A cartographic analysis of Shi and Lian…Dou in Mandarin Chinese

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Abstract: Shi and lian … dou/ye can both be used as focus constructions in Mandarin Chinese. The current paper aims to investigate the shi and lian … dou/ye constructions within the framework of Syntactic Cartography. The two constructions share very similar syntactic distributions; however, shi and lian are not in the same syntactic position, or more precisely, the former is located higher than the latter. The two constructions mark various foci, namely, adjunct focus, predicate focus, subject focus, and complement focus. In terms of the focus meaning, they express foci of different types, namely, shi introduces the exclusive focus and lian signals the inclusive focus, which is retained in their lexical meanings during the process of grammaticalization of the two words. Both shi and lian can occur at the sentence-initial position and the sentence-internal position. The current research agrees with the previous studies that the sentence-initial lian-XP serves as topics while the sentence-internal lian-XP functions as foci. This paper claims that the sentence-initial shi-phrase also expresses topics and further argues that the sentence-initial shi-phrase marks topic foci whereas the sentence-initial lian-phrase marks focus topics which both carry the [Topic] and [Focus] features but differ in the feature strength. It is concluded that shi can be analyzed on a par with lian in Mandarin Chinese.

Subjects: Language & Linguistics; Grammar, Syntax & Linguistic Structure; Syntax

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PUBLIC INTEREST STATEMENT

Topics and foci play an important role in many branches of linguistics, including syntax, semantics, and pragmatics. In Mandarin Chinese, shi and lian … dou are always regarded as focus markers. The aim of the current paper is to explore a syntactic account of the two constructions. It is observed that the shi and lian … dou constructions share very similar syntactic distributions and that the former's position is higher than that of the latter. The two constructions mark various foci and express different focus meanings, namely, the former expresses the exclusive focus and the latter the inclusive focus. The different focus meanings are retained in their lexical meanings during the process of grammaticalization. It is claimed that the sentence-initial shi-phrase also expresses topics. It is further argued that the sentence-initial shi-phrase marks topic foci, whereas the sentence-initial lian-phrase marks focus topics. Therefore, shi can be analyzed on a par with lian in Mandarin Chinese.
Keywords: Shi; lian … dou/ye; syntactic distribution; topic; focus; cartography

1. Introduction

The study of focus has long fascinated Chinese linguists, the views on which have remained controversial. One of the controversies is the divided opinion as to which words can carry the [Focus] feature or serve as the focus marker. Xu and Li (1993) argued that only unstressed shi can function as the focus marker; Fang (1995) claimed that in addition to shi, lian can also mark foci; Liu and Xu (1998) proposed that lian expresses topic foci; Zhao and Sun (2005) and Jiang and Wei (2010) among others claimed that such adverbs as zhiyou, cai, dou, ye, etc. are also used to express foci.

Fang (1995) proposed three criteria for markers as shown below and claimed that the Chinese language only has two focus markers, i.e. shi and lian. Given the fact that lian and dou/ye always co-occur when employed to express foci, lian … dou/ye is also regarded as the focus marker.

(1) A marker generally does not carry content meaning and thus cannot be stressed.

(2) The function of a marker is to mark as foci the elements following them, hence the phonological prominence on those elements.

(3) A marker is the optional element in a sentence, the ellipsis of which does not affect the grammaticality of the sentence.

(Fang, 1995, p. 281)

Badan and Del Gobbo (2015) investigated the even-construction and claimed that the initial lian-construction marks topics and the internal lian-construction marks foci. Their research sheds some light on this paper. Xiong (2017) conducted a cartographic analysis of the even-sentence, the analysis of which this paper partially agrees with.

Despite the unreached consensus on the number of focus markers in Chinese, it is generally agreed that shi-sentences and lian … dou/ye are both focus constructions. Research abounds concerning the semantic analysis of dou and lian … dou; however, there is only a small amount of syntactic research. The syntax of shi-sentences has also been the topic of much discussion.1 Nevertheless, few scholars have conducted a comparative study of the two constructions.

He (2011) noted that the syntactic distributions of the shi and lian … dou constructions are very similar, yet her research is mainly a descriptive one with very little explanation of the syntactic derivation. Therefore, the current paper aims to analyze the shi and lian … dou constructions within the framework of Cartography and to explore whether there are any similarities between the two constructions in light of their very similar syntactic positions (see, Section 2 for more detail), providing a syntactic account of the two constructions.

The residue of the paper is organized as follows: Section 2 presents a brief description of the syntactic positions of the shi and lian … dou/ye constructions; Section 3 differentiates two types of foci the two constructions express and investigates the origin of the focus meaning; Section 4 conducts a cartographic analysis of the two constructions; Section 5 concludes the paper.

2. Syntactic positions of Shi and Lian … dou/ye constructions

The element following the focus marker shi is focalized and various foci can be signaled by shi, i.e. adjunct focus, predicate focus, subject focus, and complement focus. Shi can precede various adjunct foci, including time, location, instrument, manner, purpose, to name but a few. For reasons of space, only one example is given below as an illustration (cf. for more detail Shyu, 2016, pp. 548–556).2
(4) 张三是在欧洲拿到博士学位的。

Zhangsan shi zai ouzhou nadoo boshi xuewei de.

Zhangsan be in Europe obtain PhD degree DE

“Zhangsan obtained his PhD degree in Europe.”

It should be noted that *shì* and the following focalized element can also occur at the sentence-initial position. For the sake of simplicity, the following example will suffice to illustrate the point.

(5) Q: 张三是在哪里获得博士学位的？

Zhangsan shi zai nali huode boshi xuewei de?

Zhangsan be at where obtain PhD degree DE

“Where did Zhangsan obtain his PhD degree?”

A: 是在欧洲 (张三) 获得 (博士学位) 的。

shi zai ouzhou (Zhangsan) huode (boshi xuewei) de.

be in Europe (Zhangsan) obtain (PhD degree) DE

“Zhangsan obtained his PhD degree in Europe.”

*Shì* can also emphasize verb phrases as exemplified below. However, in this case, *shì* and the focalized element cannot be preposed to the sentence-initial position, witnessed by the ungrammaticality of (6b).

(6) a. 这个笔记本是属于玛丽的。

Zhe-ge bijiben shi shuyu Mali de.

This-CL notebook be belong to Mary DE

“This notebook belongs to Mary.”

b. *是属于玛丽这个笔记本的。

Shi shuyu Mali zhe-ge bijiben de.

be belong to Mary this-CL notebook DE

Lit: “Is belong to Mary this notebook.”

In addition, *shì* can emphasize the subject and the complement, subject to some restrictions. When the subject is emphasized, it can only occur at the sentence-initial position, as illustrated in (7). Similarly, When the complement is focalized, *shì* and the following element can only occur at the sentence-initial position, as (8) shows.

(7) Q: 人是谁创造的？

(8) a. 这个笔记本是属于玛丽的。

Zhe-ge bijiben shi shuyu Mali de.

This-CL notebook be belong to Mary DE

“This notebook belongs to Mary.”
ren shi shui chuangzao de
human be who create DE

“As for men, who created them?”
A: is shen chuangzao de
be God create DE

“(Men) God created (them).”

(Shyu, 2016, p. 548)

(8) Q: 是哪本小说约翰没有读过?
shi na-ben xiaoshuo Yuehan meiyou du-guo?
be which-CL novel John not read-ASP

“Which novel has John not read?”
A: 是《傲慢与偏见》约翰没有读过。
shi Aoman yu Pianjian Yuehan meiyou du-guo.
be Pride and Prejudice John not read-ASP

“John has not read *Pride and Prejudice.*”

The description above demonstrates that *shi* is subject to some restrictions in terms of its syntactic distributions. The following presents the description of the *lian ... dou/ye* construction.

Prior to the exemplification of the types of the focalized elements, it is important to describe the position of *lian* and the focused element. Shyu (1995) pointed out that “*lian ... dou/ye* is limited to a preverbal position” (Shyu, 1995, p. 7). *Lian* can occur at the sentence-initial and the sentence-internal position, but not the sentence-final position, as shown in (9).  

(9) a. 连张三都买了这本书。
lian Zhangsan dou mai le zheben shu
LIAN Zhangsan DOU buy Asp this-CL book

“Even Zhangsan bought this book.”

b. 张三连这本书都/也买了。
Zhangsan lian zheben shu dou/ye mai le
Zhangsan LIAN this-CL book DOU/YE buy Asp
“Zhangsan bought even this book.”

c. *张三也买了连这本书。*

Zhangsan dou/ye mai le lian zheben shu
Zhangsan DOU/YE buy Asp LIAN this-CL book

(ibid.)

Similar to *shi*, various foci can be signaled by *lian … dou/ye*, namely, adjunct focus, predicate focus, subject focus, and complement focus (cf. for more detail Shyu, *2016*, pp. 567–572). As for adjunct focus, *lian* can be followed by various foci, including time, location, instrument, to name but a few. The adjunct focus can also occur at the sentence-initial position. For reasons of space, two examples are presented in (10)-(11) as an illustration.

(10) 我真的没想到 … 连在街上走都会发生意外。

wo zhende mei xiangdao lian zai jieshang zou dou hui fasheng yiwei
I really NEG imagine even PREP street_on walk all can happen accident

‘I cannot imagine that one may encounter accidents even when walking on the street.’

(Shyu, *2016*, p. 568)

(11) 我连昨天发生抢劫都不知道。（BCC Corpus）

wo lian zuotian fasheng qiangjie dou bu zhidao.
I LIAN yesterday happen robbery DOU not know

“I didn't know that a robbery happened yesterday.”

*Lian … dou/ye* can also emphasize verb phrases as exemplified in (12). However, unlike *shi, lian* and the focused VP can be preposed to the sentence-initial position, as manifested in (13).

(12) 约翰连打篮球都不会。

Yuehan lian da lanqiu dou bu hui.
John LIAN play basketball DOU not can

“John can’t even play basketball.”

(13) 连打篮球约翰都不会。

lian da lanqiu Yuehan dou bu hui.
LIAN play basketball John DOU not can

“John can’t even play basketball.”
Moreover, lian can also focalize the subject and the complement, subject to some restrictions. Similar to shi, the focalization of the subject is limited to the sentence-initial position, as illustrated in (14). It is also worth noting that the focalization of the complement leads to word order variation, i.e. the word order has changed from canonical SVO order to OSV and SOV, as manifested in (15a) and (15b) respectively.

(14) 连玛丽都不知道密码。
lian Mali dou bu zhidao mima.
LIAN Mary DOU not know password
“Even Mary does not know the password.”

(15) a. 连《红楼梦》玛丽都没读过。
lian Hongloumeng Mali dou mei du-guo.
LIAN A Dream of Red Mansions Mary DOU not read-ASP
“Mary has not read even A Dream of Red Mansions.”

b. 玛丽连《红楼梦》都没读过。
Mali lian Hongloumeng dou mei du-guo.
Mary LIAN A Dream of Red Mansions DOU not read-ASP
“Mary has not read even A Dream of Red Mansions.”

The description above demonstrates that the focus marker lian … dou/ye is also constrained in terms of the syntactic distributions. The description above leads to the observation that the shi and lian … dou/ye constructions share very similar syntactic distributions, as summarized in Table 1.

### Table 1. Syntactic distribution of the two constructions

| Focus Type  | Shi (Initial) | Shi (Internal) | Lian … dou/ye (Initial) | Lian … dou/ye (Internal) |
|-------------|--------------|---------------|-------------------------|--------------------------|
| Adjunct     | Yes          | Yes           | Yes                     | Yes                      |
| Predicate   | No           | Yes           | No                      | Yes                      |
| Subject     | Yes          | No            | Yes                     | No                       |
| Complement  | Yes          | No            | Yes                     | Yes                      |

3. **Exclusive focus and inclusive focus**

The previous section demonstrates that the two markers shi and lian … dou/ye are highly similar in terms of their syntactic distributions. Nevertheless, the focus meanings expressed by the two constructions are different. König (1991, p. 33) claimed that focus particles can be
classed into two groups: additive/inclusive particles and restrictive/exclusive particles. In Mandarin Chinese *shi* marks the exclusive focus (cf., Tsai, 2004, pp. 99–100; Xiong, 2017, p. 440) whereas *lián* ... *dōu/yē* marks the inclusive focus (cf., Liu & Xu, 1998, p. 251; He, 2011, p. 45; Xiong, 2017, p. 440). The exclusive focus marked by *shi* picks out one element of a set of alternatives, as illustrated in (16). As for the inclusive focus, Xiang (2008) argued that the *lián* ... *dōu* construction not only asserts that the least likely event is true but also “emphasizes that the alternatives to the least likely event, namely, the more likely ones, are also true” (Xiang, 2008, p. 241), as manifested in (17).^12^

(16) 是张三通过了考试。

*shi* Zhangsan tongguo-le kaoshi.

be Zhangsan pass-PFV exam

“It was Zhangsan who passed the exam.”

No one other than Zhangsan has passed the exam.

(17) 连张三都通过了考试。

*lián* Zhangsan *dōu* tongguo-le kaoshi.

LIAN Zhangsan DOU pass-PFV exam

“Even Zhangsan has passed the exam.”

Existential implicature: Zhangsan and at least one other person than Zhangsan have passed the exam.

Scalar implicature: Zhangsan is the least likely person to pass the exam.

This paper further claims that the exclusive focus and the inclusive focus are rooted in the lexical meanings of the two markers, supported by the diachronic evidence. It's generally believed that the copula *shi* is derived from the demonstrative *shi*, though the emerging mechanism has remained controversial (Liang, 2012, p. 44). Liang claimed that the copula *shi* is derived from the anaphoric demonstrative *shi* (ibid.), as illustrated below.

(18) 而和氏之璧，隋侯之珠，三棘六异不可以利人，是非天下之良宝也。 (《墨子·耕柱》)

*er* Heshi zhi bi, Suihou zhi zhu, sanjiliuyi bukeyi li ren, shi fei
tianxia zhi liangbao ye.

but Heshi ZHI jade Sui Marquis ZHI pearl nine tripods cannot benefit people be not

world ZHI good treasures SFP

“But He Shi's jade, Marquis Sui's pearl, and the nine tripods (ding) cannot benefit people, so, in terms of the world, they are not excellent treasures. (Johnston, 2010, p. 649)”

(19) 她最佩服的人是她的导师。

*ta* zui peifu de ren *shi* tade daoshi.
she most admire DE person be her supervisor

“The person who she admires most is her supervisor.”

(Liang, 2012, pp. 44–45)

Shi and Han (2013) investigated the grammaticalization of copulas and described the grammaticalization cline of shi, as shown in (20). Shi is derived from demonstratives whose function is to take its reference from a preceding word or phrase and thus specifies a particular reference, which expresses the exclusive focus when shi develops itself into a focus marker.

(20) adjectives > the transitional usage as verbs, nouns, etc. > pronouns > copulas > focal markers (Shi & Han, 2013, p. 5)

Similarly, the inclusive meaning of lian is retained through its historical development. Xing (2004) studied the grammaticalization of lian and pointed out that “lian is probably one of the grammatical morphemes that has undergone the most complex syntactic change” (Xing, 2004, p. 87) and summarized the syntactic changes as shown in Table 2.

(ibid.)

Lian was primarily used as a verb meaning “to unite/ connect”, as shown in (21). Xing (2004) pointed out that “in Tang-Song texts, lian is found to express the meaning of ‘inclusiveness’” (Xing, 2004, p. 85), as illustrated in (22). In this period lian cannot be used for accentuation. In the Qing texts, lian is commonly used as a focus marker expressing “the value of the focused expression to a set of alternatives (König, 1991: 32)” (Xing, 2004, p. 86), as exemplified in (23).

(21) 必连兵还乡以攻关中。

bi lian bing huan xiang yi gong Guan-zhong.

must unite soldier return countryside to attack (place) name

“… must bring together soldiers to return to the countryside to attack the central Shanxi Plain.”

(22) 若数西山得道者连予便是三十人。

ruo shu Xi-shang de dao zhe, lian yu bian shi san-shi ren.

if count place receive Taoism person including/and me (there) is thirty people

“If (one) counts the Taoists at the West Mountain including/and me (there) are thirty people.”

| Table 2. Syntactic changes of Lian |
|------------------------------------|
| **Source Structure**               | **(NP₁⁺) lian<sub>main</sub> verb + NP₂**                  |
| 1st Reanalysis                     | Case 1a: (NP<sub>NP₁⁺</sub>) lian<sub>secondary</sub> verb + NP₂ + V<sub>main</sub> (+NP₃) |
|                                     | Case 2a: (NP<sub>NP₁⁺</sub>) lian<sub>verbs</sub> (V) + V<sub>main</sub> (+NP₃)          |
| 2nd Reanalysis                     | Case 1b: (NP<sub>NP₁⁺</sub>) lian<sub>prep/conj</sub> + NP₂ + V<sub>main</sub> (+NP₃)     |
| 3rd Reanalysis                     | Case 1c: (NP<sub>NP₁⁺</sub>) lian<sub>scalar focus particle</sub> + NP₂ … dou/ye + V (+NP₃) |
(23) 众人忽然一笑连贾珍也撑不住笑。

zhong-ren hong-ran yi-xiao, lian Jia Zhen ye cheng-bu-zhu xiao.

everyone suddenly laugh even name also neg-help laugh

“Every one burst into laughter; even Jia Zhen laughed.”

(Xing, 2004, pp. 83–86)

It can be seen above that the grammaticalization of shi and lian supports the claim that the exclusive focus marked by shi and the inclusive focus marked by lian … dou/ye are rooted in their lexical meanings. This is in line with Hopper’s (1991) principle of persistence, one of the five principles of grammaticalization, that when a linguistic form is grammaticalized from lexical words to function words “some traces of its original lexical meanings tend to adhere to it” (Hopper, 1991, p. 22).

4. A cartographic analysis

Ever since the Split-CP Hypothesis, the cartographic approach has become one of the main currents in the generative syntactic research. Syntactic Cartography analyzes the hierarchical order of functional categories in the CP domain, otherwise known as the left periphery, aiming to draw a map, as detailed as possible, of the functional projections in the peripheral domain of the clause. The attributes and projection positions constitute key points of the Cartography.

Rizzi (1997) initiated the cartographic line of research and argued that the CP layer can be split into ForceP, TopP, FocP and FinP which are all higher than IP. He proposed the following structure for the complementizer system.

(24) ForceP … TopP* … FocP … Top* … FinP … IP13 (Rizzi, 1997, p. 297)

Belletti (2004) analyzed the cartography of the clause's (IP) internal low area and pointed out “a strict parallelism between the clause-internal vP/VP periphery and the clause-external one in the CP left periphery” (Belletti, 2004, p. 25), as shown in (25).

(25) IP … TopP* … FocP … TopP* … vP/VP (ibid.)

Paul (2005) applied Belletti’s (2004) proposal about the cartography of the low IP area to Mandarin Chinese and partially confirmed the parallelism, as manifested in (26).

(26) IP > inner TopicP > “even” focusP > vP (Paul, 2005, p. 129)

The aim of this paper is to provide a syntactic account of the shi and lian … dou constructions. They are both generated by movement. The reasoning goes as follows. (27b) and (28b) demonstrate that the lian-phrase and the shi-phrase can be moved across the clausal boundary. However, the ungrammaticality of (27d) and (28c) indicates that the two phrases cannot move out of an island, meaning that the movement is sensitive to island effects which are regarded as the signature of A-bar movement. (27c) shows that the lian-phrase cannot move across the clausal boundary to the matrix preverbal position, which means that the phrase undergoes movement of a different kind, not A-bar movement but A-movement.14 In the ensuing discussion, further evidence which confirms that the sentence-initial lian-phrase and
shi-phrase undergo A-bar movement and that the sentence-internal lian-phrase undergoes A-movement will be presented.

(27) a. 张三认为老师都不能解决这个问题。
Zhangsan renwei lian laoshi dou buneng jiejue zhege wenti.
“Zhangsan thinks that even the teacher cannot solve this problem.”

b. 连老师，张三都认为不能解决这个问题。
lian laoshi, Zhangsan dou renwei buneng jiejue zhege wenti.
LIAN teacher Zhangsan DOU think cannot solve this problem
“Zhangsan thinks that even the teacher cannot solve this problem.”

c. *张三连老师都认为不能解决这个问题。
Zhangsan lian laoshi dou renwei buneng jiejue zhege wenti.
Zhangsan LIAN teacher DOU think cannot solve this problem
Lit: “*Zhangsan even the teacher thinks that cannot solve this problem.”

d. *张三，连老师都解决了不能解决的问题。
Zhangsan, lian laoshi dou jiejue-le buneng jiejue de wenti.
Zhangsan LIAN teacher DOU solve-PFV cannot solve DE problem
Lit: “*Zhangsan even the teacher solved the problem that cannot solve.”

e. *连老师，张三都解决了不能解决的问题。
lian laoshi, Zhangsan dou jiejue-le buneng jiejue de wenti.
LIAN teacher Zhangsan DOU solve-PFV cannot solve DE problem
Lit: “*Even the teacher, Zhangsan solved the problem that cannot solve.”

(28) a. 张三认为是鲁迅的文章李四不喜欢。
Zhangsan renwei shi Luxun de wenzhang Lisi bu xihuan.
“Zhangsan thinks that it is Luxun’s essays that Lisi does not like.”
b. 是鲁迅的文章, 张三认为李四不喜欢。

shi Luxun de wenzhang Zhangsan renwei Lisi bu xihuan.

be Luxun DE essay Zhangsan think Lisi not like

“It is Luxu's essays that Zhangsan thinks that Lisi does not like.”

c. *是鲁迅张三不喜欢写的文章。

shi Luxun Zhangsan bu xihuan xie de wenzhang.

be Luxun Zhangsan not like write DE essay

Lit: “*It is Luxun that Zhangsan does not like the essay that writes.”

The two kinds of lian-XP are both derived through movement, yet they undergo different types of movement. The sentence-initial lian-XP undergoes A-bar movement (Shyu, 1995, pp. 79–84; Badan & Del Gobbo, 2015, p. 44) whereas the sentence-internal lian-XP undergoes A-movement (Shyu, 1995, pp. 135–138; Badan & Del Gobbo, 2015, p. 44), confirmed by the following evidence.

The first piece of evidence concerns Reconstruction Effect which holds only for A’-chains but not for A-chains (Chomsky, 1993, p. 37) and thus diagnoses A-bar movement. The ungrammaticality of (29a) due to the failure of co-indexation between Zhangsan and taziji indicates that there is no Reconstruction Effect,15 while the success of co-indexation indicates that Reconstruction Effect is observed in (29b).

(29) a. ??我连一本关于他自己的书都被张三抢走了。

wo lian [yiben guanyu taziji de shu] dou bei Zhangsan qiang-zou le.

I LIAN one-CL about himself’s book DOU by Zhangsan rob-away Perf

“(lit.) I was robbed of [even a book about himself] by Zhangsan.”

(Shyu, 1995, p. 83)

b. 连关于他自己的书张三都丢掉了。

lian [guanyu taziji de shu] Zhangsan dou diu-diao le.

LIAN about himself's book Zhangsan DOU throw away Perf

“Even the book about himself, Zhangsan threw away.”

(Shyu, 1995, p. 136)

Another piece of evidence relates to the fact that the resumptive pronoun cannot co-refer with lian-XP at the sentence-internal position (Shyu, 1995, pp. 90–93; Badan & Del Gobbo, 2015, p. 43) while it is allowed with the sentence-initial lian-XP (Shyu, 1995, p. 139; Badan & Del Gobbo, 2015, p. 44), as manifested in (30).
(30) a. *李四连玛丽都很喜欢她。

Lisi [lian Mali], dou hen xihuan ta.

Lisi even Mali all very like her

Lit: “Lisi even Mali likes very much her.”

b. 连玛丽，李四都很喜欢她。

Lian Mali, Lisi dou hen xihuan ta.

Even Mali Lisi all very like her

“Lisi likes even Mary.”

(Badan & Del Gobbo, 2015, pp. 43–44)

The current research agrees with Badan and Del Gobbo’s (2015) claim that the “sentence-initial lian is located in a topic position” (Badan & Del Gobbo, 2015, p. 44), whereas “in the case of sentence-internal lian … dou, focalization has occurred” (ibid.), supported by the following evidence.

The sentence-initial lian-XP can be followed by topic markers, as illustrated in (31a). Moreover, a pause is obligatorily required between the sentence-initial lian-phrase and the subject when the former is not marked by the topic marker. The topic marker is not allowed for the sentence-internal lian-XP, witness the ungrammaticality of (31b). Nevertheless, (31b) is grammatical or acceptable on the condition that there are commas after Zhangsan and the topic marker a respectively or the sentence is read with pauses after Zhangsan and a, as evidenced by (31c) in which the topic marker ma and a occur after Zhangsan and lian-XP respectively. The contrast in grammaticality between (31b) and (31c) is clear; however, the grammaticality of (31c) does not invalidate the argument that the sentence-internal lian-XP cannot be followed by topic markers in that (31c) indicates a different structure from that of (31b). (31c) will be analyzed in the ensuing discussion.

(31) a. 连这本书啊，张三都读过。

lian zhe-ben shu a, Zhangsan dou du-guo.

LIAN this-CL book TOP Zhangsan DOU read-ASP

“Zhangsan has read even this book.”

b. *张三连这本书啊都读过。

Zhangsan lian zhe-ben shu a dou du-guo.

Zhangsan LIAN this-CL book TOP DOU read-ASP

“Zhangsan has read even this book.”

c. 张三嘛，连这本书啊，都读过。
Zhangsan ma, lian zhe-ben shu a, dou du-guo

Zhangsan TOP LIAN this-CL book TOP DOU read-ASP

“As for Zhangsan, he has read even this book.”

The head of the FocP is not lian but rather dou/ye in that the omission of lian does not affect the focus interpretation, as manifested in (32a)-(32b). However, dou cannot be omitted, otherwise the focus interpretation is eliminated, and the sentence even becomes ungrammatical, as (32c) shows.

(32) a. 连约翰都喜欢句法学。
lian Yuehan dou xihuan jufaxue.

LIAN John DOU like syntax

“Even John likes syntax.”

b. 约翰都喜欢句法学。
Yuehan dou xihuan jufaxue.

John DOU like syntax

“Even John likes syntax.”

c. *连约翰喜欢句法学。
lian Yuehan xihuan jufaxue.

LIAN John like syntax

“Even John likes syntax.”

Following Badan and Del Gobbo (2015, p. 42), this paper claims that lian Merges with the focalized element at the base-generated position of the element and is labeled as LianP by the labeling algorithm (Chomsky, 2013, p. 43). Dou is the head of FocP and it never moves.

Mention was made of the fact that the sentence-initial lian-XP, located in the topic position in the left periphery, undergoes A-bar movement, and the sentence-internal lian-XP, an instance of focalization, undergoes A-movement. Lian Merges with yuyinxue “phonetics” at the Complement position of the verb and then the LianP moves to [Spec, FocP], deriving (33), as illustrated in (34).

(33) 约翰连语音学都喜欢。
Yuehan lian yuyinxue dou xihuan.

John LIAN phonetics DOU like

“John even likes phonetics.”
Given the fact that 线 expresses the inclusive focus and the inclusive meaning is retained through its historical development as pointed out in Section 3 and that the sentence-initial 线-phrase marks topics, this paper argues that the sentence-initial 线-phrase is a focus topic, carrying both [Topic] feature and [Focus] feature. This has already been noted by Liu and Xu (1998, p. 247) who claimed that 线 is both a topic and a focus and is thus a topic focus. Nevertheless, this paper agrees with their claim but uses different terminology. The current paper claims that 线 is a focus topic in that the [Topic] and [Focus] features 线 carry differ in their strength, namely, the former is a strong feature while the latter is a weak feature. The reasons why the [Focus] feature is weak for the sentence-initial 线-phrase are twofold. For one thing, the omission of 线 does not affect the focus interpretation; for another, it is 点 that enables 线 to obtain the scalar reading for the reason that the former, as a maximality operator, operates on the set evoked by the latter (Xiang, 2008, p. 242). This is also supported by the
evidence of grammaticalization. Xing (2004) pointed out that ye “developed its scalar function earlier than lian” (Xing, 2004, p. 86).

In view of the fact that movement is driven by the strong feature, the landing site of lian-XP is [Spec, TopP] in the left periphery. Since lian must combine with dou/ye to obtain its scalar reading, the lian-phrase in (35) first moves to [Spec, FocP] to check the [uFoc] feature at Foc and subsequently moves to [Spec, TopP] to check [uTop] at Top, as manifested in (36).20

(35) 连语音学, 约翰都喜欢。
Lian yuyinxue Yuehan dou xihuan.
“John even likes phonetics.”

(36)

The analysis above well accounts for the ungrammaticality of (31b). The sentence-internal lian-XP undergoes A-movement and is moved to [Spec, FocP] with dou serving as the head of the FocP. No topic marker can intervene between the lian-XP and dou in that they are in a Spec-Head configuration and thus there is no position to accommodate the topic marker. Although the surface forms of (31b) and (31c) are highly similar, their structures are different. The reason why both the subject Zhangsan and the lian-phrase in (31c) can be followed by topic markers is that the two phrases are both moved to the left periphery and both of them are topics. (31c) can be derived based on (31a), i.e. the topicalization of the subject Zhangsan results in (31c), the syntactic structure of which is manifested in (37).
The similar syntactic distributions between the shi and lian … dou/ye constructions naturally lead to the question that whether shi can be analyzed on a par with lian … dou/ye. Similar to the sentence-initial lian-phrase, the sentence-initial shi-XP also undergoes A-bar movement, supported by the following two pieces of evidence. For one thing, the success of co-indexation between Zhangsan and taziji in (38) indicates that there is Reconstruction Effect; for another, the resumptive pronoun is allowed for sentence-initial shi-phrase, as illustrated in (39).

(38) 是关于他自己的书张三没有写。
shi guanyu taziji de shu Zhangsan meiyou xie.
be about himself DE book Zhangsan not write
“It is the book about himself that Zhangsan does not write.”

(39) 是玛丽, 每个同学都投了她赞成票。22
shi Mali, meige tongxue dou tou-le ta zanchengpiao.
be Mary every student DOU vote-PFV her affirmative vote
“It is Mary that every student gave her the affirmative vote.”

Moreover, the sentence-initial shi-XP can be followed by topic markers and a pause is obligatorily required if the shi-phrase is not marked by topic markers.

(40) 是这本书啊, 张三没读过。
shi zhe-ben shu a, Zhangsan mei du-guo.
be this-CL book TOP Zhangsan not read-ASP
“It is this book that Zhangsan has not read.”

The aforementioned evidence confirms that sentence-initial shi-phrase and sentence-initial lian-phrase resemble each other: Both undergo A-bar movement and can be followed by topic markers.

The next question to be considered is whether shi and lian are in complementary distribution. It turns out that shi can co-occur with lian and thus they do not compete for the same syntactic position, or more precisely, the former is located higher than the latter, as manifested in (41).

(41) a. 是张三连句法学都喜欢。
shi Zhangsan lian jufaxue dou xihuan.
be Zhangsan LIAN syntax DOU like
“It is even Zhangsan who likes syntax.”

b. *张三是句法学都喜欢。

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lian Zhangsan shi jufaxue dou xihuan.

LIAN Zhangsan be syntax DOU like

Lit: “Even Zhangsan is syntax likes.”

Xiong (2017) proposed the following hierarchy for the case of the co-occurrence of shi and lian, as shown in (42).

(42) a. [Top[Topic*]][ShP(shi)][FocP[exclusive focus][TP ...][LianP(lian)[inclusive focus] ...]]] (Xiong, 2017, p. 443)

b. 小说, 是张三, 连《红楼梦》都没有读过。23

xiaooshuo, shi Zhangsan, lian Hongloumeng dou meiyou du-guo.

novel be Zhangsan LIAN A Dream of Red Mansions DOU not read-ASP

‘As for the novel, it is Zhangsan who has not read even A Dream of Red Mansions.’

(Xiong, 2017, p. 446)

This paper partially agrees with Xiong’s (2017) analysis. As pointed out above dou is located at the Head position of FocP in that it is the omission of dou, rather than lian, that eliminates the focus interpretation, as shown in (32). Therefore, if lian heads the focus projection, the omission of lian should deprive the sentence of the focus interpretation. However, this prediction is not borne out.

Furthermore, this paper argues that the sentence-initial shi-phase is also a topic. Badan and Del Gobbo (2010) noted that the lian-phase is located lower than any topic, as illustrated in (43).

(43) a. 花, 连玫瑰花, 都很便宜。

hua, lian meiguihua, t_j dou hen pianyi.

flowers even roses all very cheap

“As for flowers, even roses are cheap.”

b. *连玫瑰花, 花, 都很便宜。

lian meiguihua, hua, t_j dou hen pianyi.

Even roses flowers all very cheap

c. 张三啊, 连小宇, 都批评了。

Zhangsan, a, lian Xiaoyu, t_j dou piping le t_j.

Zhangsan PART even Xiaoyu all criticize PERF

“As for Zhangsan, even Xiaoyu, he criticized.”

d. ??连小宇, 张三啊, 都批评了。
lian Xiaoyu, Zhangsan, a, t, dou piping le t.

even Xiaoyu Zhangsan PART all criticize PERF

“Even Xiaoyu, as for Zhangsan, he criticized.”

(Badan & Del Gobbo, 2010, pp. 83–84)

(43) shows that the hierarchical order of topics is “Base generated Topic > Moved topic > lian-phrase”, which confirms the claim that shi-phrase and lian-phrase are both topics. Another two pieces of evidence are presented as follows. The first piece of evidence concerns Weak Crossover (WCO) effects. This paper, following Rizzi (1997, p. 292) and Badan and Del Gobbo (2010, p. 86), assumes that topics do not exhibit WCO effects. There are no WCO effects in (44) and therefore shi-phrase is a topic.

(44) 音乐, 是摇滚乐, 批评它的人都不喜欢听.

yinyue, shi yaogunyue, piping ta, de ren dou bu xihuan ting t.

music be rock criticize it DE person DOU not like listen

“As for music, it is rock that those who criticize it do not like listening to.”

Another piece of evidence concerns the co-occurrence with other foci, which is based on the assumption that multiple foci are unable to co-occur. Rizzi’s (1997) seminal work on the structure of the left periphery proposes that “the Top Phrase is recursive, while the Foc Phrase is not” (Rizzi, 1997, p. 296). Since there is only one structural position for the focus, the focalization of two elements is excluded. The fact that the resumptive pronoun in (45b) can be coreferential with “Zhangsan” indicates that lian-phrase is a topic. This suggests that the shi-phrase is also a topic. The reasoning goes as follows. On the one hand, multiple topics are allowed whereas multiple foci are prohibited; on the other hand, as mentioned above lian-phrase is lower than any topic. Pan (2015) claimed that in Mandarin Chinese “TopP is higher than FocP whenever they co-occur” (Pan, 2015, p. 858). Since lian-phrase is a topic, shi-phrase must also be a topic; otherwise the grammaticality of (45a) would remain unexplained.

(45) a. 音乐, 是嘻哈乐, 连张三, 都不听.

yinyue, shi xihayue, lian Zhangsan, dou bu ting.

music be hip-hop LIAN Zhangsan DOU not listen

“As for music, it is hip-hop that even Zhangsan doesn't listen to.”

b. 音乐, 是嘻哈乐, 连张三, 他都不听.

yinyue, shi xihayue, lian Zhangsan, ta, dou bu ting.

music be hip-hop LIAN Zhangsan he DOU not listen

“As for music, it is hip-hop that even Zhangsan doesn't listen to.”

The diagnostics above indicate that the sentence-initial shi-phrase is also a topic; shi heads a functional projection with a TopP as its complement. This is supported by the grammaticalization of copulas. Recall in Section 3 that shi, as Shi and Han (2013) noted, is grammaticalized into
They also claimed that shi can further grammaticalize itself into a topic marker (Shi & Han, 2013, p. 7), with the cline of grammaticalization presented in (46). It should be noted that the focus marker shi and the topic marker shi can co-exist, supported by Hopper’s (1991) principle of layering that when new layers emerge “the older layers are not necessarily discarded, but may remain to coexist with and interact with the newer layers” (Hopper, 1991, p. 22).

(46) adjectives > the transitional usage as verbs, nouns, etc. > pronouns > copulas >
focus markers > (topic markers; Shi & Han, 2013, p. 9)

Cross-linguistic evidence lends support to the grammaticalization from focus markers or copulas to topic markers. The Hebrew topic marker hu changed from a pronoun to a copula and then to a topic marker, as shown in (47). The claim that copulas can be used as both topic markers and focus markers is also confirmed by cross-linguistic evidence. Augustin (2007) claimed that in Swahili -ndi, which is topicalized from the copulas, can mark both foci and topics, as illustrated in (48)-(49) respectively.

(47) David hu xole.
Pron COP sick
“David is sick”. (persistently)
(Rapoport, 1985, as cited in Lee, 2003, p. 353)

(48) Lakini mwalimu wangu wa hesabu ndi-ye mzuri kati ya wote.
but teacher my of math ndi-C1 good between all
As for my maths professor, she’s the best of all.
(Augustin, 2007, p. 7)

(49) Hapana, gari yangu ndi-yo i-li-haribika.
no car my FOC-C9 C9-PAST-be_destroyed
No, my car broke down.
(Augustin, 2007, p. 10)

Moreover, the use of shi as topic markers is also attested in Chinese dialects. Wang and Xiong (2021) noted that the copula shi in Fuzhou dialect in Jiangxi province can be used as a topic marker. The copula shi marks as the topic the element preceding it in Fuzhou dialect, as (50) shows, different from its Mandarin counterpart. Liu (2016) claimed that the use of shi as both topic markers and focus markers are widely used in Suantang dialect of Jingzhou in Hunan province, as exemplified in (51).

(50) 做饭是, 我不会.
zuofan shi, wo bu hui.
cook COP I not can
“I cannot cook.”

(Wang & Xiong, 2021, p. 448)

(51) 这个人是2(3)喜欢。25
this-CL person TOP I FOC not like

“There, I do dislike him.”

(Liu, 2016, p. 95)

The discussion above demonstrates that the sentence-initial shi-phrase and lian-phrase are both topics, which confirms the claim that shi can be analyzed on a par with lian. Moreover, the use of shi as topic markers demonstrates some parametric variation: shi precedes the element which it marks as the topic in Mandarin whereas shi follows the element which it marks as the topic in dialects.

Section 3 pointed out that the shi and lian … dou constructions have different focus interpretations, namely, the former expresses the exclusive focus whereas the latter expresses the inclusive focus. This seems to be controversial with the claim that the sentence-initial shi-phrase and lian-phrase are both topics. However, recall that it is argued above that lian carries both [Topic] and [Focus] features and expresses the focus topic. Since shi can be analyzed on a par with lian, this paper argues that shi, akin to lian, also carries both [Topic] and [Focus] features. Yet the difference is that in terms of shi the [Focus] feature is the strong feature whereas the [Topic] feature is the weak feature. Therefore, this paper argues that shi marks the topic focus. The claim is supported by the following evidence.

Liu and Xu (1998, p. 247) claimed that the topic focus (the element that has the function of both topic and focus) is usually signaled by topic markers which can either precede the element or follow the element. Shi-phrase can be followed by a topic marker which is a sentence-final particle (SFP). If the SFP is absent, a pause is obligatorily required, as exemplified in (52). They further proposed two criteria for the topic focus. For one thing, the comment following the topic focus cannot be omitted; for another, in sentences containing topic focus both the topic and the comment should be contrastive, as exemplified with Shanghai dialect in (53). Based on the two criteria, shi marks the topic focus for the reasons that the omission of the comment following shi-phrase gives rise to the ungrammaticality of (54) and that the topic and comment in (55) can both be contrastive.

(52) 音乐, 是摇滚乐啊, 连张三, 都喜欢。
yinyue, shi yaogunyue a, lian Zhangsan, dou xihuan.
music be rock TOP LIAN Zhangsan DOU like

“As for music, it is rock that even Zhangsan likes.”

(53) 夜到末, 朝北房间会有暖气个, 日里末, 暖气就停脱勒。
ye dao mo, chao bei fangjian hui you nuanqi ge,
ri li mo, nuanqi jiu ting tuo le.
night come TOP face north room will have heating SFP
day in TOP heating would stop SFP SFP

“At night the north-facing room will be heated; in the daytime the heating stops working.”

(Liu & Xu, 1998, p. 248)

(54) *音乐, 是摇滚乐。
yinyin, shi yaogunyue.
music be rock
Lit: “Music, is rock.”

(55) 音乐, 是摇滚乐, 连张三, 都喜欢;舞蹈, 是交际舞, 连李四, 都喜欢。
yinyin, shi yaogunyue, lian Zhangsan, dou xihuan; wudao, shi jiaojiwu,
lian Lisi, dou xihuan.
music be rock LIAN Zhangsan DOU like dance be ballroom dancing
LIAN Lisi DOU like

“As for music, it is rock that even Zhangsan likes; as for dance, it is ballroom dancing that even Lisi likes.”

The diagnostics above indicate that the sentence-initial shi-phrase has the function of both topic and focus. The reason why the [Focus] feature is strong for the sentence-initial shi-phrase is that shi can express the exclusive focus in and of itself and the exclusive meaning is retained in its lexical semantics through its historical development. Given the fact that the syntactic diagnostics indicate that the sentence-initial shi-phrase expresses topics and that the topic must follow shi in Mandarin, shi takes a TopP as its complement. Recall that shi is located higher than lian as shown in (56), yet the reason why it is the case remains unclear. However, this can be accounted for if the sentence-initial shi-phrase and the sentence-initial lian-phrase are considered to be the topic focus and the focus topic respectively.

(56) *音乐, 连张三 (啊), 是摇滚乐 (呀), 都喜欢。
yinyin, lian Zhangsan (a), shi yaogunyue (ya), dou xihuan.
music LIAN Zhangsan TOP be rock TOP DOU like
Lit: “As for music, even Zhangsan is rock likes.”

The syntactic structure is illustrated in (58) with (57) as an example. The Aboutness topic directly Merges to ShiP. Despite the fact that the two phrases both carry [Topic] and [Focus] features, the two features differ in their strength. Since movement is driven by the strong feature which is the [Focus] feature for shi-phrase and that syntactically the sentence-initial shi-phrase marks topics, the landing site must be a position which can check both [uFoc] at shi and [uTop] at Top2. The position that satisfies the requirement is [Spec, TopP2]. If the [Topic] feature is strong for both the shi-phrase and the lian-phrase, they would compete for [Spec, TopP1], the shortest A-bar position. But since the [Focus] feature is strong for the shi-phrase and it has to move to [Spec, TopP2] to check both [uFoc] and [uTop], it won’t compete for [Spec, TopP1] with the lian-phrase, explaining the fact that shi is located high than lian. As mentioned above, the lian-phrase first moves to [Spec,
FocP] in the TP periphery to check the [uFoc] feature and subsequently moves to [Spec, TopP₁] to check the [uTop] feature. This analysis confirms Badan and Del Gobbo (2010) hierarchical order “Base generated Topic > Moved topic > lian-phrase”.

(57) 音乐，是摇滚乐 (呀)，连张三 (啊)，都喜欢。

_music, be rock TOP LIAN Zhangsan TOP DOU like_

“As for music, it is rock that even Zhangsan likes.”

(58) Recall that the topic focus marker can either precede or follow the element (Liu & Xu, 1998, p. 247). This also exhibits parametric variation: The topic focus marker mo in Shanghai dialect follows the element it marks as the topic focus whereas the topic focus marker shi and the focus
topic marker *lián* in Mandarin precede the element. This is aligned with the parametric variation demonstrated by the use of *shi* as topic markers in Chinese dialects and Mandarin Chinese.

To recapitulate briefly, this section demonstrates that the sentence-initial *lián*-XP marks topics and the sentence-internal *lián*-XP marks foci and that the sentence-initial *shi*-phrase is also a topic which is located higher than the *lián*-topic. Therefore, *shi* can be analyzed on a par with *lián*. Given the fact that both *shi* and *lián* have the function of topic and focus, this paper argues that *shi* marks the topic focus whereas *lián* marks the focus topic. The sentence-initial *shi*-phrases and *lián*-phrase exhibit parametric variation between Chinese dialects and Mandarin.

5. Conclusion

The current paper investigates the *shi* and *lián* ... *douyiye* constructions in the Chinese language. *Shi* and *lián* are always treated as focus markers and various foci can be marked by the two markers, i.e. adjunct focus, predicate focus, subject focus, and complement focus. The two markers share very similar syntactic distributions; nevertheless, they express different foci: *Shi* expresses the exclusive focus whereas *lián* signals the inclusive focus. Moreover, this paper claims that the different focus interpretations are rooted in the lexical meanings of the two markers as a result of the historical development.

The paper analyzes the two constructions within the framework of Cartography. The present research agrees with the previous studies that the sentence-initial *lián*-XP serves as topics while the sentence-internal *lián*-XP functions as foci. It is found that *shi* and *lián* are not in complementary distribution and that the former is located higher than the latter. The paper argues that the sentence-initial *shi*-phrase marks the topic focus while the sentence-initial *lián*-phrase expresses the focus topic, with the two phrases both carrying [Topic] and [Focus] features but differing in the feature strength. Meanwhile, the sentence-initial *shi*-phrases and *lián*-phrase demonstrate parametric variation between Chinese dialects and Mandarin Chinese. It is led to conclude that *shi* can be analyzed on a par with *lián* in Mandarin Chinese.

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**Notes**
1. The literature abounds about the syntax of *shi* in Mandarin Chinese. See, for example, Huang (1990) and Cheng (2008) for the analysis.
2. See, He (2011) for the description of the syntactic positions of *shi* and *lián* ... *douyiye*.
3. De has always been a heated topic in the study of Chinese syntax and there are many des in Chinese. Since no consensus has been reached on the syntactic status of *de*, this paper glosses *de* as *DE* for convenience’s sake. The following abbreviations are used for the glossing of our examples and the cited examples in this paper: 1sg = first person singular, ASP = aspectual marker, C1, C9 = noun class marker, CL = classifier, COP = copula, FOC = focus marker, NEG/neg = negative, PART = particle, PAST = past, PFV/PERF = perfective marker, SFP/MIT = sentence final particles, TOP = topic marker.
4. When *shi* and the focalized complement occur at the sentence-internal position, the sentence seems to be less natural for some speakers, as shown in (i). But the acceptability improves if contrastive focus is added, as shown in (ii).

(i) *Zhangsan shi Hongloumeng mei du-guo.*

(ii) *Zhangsan has not read *A Dream of Red Mansions.*"

(iii) *Zhangsan shi Hongloumeng mei du-guo, bu shi Aoman yu Pianjian.*

(iv) *Zhangsan has not read *A Dream of Red Mansions*, but not *Pride and Prejudice."

5. Clarification is needed as to the distinction between cleft sentences and pseudo-cleft sentences in Chinese. Cleft constructions do not need to
reshuffle the linear order of the sentence, which is not the case with pseudo-cleft sentences. Huang (1982, pp. 289–291; 1990, p. 44) claimed that cleft sentences are formed by inserting the capula shi in front of the constituent and that the removal of shi does not affect the grammaticality and the meaning, as shown in (iii). Therefore, shen “God” appears at the sentence-initial position and (7) is formed by inserting shi in front of the subject. The same holds for (8) where the complement is preposed to the sentence-initial position.

However, the capula cannot be removed in pseudo-cleft sentences; otherwise, the equative function is lost and the sentences change into relative clauses. Huang (1982, p. 292) pointed out that sentences of this kind involve a structural dependency and that what appears before the capula is a free relative, as manifested in (iv). Pseudo-cleft sentences lie outside the purview of the paper.

(iii) a. 我明天要买那本书。

shi wo mingtian yao mai neiben shu.

be I tomorrow want buy that book

“It is I who want to buy that book tomorrow.” (Huang, 1982, p. 290)

b. 我明天要买那本书。

wo mingtian yao mai neiben shu.

I tomorrow want buy that book

“I want to buy that book tomorrow.” (Huang, 1982, p. 291)

(iv) a. 我明天要买的是那本书。

wo mingtian yao mai de shi neiben shu.

I tomorrow want buy DE be that book

“What I want to buy tomorrow is that book.” (Huang, 1982, p. 291)

b. 我明天要买的那本书。

wo mingtian yao mai neiben shu.

I tomorrow want buy that book

“I want to buy that book tomorrow.”

6. Some may judge the sentence to be less natural when it is uttered out of the blue; however, the acceptability improves when the sentence is put in a context, as (8) shows. This can also be achieved when the contrastive element is added, as illustrated in (vi). Another way to emphasize the complement is to employ pseudo-cleft sentences, as shown in (vi).

(vi) is 《傲慢与偏见》约翰没有读过，不是《红楼梦》。

shi Aoman yu Planjian Yuehan meiyou du-guo, bu shi Hongloumeng.

be Pride and Prejudice John not read-ASP not be A Dream of Red Mansions

“John has not read Pride and Prejudice, but not A Dream of Red Mansions.”

(vii) 约翰没有读过的是《傲慢与偏见》。

Yuehan meiyou du-guo de shi Aoman yu Planjian.

John not read-ASP DE be Pride and Prejudice

“What John has not read is Pride and Prejudice.”

7. In the lien… dou construction, dou is interchangeable with ye. The difference between the lien… dou and lien… ye constructions may be large part due to some pragmatic reasons, which lies beyond the scope of this paper.

8. An anonymous reviewer pointed out that the ungrammaticality caused by the occurrence of the lien-phrase at the sentence-final position may be attributed to the fact that dou has a leftward scope.

9. The original glosses are kept when the sentence is cited as an example. It is also the case with other cited examples in the paper.

10. BCC is short for Beijing Language and Culture University Corpus. This sentence is taken from http://bcc.blcu.edu.cn/zh/search/

11. Even if in the existing literature lien is often glossed as “even”, it is observed that lien is not a complete equivalent of “even”. As a result, in this paper, lien is glossed as LIAN.

12. Since the focus of this paper is to provide a syntactic account of the shi and lien… dou constructions, the semantic analysis will not be explored here. However, see, König (1991, pp. 60–119) for further discussion on the exclusive focus and inclusive focus and see, Xiong (2017, p. 440) for a brief semantic discussion of the inclusive focus and exclusive focus expressed by lien… dou and shi in Chinese. Also see, Xiang (2008, pp. 240–244) for the semantic analysis of the lien… dou construction.

13. Top* indicates that the topic phrases can be iterated.

14. The failure of the lien-phrase to move across the clausal boundary exhibits clausal boundedness which is a feature of A-movement. What distinguishes A-movement from A-bar movement is that A-bar movement can across an infinite number of CPs so long as locality constraints are observed while A-movement cannot cross any CPs, as exemplified in (vii).

(vii) a. Who, did John say [i$_t$, that Mary thinks [o$_t$, that Mike saw t$_j$]]?

b. John, thinks that [o$_t$, t$_j$, saw Mary].

15. An anonymous reviewer remarked that in (viii) reconstruction is possible, which may weaken the argument that the sentence-internal lien… dou is derived by A-movement. Our judgment is slightly different from that of the reviewer. We believe that (viii) is very marginal and that it does not involve Reconstruction Effect. The native speakers that we consulted share our judgment. For us and the native speakers that we consulted, (viii) and (viid)
are grammatical and (viic) is more degraded than (viiia). This indicates that the sentence-internal lian-phrases do not observe Reconstruction Effect while the sentence-initial lian-phrases observe the effect. Therefore, (viii) provided by the anonymous reviewer does not weaken the argument.

The reviewer also pointed out that it is hard to determine whether Chinese bei-passives are derived by A-movement. It is widely agreed that Chinese bei-passives consist of long passives and short passives. Consensus has been reached among scholars that Chinese long passives are derived by A-bar movement (Feng, 1997, pp. 20–22; Huang et al., 2009, p. 120, among others). More importantly, the analysis of bei-passives is irrelevant to the fact that the sentence-internal lian-phrases do not exhibit Reconstruction Effect, as shown in the active sentence (viii) where coreference between Zhangsan and taziji is possible while coreference between Lisi and taziji is impossible.

(viii) a. ?这个出版社连他自己的书都不帮主编出版．
zhubian, chuban.
this publishing house LIAN himself DE book DOU not help
editor-in-chief publish
Lit: "This publishing house even his own books does not help the editor-in-chief publish."

b. 连他自己的书, 这个出版社都不帮主编出版.
lian taziji, de shu, zhubianshe dou bu bang zhubian, chuban.
LIAN himself DE book this publishing house DOU not help editor-in-chief publish
"Even his own books, this publishing house doesn’t help the editor-in-chief publish."

c. ??这个出版社连他自己的书稿都不帮主编请同行专家审阅．
zhubian, chubanshe taziji, de shugao dou bu bang zhubian,
qing tonghang zhuanjia shenyou.
this publishing house LIAN himself DE manuscript DOU not help editor-in-chief
ask peer expert review
Lit: ‘This publishing house even his own manuscript does not help the editor-in-chief ask peer experts to review.’

d. 这个出版社连主编自己的书都不帮他出版．
zhubianshe lian zhubian, ziji de shu dou bu bang
"This publishing house LIAN editor-in-chief self DE book DOU not help
he publish
"This publishing house does not help the editor-in-chief publish even his own books.""

e. 张三连他自己的书都劝李四扔掉了．
Zhangsan, lian taziji, de shu dou quan Lisi, reng dio le.
Zhangsan LIAN himself DE book DOU persuade Lisi throw away PV
"Zhangsan persuaded Lisi to throw away his own books."

16. Our judgment on the ungrammaticality of (31b) is aligned with that in the existing literature. Badan (2007) also judged to be ungrammatical the sentence with the topic marker following the sentence-internal lian-XP, as (ix) shows.

(ix) 我昨天连张三(“啊”)都看见了．
Wo zuotian lian Zhangsan (”a”) dou kanjian le.
I yesterday even Zhangsan TOP all saw FP
"Yesterday I saw even Zhangsan.” (Badan, 2007, p. 120)

Some may judge (31b) to be grammatical; however, that would indicate different structures exemplified in (31c). The syntactic structure of (31c) is presented in (37).

17. No consensus has been reached on the categorical status of lian in the existing literature. It is regarded as a preposition in the traditional Chinese grammar (Lu, 1999, p. 364), but it is analyzed as a focus adverb (Tsai, 2004) or a focus particle in more recent works.

18. Dou must precede the verb, otherwise the sentence will be ungrammatical, as Shyu (1995) noted that "lian … dou/yi is limited to a preverbal position” (Shyu, 1995, p. 7).

19. An anonymous reviewer remarked that the label of the merging [[lianP][FocP]] fails to satisfy the rules of labeling algorithm (LA) proposed by Chomsky (2013). However, it should be clarified that lianP does not merge with FocP. Rather, lianMerges with yuyinxue “phonetics” at the Complement position of the verb. Since the former is a head and the latter is a DP, LA will select head as the label. And given that the category of lian is a controversial issue, this paper uses LIAN as its label. Therefore, the label of the merging of [lian [yuyinxue]] is LianP. Nevertheless, it should be noted that the derivation of (33) satisfies labeling algorithm. The movement of the lian-phrase to [Spec, FocP] is not due to the failure of labeling. Rather, the phrase moves to [Spec, FocP] to obtain the scalar reading.

20. An anonymous reviewer pointed out that if the lian-phrase is moved from [Spec, FocP] to [Spec, TopP] in (35), Rizzi’s (2006, 2010) Criterial Freezing as shown in (x) will be violated.
However, it is not the case that Criterial Freezing is violated. The reasons are as follows. For one Rizzi (2006, 2010) pointed out that the immediate kind of evidence for Criterial Freezing dating back to Lasnik and Saito (1984) is that a wh-phrase which satisfies the Q Criterion in the embedded interrogative cannot move to the main complementizer, witness the ungrammaticality of (x). This piece of evidence connects the freezing principle with island effects. If the derivation of (35) does violate Criterial Freezing, the sentence would be ungrammatical, contrary to the fact. Moreover, the movement of the lian-phrase from [Spec, FocP] to [Spec, TopP] involves no island effects. For another, the diagnostics indicate that the sentence-initial lian-phrase undergoes A-bar movement. The sentence-initial lian-phrase is a focus topic and its landing site is [Spec, TopP], the movement of which is driven by the strong [Topic] feature. The phrase moves to [Spec, FocP] to obtain its focus interpretation because of its weak [Focus] feature. The weak [Focus] feature is checked at [Spec, FocP]; however, its strong [Topic] feature remains unchecked. The lian-phrase must move to [Spec, TopP] to check the [Topic] feature, thus not violating Criterial Freezing.

(xi) ‘Which candidate does Bill wonder [it’ Q [you voted for t]}’ (Rizzi, 2010, p. 20)

21. As pointed out in the text and the footnote 20, the motivation of the two steps of movement in (35) as shown in (36) is to obtain the focus reading. It is argued that lian is a focus topic which carries both [Topic] and [Focus] feature. The two features differ in their strength, the former is a strong feature while the latter is a weak feature. The lian-phrase moves to [Spec, FocP] to check the [uFoc] feature and then subsequently moves to [Spec, TopP] to check the [uTop] feature. The cyclic movement does not involve island effects; rather, the movement is more concerned with semantic interpretation. The phrase moves to [Spec, FocP] to obtain the focus reading in that dou as a maximality operator, operates on the set evoked by lian (Xiang, 2008).

Moreover, an anonymous reviewer remarked that the lian-phrase does not undergo movement to the topic position in (xii). But this sentence also has to undergo cyclic movement in order to get the scalar reading. It should be noted that wo ‘I’ followed by the topic marker a is not the subject of the sentence but the topic. In this case, the lian-phrase is located in the topic position given that it can also be followed by a topic marker and that (xii) is grammatical under the condition that there is a pause between the lian-phrase and dou, which is phonologically realized as the topic marker ya, as shown in (xiii). This said, the lian-phrase is located above TP.

(xii) 我啊,连那三本书呀,都没给张三。

wo a, lian na san-ben shu dou mei gei Zhangsan.

I TOP LIAN that three-CL book TOP DOU not give Zhangsan

“As for me, I did not give Zhangsan those three books.”

(xiii) 我啊,连那三本书呀,都没给张三。

wo a, lian na san-ben shu ya, dou mei gei Zhangsan.

I TOP LIAN that three-CL book TOP DOU not give Zhangsan

“As for me, even those three books, I did not give to Zhangsan.”

22. On first reading the sentence, some may judge it to be less natural. However, the acceptability improves if the phonological prominence is put on Mei.

23. The authors disagree with Xiong’s (2017) judgment on the grammaticality of (42b) in that xiaoshuo, a base-generated topic, is an Aboutness Topic which is supposed to be followed by the element providing some new information directly related to the topic. The authors believe that (xiv) is more natural than (42b).

(xiv) 小说,是《红楼梦》,连张三都没有读过。

xiaoshuo, shi Hongloumeng, lian Zhangsan dou meiyou du-guo.

novel be A Dream of Red Mansions LIAN Zhangsan DOU not read-ASP

“As for novel, it is A Dream of Red Mansions that even Zhangsan has not read.”

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