible from some post-verbal islands.
 - The violations are not entirely free however, given the established observations above whose validity has been extensively confirmed.
 - No alternative account has been suggested that explain the existing patterns and their apparent exceptions.
- Based on detailed surveys, Zhang, Min (2009) provides the generalization that extraction is possible from a post-verbal island if the island domain is itself focalized: as in the environment of *zhi* 'only', *lian* 'even', negation, or when in contrast with another constituent.

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- (14) a. *Zhangsan, wo kanjian le [e hou naoshao] Zhangsan, I saw Perf. [his] back-of-head.
 - b. Zhangsan, wo zhi kanjian le [e hou naoshao]
 Zhangsan, I only saw Perf. [his] back-of-head.
 'Zhangsan saw only the back of his head.'
- (15) a. *na-ge nühai, wo xihuan [e yanjing] That girl, I like [her] eyes.
 - b. na-ge nühai, wo xihuan [e yanjing]; zhe-ge nühai, wo xihuan [e bizi]. That girl, I like [her] eyes; this girl, I like [her] nose.
 - c. na-ge nühai, wo zhi xihuan [e yanjing]. That girl, I only like [her] eyes.
- (16) a. *na-ge xuesheng, wo jide [e mingzi] that student, I remember [his] name.
 - b. na-ge xuesheng, wo jide [e mingzi]; bu jide [e zhangxiang] That student, I remember [his] name; don't remember [his] looks.
 - c. na-ge xuesheng, wo zhi jide [e mingzi].That student, I only remember [his] name.
 - d. na-ge xuesheng, wo lian [e mingzi] dou wang le.That student, I even [his] name all have forgotten.

Zhang, Min's 張敏 2009 proposal:

- (17) a. Both the extraction target and the extraction site must be in a state of being "activated" (receiving attention).
 - b. The target must be higher in potential topicality, the extraction site must be lower in potential topicality and higher in being a focus.
 - c. Definiteness of DP and specificity of events contribute to topicality of target, and relative opacity of the extraction site. Indefiniteness, focus particle, negation, contrast, etc., contribute to focus.
 - d. Subjacency applies to topicalization extractions.
 - e. Violation of Subjacency is tolerated only if the extraction site receives 'extra activation'.
 - Translating Zhang's observations to our terms: (also Huang & Yang 2013)
- a. Focused elements are "activated" → They trigger LF movement to the left periphery, to [Spec, FocusP].
 - b. A possible alternative is to adjoin to vP, assuming reconstruction of the subject.

(Mitcho Erlewine)

- c. See also Constant (2013): LF movement of Contrastive Topic. (Also assumed)
- (19) Focus = exhaustive focus
 - a. Overt movement: clefts, pseudo-clefts, etc. \rightarrow Overt trigger by F^0 .
 - b. Focus-in-situ: *shi*, *only*, focal stress, etc. \rightarrow LF movement.
 - c. Aslo compare Old Chinese vs. Modern Chinese (overt vs. movement to Focus), another typical case of the derivational timing parameter

(20) Focus \rightarrow alternatives \rightarrow quantification \rightarrow operator position

See Rooth 1992, 1996 and many others after Rooth. For example, the semantics of only:

(21) only: $\lambda C \lambda p \forall q [(q \in C \& True(q)) \leftrightarrow q = p]$

Partee 2009, on Rooth: *Only* combining with a clause ϕ yields [a] the assertion $\forall p[(p \in [[\phi]]^{f} \& \text{True}(p)) \rightarrow p = [[\phi]]^{\circ}]$ and [b] the presupposition ϕ . That is, *only* ϕ [a] presupposes that ϕ and [b] asserts that ϕ is the only true member of ϕ 's alternative set. For example:

- (21) John only saw $[Bill]_F = only +$
 - a. $\phi = \text{John likes [Bill]}_F = \text{the ordinary semantic value of } \phi = [[\phi]]^\circ [= \text{presupposition}]$
 - b. The focus semantic value of $\phi = [[\phi]]^f$ = the set of alternative propositions of the form "John saw x" (including *John saw Bill*).
 - c. Assertion: there is no true proposition of the form "John saw x" other than \$\ophi\$ itself (John saw Bill), i.e. the one where x is Bill:
 ∀p[(p ∈ [[\$\ophi]]^f & True(p)) → p = [[\$\ophi]]^o] (Every true proposition that is a member of the alternative set is necessarily identical to the presupposed proposition.)

That is, a focus sentence with *only* involves universal quantification, hence a QR structure in LF by familiar assumption. Instead of universal quantification over propositions, we could speak of universal quantification over the DP object argument: Bill is the only value that makes the formula {*John saw x*} true. Either the restrictive or the non-restrictive schema:

- (22) $\forall x \text{ Person } (x)(\text{John saw } x) \rightarrow (x = \text{Bill})$ $\rightarrow \text{ viz., Every person that John saw is Bill.}$
 - Recall Chomsky 1976's earlier account of weak crossover:
- (23) a. *Who does his mother love?
 - b. *His mother loves everyone.
 - c. *His mother loves someone.
 - d. His mother loves John.

- e. *His mother loves JOHN.
- (24) a. The woman he loved betrayed John.
 - b. *The woman he loved betrayed everyone.
 - c. *The woman he loved betrayed someone.
 - d. *Who does the woman he loved betray e?
 - e. *The woman he loved betrayed JOHN.
- (25) a. For x = John, his_i mother loves x_i.
 b. For x = John, the woman he_i loved betrayed x_i.
- (26) a. $\forall x \text{ (his mother loves x) } (x = \text{John})$
 - b. $\forall x$ (the woman he loved betrayed x) (x = John)

The LF representations (26a-b) are cases of 'weak crossover' in LF, ruled out by (27):

(27) The Leftness Condition:A variable cannot be the antecedent of a pronoun to its left.

Now let's go back and consider (15c) again:

(15c) na-ge xuesheng, wo zhi jide [e mingzi]. That student, I only remember [his] name.



- a. Overt movement of wo from vP to SpecTP.
- b. Covert LF movement of *e mingzi* (pro's name) to *zhi* 'only', yielding "only e's name". The result is:

- (29) neige xuesheng, wo zhi jide [e mingzi] that student, I only remember [pro] name.
 a. Move [pro's name] to zhi 'only'
 b. Move 'only [pro's] name' to Spec of FocusP, giving (30):
- (30) $[_{TopicP} \text{ that student}_2] [_{FocusP} [only pro_2's name]_3] [_{TP} I remember t_3]$

c. Pro is properly co-indexed with the topic 'that student' under the GCR.

3.4. Summary:

- Overt topic structure in Chinese may be formed by co-indexing *pro* with a base-generated topic.
- Coindexing under GCR is subject to minimality/intervention, thus resulting in a systematic left-right asymmetry of apparent island violations.
- Movement is needed for the grammatical cases not derivable by *pro*+GCR.
- English: no similar apparent island violations possible due to the unavailability of the *pro* option. The only way to relate target to the topic position is by movement, which is restricted by Subjacency.
- Apparent departures from the left-right asymmetries are permitted when Focus is involved. These cases follow from the hypothesis that in-situ foci are subject to LF movement, which preposes the in-situ foci to Spec, FocusP position, closely (enough) below TopicP.

Additional evidence from Weak Crossover in Chinese:

(31)	a.	昨天我去找他的時候,	張三正在家裡。	[for 他=張三]
	b.	*昨天我去找他的時候,	只有張三在家。	[for 他=張三]

- (32) a. 昨天我去找他的時候,沒見到張三。[for 他=張三]b. *昨天我去找他的時候,只見到張三。[for 他=張三]
 - Two pieces of argument for Focus Movement in LF (over the pure alternative semantics account)
 - Focus and the GCR
 - Weak Crossover and the Leftness Condition
 - Additional evidence from Xiang, Yimei (2014)
 - Cf. current work by Lawrence Cheung (e.g. 2013)

4. Conditions on null (covert) topics:

4.1. Huang and Yang (2013):

- No pro-strategy available (no left-right asymmetries)
- Invention effects (by topics) and island effects
- Therefore, null topics must be created by movement
- Why should this be true? The answer: circularity of anaphoric dependency
- Null topics and island effects: no left-right asymmetries

Null topics are banned where they are related to a gap within an island—regardless of the position of the island—no left-right asymmetries (unlike the examples above). In each (a)-sentence below, the empty subject cannot be understood as referring to a null topic, but with an overt topic, the (b)-sentences are fine. For example, none of the (a)-sentences can be used as a reply or a continuation of a sentence like "Now, let me talk about Lisi".

Relative clause

- (33) a. *[DP xuduo [CP e xie] de shu] dou hen changxiao.
 many write DE book all very well.sell
 'Many books that [he] writes sell well.'
 - b. Lisi (a), *[_{DP} xuduo [_{CP} e xie] de shu] dou hen changxiao.
 Lisi many write DE book all very well.sell
 'Many books that [he] writes sell well.'

Factive predicate

- (34) a. Zhangsan_i fajue/zhidao/dezhi [e_{i/*j} kao-shang daxue le].
 Zhangsan realize/know/learn exam-up university Perf.
 'Zhangsan realizes/knows/learns that [he_{i/*j}] has passed the exam to university.'
 - b. Lisi_j(a), Zhangsan_i fajue/zhidao/dezhi [e*i/j kao-shang daxue le]. Lisi Top Zhangsan realize/know/learn exam-up university Perf. 'Lisi_j, Zhangsan_i realizes/knows/learns that [he*i/j] has passed the exam to university.'

Object topicalizatoin

- (35) a. Zhangsan_ishuo daxue_k $[e_{i/*j}$ kao-shang e_k le]. Zhangsan say university pass-up Perf. 'Zhangsan_i said $[he_{i/*j}]$ has passed the university entrance exam.'
 - b. Lisi_j (a), Zhangsan_i shuo daxue_k [$e_{*i/j}$ kao-shang e_k le]. Lisi Top Zhangsan say university pass-up Perf. 'Lisi, Zhangsan_i said [$he_{*i/j}$] has passed university entrance exam.'

NP complement clause

- (36) a. *[DP [CP e cizhi] de yaoyan]man-tian fei. resign DE rumor full-day fly
 'The rumor that [he] has resigned spreads everywhere.'
 - b. Lisi (a), [DP [CP e cizhi] de yaoyan] man-tian fei.
 Lisi Top resign DE rumor full-day fly
 'Lisi, the rumor that [he] has resigned spreads everywhere.'

Adjunct clause

- (37) a.*[yinwei e_i mei lai shangxue], laoshi_j hen shengqi.
 because not come go.to.school teacher very upset
 'Because [he_i] didn't come to the school, the teacher_i was very upset.'
 - b. Lisi_i (a), [yinwei e_i mei lai shangxue], laoshi_j hen shengqi.
 Lisi Top because not come go.to.school teacher very upset
 'Lisi_i, because [he_i] didn't come to the school, the teacher_i was very upset.'
- (38) a.*[meidang e_i du shu shi], women_j dou bu neng chu sheng.
 whenever read book then we all not can make noise
 'Whenever [he_i] is studying, we_j cannot make noise.'
 - b. Lisi_i (a), [meidang e_i du shu shi], women_j dou bu neng chu sheng. Lisi Top whenever read book then we all not can make noise 'Lisi_i, whenever [he_i] is studying, we_j cannot make noise.'

Wh-interrogative

(39) a. Zhangsan_i xiang-zhidao [$e_{i/*j}$ mai-le shenme]. Zhagnsan want-know buy-Perf. what 'Zhangsan_i wonders what [he_i] bought.'

- b. Zhangsan_i xiang-zhidao [$e_{i/*j}$ qu-le nali]. Zhagnsan want-know go-Perf. where 'Zhangsan_i wonders where [he_i] went.'
- (40) a. Lisi_j (a), Zhangsan_i xiang-zhidao [e_j mai-le shenme].
 Lisi Top Zhagnsan want-know buy-Perf. what 'Lisi_i, Zhangsan_i wonders what [he_i] bought.'
 - b. Lisi_j (a), Zhangsan_i xiang-zhidao [*e*_j qu-le nali]. Lisi Top Zhagnsan want-know go-Perf. where 'Lisi_j, Zhangsan_i wonders where [he_i] went.'

That is, there is a clear contrast between overt and null topics. Whereas an overt topic may side-step Subjacency by being coindexed with a *pro* within an island under the GCR, a null topic cannot be licensed in the same way.

- Generalization: An asymmetry between overt and null topics
 - Overt topicalization exhibits left-right asymmetries: no island effects when the island occurs on the left—because of the possibility of pro, which may license the merged topic under GCR.
 - Null topics, however, exhibit full island effects, with no left-right asymmetries. This means that the pro-GCR option is not available for null topics.
 - An overt Topic may be formed by EM (merge), but a null topic can be created only by IM (move).
- Why?
 - Referential circularity, valuation dependency

5. Null topics across dialogues (Liu 2014, in progress)

- L. Liu (2014): Limited to monologues (except as below), since null topics need to be licensed (e.g. through a topic chain)
- A null object may occur in dialogues if occurring in a *parallel* environment
- A null subject is usually unacceptable across dialogues except as below.
 - Exception 1: as an answer to a yes-no question, provided the VP is "bare" [V-move to V2 position?]
 - Exception 2: as an answer to a wh-question [XP-move to FocusP]

5.1. The null object across discourse

(41) Context yielding an Aboutness(-shift) topic:

a. Speaker A: You know what! When I was shopping downtown with my boyfriend

yesterday, I saw Mary having lunch with John in the food court. The T-shirts that they wore had similar colors and patterns. It looks like they're dating. Do you know which John I am talking about? The John who plays basketball very well in my class.

b. Speaker B: *Shenme! Mali renshi ei.

what Mary know 'What! Mary knows [John].'

- (42) Compare:
 - a. Speaker A: shei renshi Zhangsan?
 - b. Speaker B: Lisi renshi e.
 - A plausible account of null object across discourse: V-stranding VP ellipsis
 - Recalling Ai (2006), Goldberg (2006), Otani and Whitmn (1991), Huang (1988)
 - Other proposals: NP ellipsis [Cheng 2013; also cf. certain proposals on Japanese null pronouns—Takahashi, Oku, etc.]
 - Are there systematic differences between Chinese and J-K?

6. The null subject across discourse (Liu 2014, in progress)

- Generally unacceptable (as noted by Louis Liu)
- (43) a. Mali renshi Bier ma? Mary know Bill Q'Does Mary know Bill?'
 - b. *eirenshi Bier. know Bill '[Mary] knows Bill.'

6.1. Exception 1: Answers to yes-no questions: OK if the sentence contains only one verb

- (44) a. Mali renshi Bier ma? Mary know Bill Q'Does Mary know Bill?'
 - b. *eirenshi. know

'[Mary] knows [Bill].'

Also compare (b) and (c):

- (45) a. Lisi xiangxin Zhangsan chengshi ma? Lisi believe Zhangsan honest Q
 - b. *e xiangxin Zhangsan chengshi ma? believe Zhangsan honest Q
 - c. e xingxin e believe
 - Similar observations made by Shibata 奈津美(2011)
 - Answers to the exception: V-to-C followed by sluicing
 - Following Simpson 2013, cf. Holmberg ...

(46) [CP renshi/xiangxin [TP Lisi $t_v \dots$]] \rightarrow sluicing \rightarrow

- A case of V2 in Chinese! (cf. Tsai today)
- Problems raised by the hypothesis that Chinese has V-to-v but not beyond?
 Answer: amputation (or asterisectomy), cf. Merchant, Lasnik, Ross.
- Another case of V-to-C (Tang 2013) [followed by TP movement, maybe not by sluicing]
- (47) Lei Sinsang wa [A-J hoe-zho Taiwan, gau-zho sam-ge loi pengyau]Li Mr. said A-J went Taiwan met-past 3-Cl girl friend'Mr. Li said that A-Jay went to Taiwan and got three girl friends.'
- (48) [A-J hoe-zho Taiwan, gau-zho sam-ge loi pengyau] wo.
 A-J went Taiwan met-past 3-Cl girl friend
 'So (I heard) that A-J went to Taiwan and got three girls friends.'
- (49) Tang 2013 i.a.: wa → wo involves raising into higher functional category (cf. Roberts, etc.). Top CP = Evidentiality Phrase
 - a. [CP-Evid [TP (e) wo [cp A-J went to Taiwan and got three girl friends]]]
 - b. $[_{CP-Evid}$ wo $[_{TP}$ (e) t $[_{cp}$ A-J went to Taiwan and got three girl friends]]]
 - c. Move CP to Spec Evid-P:
 [CP-Evid [cp A-J went to Taiwan and got three girl friends] wo [TP (e) t]]
 d. Clean unit
 - d. Clean-up:
 [CP-Evid [cp A-J went to Taiwan and got three girl friends] wo]!

6.2. Exception 2: as an answer to wh-question

- Liu 2014, in progress
- Focus movement of the XP to Spec FP, followed by deletion of the non-focused
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7. Concluding remarks

- Both topics and focus involve movement, if not overt then covert movement
- Overt topics may be base-merged and licensed by a pro to satisfy the aboutness requirement. The pro strategy (GCR) is subject to Minimal Distance.
- Null topics must involve overt movement, hence exhibiting island effects and intervention effects.
- Focus movement in LF helps to overcome certain left-right asymmetries.
- Evidence for covert movement (vs. pure alternative semantics)
- Focus movement (overt or covert) also gives rise to apparent unbound subject pro's across discourse.
- X⁰-movement to C (or even higer) domain is possible if certain illegal structures are "amputated" or undergo "asterisectomy".
- Radical pro drop or topic-prominence is not one phenomenon.
- Moral of the last point: you cannot offer just an all-purpose herbal bill that cures all diseases and even prevents them at the same time.