The *even*-construction in Mandarin Chinese*

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1. Introduction

The *even*-construction in Mandarin is a controversial topic in Chinese linguistics (Paris 1979, 1998, 1999; Shyu 1995, 2004; Hole 2004; Tsai 1994 among others). The construction is formed by *lian* and *dou*. *Lian* is traditionally associated with the meaning of "even" in English and precedes any kind of phrase (XP); *dou* literary means "all", it is always present in this construction, but never translated. In this paper, on the basis of some diagnostic tests, I aim to define syntactically the two positions in which *lian*+XP can be located, i.e on the left or on the right of subject (*dou* always directly precedes the verb). I will show that the sentence-internal position is in the Low Periphery of IP; it displays more Focus-like properties than the sentence-initial position, which is syntactically similar to a Topic projection. Finally, I investigate the semantic contribution both *lian* and *dou* give to the *even*-reading. I propose that *lian* is a sort of focalizer and gives the additivity effect, *dou* is instead an overt expression of the scale implied in the *even*-interpretation. Following Cheng & Giannakidou (2006) I call it a Maximality Operator.

2. The Low Periphery in Chinese

When a sentence contains the *lian...dou*[1] construction, the object *lian*+XP is always obligatorily preposed on the left of *dou* and the main verb. A possible landing site is between subject and verb:

(1) a. *Lisi [lian zhe ben shu] dou yijing kanwan le.*
      Lisi LIAN this CL book DOU already bought FP
    "Lisi already bought even this book."
   b. **Lisi dou yijing kanwan [lian zhe ben shu] le.*
      Lisi DOU already read   LIAN this CL book FP

The position of *lian*+XP between subject and verb is traditionally defined as a *sentence-internal* position. Xu & Langendoen (1985), Lin (1992) a.o., analyzing

[1] *Dou* is interchangeable with *ye* "also". Hole (2004) provides evidence for the quasi-fully interchangeability between these two elements, however in this paper I concentrate only on *dou*.

the preposed bare Direct object in Chinese (the SOV order)[2], propose the Double Topicalization Hypothesis (DT) which consists in two steps: (i) Topicalization of the object, which adjoins to IP, (ii) Topicalization of the subject across the object. In this work I consider more recent studies that go against the DT Hypothesis, arguing for two different approaches based on the idea of the existence of a Periphery within the IP: Adjunction (Ernst & Wang 1995, Lu 1994, a. o.) and Substitution (Qu 1994, Shyu 2001). Both of these proposals exclude the idea that the subject moves out of the IP to a TopicP; they argue that it is located in IP and the landing site for the preposed object is IP-internal. In particular, Ernst & Wang (1995) argue that the preposed object is adjoined to VP (or ModalP) with the verb-head bearing [+ Focus] features, while the *lian*-object is raised up to Spec, FunctionalP. Qu (1994) argues that subject and object in Chinese can move covertly or overtly to the Functional AgrSP or AgrOP for features and Case checking. He aims to derive in this way different possible word orders in Mandarin Chinese. Shyu (1995, 2001) proposes that the SOV order is not related to Case checking, but derives from object movement, on a par with *lian*-object. Thus she proposes a uniform movement approach, triggered by the [+Focus] feature to a FocusP, which is either covert (in the case of bare preposed object), or lexically realized (in the case of *lian…dou* structures).

In this paper I follow Paul's (2005) theory, which adopts Belletti's (2001, 2004) proposal of a Low Periphery (in Italian) and applies it to Mandarin Chinese. Paul confirms the parallelism between CP and the low IP area and shows that no TopicP is allowed below the projection of *lian*+NP. Her final hierarchy for the Low Periphery in Chinese is the following:

(2) IP > inner TopicP > *even*-Focus > vP[3]

2.1 Diagnostic tests
My diagnostic tests aim to show a difference between CP versus IP area, verifying the idea that Chinese (as Italian) displays a Low Periphery within, i.e. below

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[2] In the SOV order in Chinese, the bare Direct object is not in its canonical postverbal position (SVO order), but raised up to the left of the verb and to the right of the subject:
(i) *Lisi [zhe ben shu]$_i$ hen xihuan e$_i$.*
   Lisi this CL book very like
  "Lisi likes this book."
[3] This corresponds only partially to the Low hierarchy proposed by Belletti (2004): Paul shows that in Chinese no additional TopicP is allowed below *even*-Focus. Such a hierarchy corresponds to the more restricted structure adopted for the external (High) periphery by Benincà & Poletto (2004), which excludes TopicP below FocusP.

subject and above VP[4]. I follow Paul (2005) who examines the position between IP and vP occupied by the preposed object (SOV order) and argues for its status as a clause-internal position. She proposes that the preposed object is not adjoined to vP, but hosted by the functional (inner) TopP. Paul's argumentations are the following: (i) she shows that only one preposed object is allowed between the subject and the vP, though an adjunction hypothesis should give the possibility of multiple adjunction; (ii) following Fu (1994), she observes that an object extracted from a non-finite[5] embedded clause cannot move to the right or immediately to the left of the subject of the embedded clause, but it must occur to the left of the highest verb (the matrix verb). On the contrary, an object preposed from an embedded finite clause can be topicalized to the right of the embedded subject; (iii) she shows that two preposed objects can co-occur only if one is located on the left and the other one on the right of the subject; (iv) she provides evidence for different constraints between the internal and external TopicPs: only DPs, but not clause are acceptable in internal Topic position; movement to internal TopP is clause bound, movement to external TopP is not; Multiple Topics are allowed in the CP area, but they are excluded within IP (see (9)). As mentioned above, following Paul (2005), I will show that both the preposed object and the *lian*+XP on the right of the subject are not the result of Topicalization to the CP area, but that they are located in a Periphery between subject and verb.

First, notice that in Chinese double Topicalization in CP is possible. In (3) the resumptive pronoun is in subject position, thus in this case we are dealing with two Topics in the CP area; the subject (pronoun) is available and can be expressed overtly also in Chinese:

(3) *Zhangsan$_i$, [zhe ben shu]$_j$, ta$_i$ hen xihuan* e$_j$.
   Zhangsan   this CL book   he very like
   Lit: "As for Zhangsan, this book, he likes very much."

Chinese is a *pro-drop* language, thus the subject position may be empty on the surface:

(4) *Zhangsan, zhe ben shu,* pro *hen xihuan*.
    Zhangsan this CL book   very   like

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[4] Cheng & Downing (2007) show that also in Durban Zulu there are two preverbal Topic positions, one preceding and one following the subject.
[5] Paul assumes that in Mandarin verbs like *rang* "to let, to allow" select a non-finite clause that lacks the functional architecture postulated for finite ones.

Due to this *pro-drop* characteristic, a sentence like (4) is syntactically ambiguous: it is not clear if *Zhangsan* and *zhe ben shu* are located in CP or within IP. Consider also the following:

(5) *Zhangsan$_i$ (a), ta$_i$ [zhe ben shu]$_j$ hen xihuan* e$_j$.
     Zhangsan TOP he this CL book very like

In (5) the preposed object is located in a clause-internal position: there is a Topic (it may be followed by a Topic marker), a coindexed overt resumptive pronoun in subject position and the preposed object between subject and verb. We obtain the same result with sentence-internal *lian...dou* construction in (6): *Zhangsan* is topicalized in CP with a resumptive pronoun in subject position and *lian zhe ben shu* is located between the subject and the Verb.

(6) *Zhangsan$_i$, ta$_i$ [lian zhe ben shu]$_j$ dou kanwan le* e$_j$.
     Zhangsan   he LIAN this CL book DOU   read   FP
     Lit: "As for Zhangsan, he read even this book."

However in principle the resumptive pronouns in (5) and (6) could also be above IP in the Left Periphery. The first test is to show that the resumptive pronoun *ta* can occupy the subject position in the IP area, which is based on the ordering constraints between functional projections (FP): every FP lower than the *lian*+XP in CP must be located within IP. Consider the structure of the Left Periphery in Chinese sketched by Paul (2005) and Badan & Del Gobbo (in press). They show that *lian*+XP always occupies the lowest position of the Left Periphery, i.e. below (different kinds of) Topic[6] and above subject:

(7) [$_{CP}$ Topics > *lian*+XP] > [$_{IP}$ subject…

Thus consider the following sentence displaying *lian*+XP on the left of a coindexed resumptive pronoun *ta*:

(8) *Lian Zhangsan$_i$, ta$_i$ zhe ben shu dou yijing   kanwan le*.
     LIAN Zhangsan he this CL book DOU already   read   FP
     "Even Zhangsan, he read this book."

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[6] Badan & Del Gobbo (in press) use diagnostic tests to show empirically that, as in Italian, it is possible in Chinese to split Topics into different types: Hanging Topic, Left Dislocation and Aboutness Topic.

Following the idea that *lian*+XP occupies the lowest position of the CP and cannot be followed by other Topic or Focus projections, the resumptive pronoun *ta* cannot be considered to be in a Topic position in the Left periphery, but only in the subject position within IP.

The next test shows that in the area between subject and verb the number of topicalized positions is more restricted than in the area to the left of subject: since there is only one sentence-internal Topic position, only one bare preposed object is available (9). This fact proves that we are dealing with two different peripheries.

(9) a. **Ni [$_{DP}$ huiyuan dahui] [$_{DP}$ mingtian de richeng] anpai hao   le meiyou?*
       you   member meeting   tomorrow DE program plan finish PERF not
    b. *[$_{DP}$ Huiyuan dahui], ni [$_{DP}$ mingtian de richeng] anpai hao   le meiyou?*
           member meeting you   tomorrow DE program plan finish PERF not
      "The general membership meeting, have you fixed tomorrow's program?"
                                                                    (Paul 2002: 24).

Other sentences illustrating the unacceptability of multiple Topics inside IP are the following:

(10) a. *Hua   (a), Zhangsan hen xihuan meiguihua.*
        flowers TOP Zhangsan very   like   roses
     b. *Hua   (a), [$_{IP}$ Zhangsan [meiguihua] hen xihuan].*
        flowers TOP   Zhangsan   roses   very like
     c. *Hua   (a), meiguihua, [$_{IP}$ Zhangsan hen xihuan].*
        flowers TOP   roses   Zhangsan very like
     d. **[$_{IP}$ Zhangsan [hua] [meiguihua] hen xihuan].*
            Zhangsan flowers roses   very like
        "Among flowers, I like roses very much."

In (10a) there is only one Topic in the CP area, (10b) displays a Topic in the Left Periphery and a bare preposed object, in (10c) there are two high Topics, but in (10d) the sentence is ungrammatical, due to the two bare internal Topics, which are not allowed and an Aboutness Topic cannot be internal. This shows that the area on the left and that one on the right of the subject (in our perspective, High and Low periphery) have different characteristics.

A further difference between the positions on the left and on the right of subject is given by the presence *versus* the absence of a Topic marker following *lian…dou*. All topicalized elements in Chinese can be separated from the rest of

the sentence by a pause optionally reinforced by one of the following particles: *a* (*ya*), *ne*, *me*, *ba* (Gasde 1999, Li Boya 2006 a.o.). Assuming that the Topic marker occupies the Head of a TopicP, only an element located in the Spec of TopicP can be immediately followed by one of the Topic particles. Consider the following:

(11) a. *Zhangsan$_i$, lian zhe ben shu (a), [$_{IP}$ ta$_i$ dou yijing   mai le].*
         Zhangsan LIAN this CL book TOP   he DOU already buy FP
    b. **Zhangsan$_i$, [$_{IP}$ ta$_i$ lian   zhe ben shu a   dou yijing   mai le].*
         Zhangsan   he LIAN this CL book TOP DOU already buy FP
    c. *Zhangsan$_i$, [$_{IP}$ ta$_i$ lian zhe ben shu   dou yijing   mai le].*
         Zhangsan   he LIAN this CL book DOU already buy FP
    d. **[$_{IP}$ Zhangsan lian zhe ben shu   a dou   yijing   mai le].*
         Zhangsan LIAN this CL book TOP DOU already buy FP

(11a) shows *lian*+XP in Topic position that may be followed by the Topic marker; in (11b) *lian*+XP is in clause-internal position, thus the Topic marker is not allowed;[7] (10c) is perfectly grammatical, since the *lian*+XP is in low position, but without Topic marker; finally (11d) shows that *lian*+XP cannot be followed by a Topic marker, this means that it is located in sentence-internal position, thus *Zhangsan* is in subject position within IP and it is not topicalized to the CP area (as, on the contrary, the Double Topicalization Hypothesis predicts). Indeed as I will argue in section 3, *lian*+XP between subject and verb occupies a Focus position, thus it cannot be followed by a Topic marker. On the contrary, when *lian*+XP appears on the left of the subject it seems to display more Topic-like properties, thus I propose that it occupies the Spec of TopicP, thus it can be followed by a Topic particle.

    On the base of the tests above, I am able to confirm the fact that the bare preposed object and sentence-internal *lian*+XP is located in a Low Periphery below IP and above VP, parallel to the Left Periphery in the CP area.

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[7] A reviewer points out that the sentence-internal *lian* cannot be followed by a Topic marker maybe because that Topic marker may not be used in such a low position. But with the sentence (i) I show that the Topic marker *a* can be used in this low position (preceding the preposed object between subject and verb) independent of *lian*-phrases:
(i) *Zhangsan, ta [zhe ben shu] a   yijing kanwan le.*
    Zhangsan he this CL book TOP already read   FP
    "As for Zhangsan, he already read this book."

3. Sentence-initial *lian*+XP *versus* sentence-internal *lian*+XP

Lian+XP can be located in the Left Periphery, namely to the left of the subject. This position is traditionally called sentence-initial *lian*+XP. The distribution of *dou* is the same as a VP-level adverb (Cheng 1995), it must be below the subject:

(12) *Lian zhe ben shu, wo dou kanwan le.*
    LIAN this CL book I DOU read   FP
    "I read even this book."

In this section I show that the two different positions of *lian*+XP, sentence-initial and sentence-internal, display different syntactic properties and conclude that the former occupies the Spec of a TopicP in CP, the latter is located in the Spec of a FocusP within IP. Notice that Paris (1998) already noted that the constituents in *lian…dou* construction play different informational roles based on the different syntactic positions they occupy. She showed that in initial position the construction *lian..dou* displays some Topic properties, but in the preverbal position, it has properties typical of the cleft-sentences. In initial position *lian*+XP syntactically behaves like a Topic element.[8] In particular, (i) analyzing Italian data, Rizzi (1997) shows that Topic can be linked to a resumptive element, while Focus cannot (see also Cinque 1990). I apply this Rizzi`s test to the sentence-initial *lian*+XP: the presence of resumption is allowed (see 13a), while in the sentence-internal *lian*+XP is not (13b) (Paris 1979, 1999);[9]

(13) a. *Lian Zhangsan$_i$, wo dou yijing kanjian ta$_i$ le.*
      LIAN Zhangsan I DOU already saw him FP
    b. *Wo lian Zhangsan$_i$ dou yijing kanjian (*ta$_i$) le.*
      I   LIAN Zhangsan DOU already saw   him FP

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[8] A reviewer considers premature to draw conclusions about the information-structural status of initial-*lian*+XP only from the fact that it is left-dislocated. In this paper I concentrate on the syntactic behaviour of the sentence-initial *lian*+XP, which seems to have more syntactic Topic-like properties. It is not strange to define as Topic the information status of the sentence-initial *lian*+XP, since notice that in Chinese a Focus in the CP area is never allowed, but only Topic can appear (Badan & Del Gobbo, in press). There is no reason to exclude that focalized item attests properties of discourse topichood, I leave this issue open for further research.

[9] A reviewer points out that the presence *vs.* absence of resumption could be related to the fact that in the "initial" case, the *lian*+XP is in Abar-position and then allowing a resumptive pronoun, while the "internal" case is not really in Abar-position. But notice that the compatibility and in-compatibility of resumptive element with Focus and Topic respectively is related to the quantificational nature of Focus and to the non-quantificational nature of Topic. A quantificational element cannot be resumed by a resumptive item. Thus, if we consider the internal *lian*+XP to move through a Focus movement, such a movement is syntactically parallel to a *wh*-movement: its landing site is quantificational, thus it does not allow resumption.

(ii) Sentence-initial *lian*+XP can be followed by a Topic marker like *a* (14a), while the sentence-internal *lian* cannot (14b):

(14) a. *Lian Zhangsan   a, wo zuotian dou kanjian (ta) le*.
         LIAN Zhangsan TOP I yesterday DOU saw (him) FP
        "Yesterday I saw even Zhangsan."
     b. *Wo zuotian   lian Zhangsan (*a) dou kanjian le[10]*.
         I yesterday LIAN Zhangsan TOP DOU   saw   FP
        "Yesterday I saw even Zhangsan."

In contrast to the sentence-initial position, the sentence-internal *lian* displays mainly Focus properties: (i) it cannot co-occur with another *wh*-item in the sentence:

(15) **Zhangsan [lian zhe ben shu] dou huan gei   le   shei?*
      Zhangsan LIAN this CL book DOU give to PERF who
     "Zhangsan even this book gave back to whom?"

Wu (1999) shows that when a focalized item in the *lian...dou* construction co-occurs with a *wh*-element, in order for the clause to be grammatical the *wh*- raises to the sentence-initial TopicP. This is consistent with the fact that normally languages do not allow a double Focus[11] (see Rizzi 1997):

(16) a. **Lian Zhangsan dou mai   le [shenme shu]?*   (Wu 1999: 7)
         LIAN Zhangsan DOU buy ASP what   book
     b. *[TOP Shenme shu] lian Zhangsan dou mai le?*
          what   book LIAN Zhangsan DOU buy FP
        "What book has even Zhangsan bought?"

 If Wu is right and *wh*- in presence of a Focus has to move to a SpecTopicP, this means that sentence-internal *lian*+XP and *wh*- compete for the same Focus position, while when *wh*- is topicalized, the FocusP is available for *lian*+XP and in the clause only one Focus appears, as the grammatical clause (16b) shows. On

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[10] The sentence (14b) with *a* is acceptable only with a comma or a clear pause after the Topic particle *a*, but this indicates a completely different structure.
[11] Moreover notice that *wh*-elements cannot co-occur with a cleft (*shi…de* construction), since sentences do not like to have double Focus:
(i) *Shi Lisi zai gongyuan zhaodao shenme de?
    SHI Lisi in park   found   what DE
    Lit: "It's Lisi that found what in the park?"

the contrary, a clause like (17), displaying a preposed object and a *wh*-item *in situ*, is perfectly grammatical: the preverbal object (being an internal Topic) in SOV clauses and a *wh-* item do not compete for the same position and the sentence has only one Focus.

(17) *Zhangsan [zhe ben shu]   huan   gei   le   shei?*
      Zhangsan this CL book give:back to PERF who
     "To whom does Zhangsan give back this book?"

(ii) As mentioned above, sentence-internal *lian*+XP cannot be followed by a Topic marker (10b), thus it means that it does not occupy the Specifier of a TopicP. (iii) As shown in (13b), the sentence-internal *lian*+XP does not allow resumption (Paris 1999).

    To conclude, I have provided further arguments for Paul (2002, 2005) to show that sentence-internal *lian*+XP is located in a Focus Projection within the Low Periphery in the IP. In the case of sentence-initial *lian*+XP, I argue that in the CP area it occupies a Topic position. The pragmatic/semantic effects of these distinct syntactic positions are not yet clear to me, I leave it open for future research.

4. Both *lian* and *dou* together contribute to the interpretation of *even*
In contrast to other languages (*even* in English, *perfino* in Italian, *même* in French), I argue that in Chinese the *even*-intepretation results from a combination of two elements: *lian* and *dou*.

4.1 Lian or not lian?
In this section I provide evidence for the fact that *dou* without *lian* can lead to two different readings. The first one is the typical "all" reading, which is similar to a universal quantifier reading, the second one is the *even*-reading. I will show that *lian* is responsible for the Focus stress on the XP that follows it.[12] Generally, in the Chinese linguistics literature (Chao 1968; Paris 1979 a. o.), *lian* is considered optional: this claim is not actually true. Consider the following:

(18) *Zhangsan   lian zhe xie   shu   dou kanwan le.*
      Zhangsan LIAN this CL-pl. book DOU read   FP
     "Zhangsan read even these books."

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[12] For space limit, here I only analyse examples with *lian*+XP in sentence-internal position.

When both *lian* and *dou* are present, the sentence is directly interpreted as "Zhangsan read even these books." However, *lian* can be optional, so it is perfectly possible to have a sentence like the following:

(19) *Zhangsan zhe   xie   shu dou kanwan le*.
　　　Zhangsan this CL-pl. book all   read   FP

In this case, without any special accent, the sentence has the universal interpretation: "Zhangsan read all these books." *Zhe xie shu* "these books", a plural element, is raised to the preverbal position in order to be quantified by *dou*. But if *zhe xie shu* "these books" is pronounced with a special stress, it obligatorily yields the *even* reading:

(20) Zhangsan ZHE XIE   SHU dou kanwan le.
　　　Zhangsan this CL-pl. book all   read   FP
　　　"Zhangsan read even these books."

Notice also that Sybesma (1996) observes that when *dou* functions as a Quantifier like in (19), it may be (slightly) stressed, but when it is in the *even*-construction, the Focalization stress is given only to the XP selected by *lian*.

　　In order to obtain the *even* interpretation , when *lian* is not spelled out, we have to do something special: the XP on the left of *dou* requires a Focus accent. If we take a sentence with a singular NP, it cannot be quantified by *dou* and the sentence is ungrammatical. But if the NP carries a Focal stress, the clause is grammatical and with (obligatory) *even* reading:

(21) a. **Zhangsan dou lai le*.
　　　　　 Zhangsan   all come FP
　　　b. *ZHANGSAN dou lai le*.
　　　　　"Even Zhangsan came."

Thus, I argue that, contrary to the traditional literature, *lian* is always present (overtly or covertly) in the structure: the [+Focus] feature in Chinese can either be spelled out by *lian* or by having stress on the XP.

　　Note also that it is possible to have *lian* and the Focus stress at the same time:

(23) *Wo lian ZHE XIE SHU dou kanwan le*.
　　　 I   LIAN this CL-pl. book DOU read   FP
　　　"I read even this book."

This case, with a combination of *lian* and Focus stress on XP, shows that when *lian* is present, the stress is really optional, since it does not provide anything extra to the sentence.[13] Thus I propose that *lian* is always present in the structure, but it can be covert or overtly expressed. When it is not spelled out, its effect is obligatorily given by the focus stress on the focalized item.

4.2 Lian and dou: "additivity" and "scalarity"
The general theoretical consensus on semantics of *even* combines the classical insights of Horn (1969), Anderson (1972), Fauconnier (1975), Jacobs (1983), Karttunen & Peters (1979), Rooth (1985, 1992), Kay (1990), Krifka (1995). Since this is not the purpose of the present work, I do not enter into the details of the semantics of *even*, but I will sketch the general lines to serve as a basis for the subsequent part of the paper. *Even* is commonly recognized as displaying both additive and scalar interpretation. I argue that in Chinese these two semantic effects are split into two different elements (see Tsai 1994, Hole 2004).

(24) *Jintian Zhangsan lian zhe ben shu dou mai le*.
     Today Zhangsan LIAN this CL book DOU buy FP
     "Today Zhangsan bought even this book."

Even, a Focus-sensitive Operator, picks out an entity and relates it to a domain of other entities of the same semantic type. In (24) *even* picks out *zhe ben shu* "this book" and relates it to the domain of a pragmatically given set of things which are bought by Zhangsan. According to Rooth (1985, 1992) besides its ordinary meaning a sentence containing Focus material has Focus semantic value, also called Focus set of alternatives. Informally, the Focus semantic value for a sentence is the set of alternative propositions obtainable from the ordinary semantic value, by marking a substitution (the variable x) in the position corresponding to the focused phrase, with an object of the same semantic type as its ordinary meaning. The Focus semantic value for (24) is the set of propositions of the form "today Zhangsan bought x". Thus by focusing *zhe ben shu* "this

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[13] There are other cases that require the presence of *lian* in order to disambiguate different meanings. *Lian* is not obligatory, but then to get the readings right, you have to stress one or the other NP, or you have to add *lian*. For instance when there are two [+animate] NPs:
(i) *Zhangsan Lisi dou hen xihuan*.
    Zhangsan Lisi all very like
 1. "Zhangsan likes even Lisi."
 2. "Lisi likes even Zhangsan."

book", a set of semantic alternatives is made available: {today Zhangsan bought a pen}, {today Zhangsan bought a pencil}...

   Foolen (1993) calls particles such as *even* "arithmetical particles", to indicate that these particles perform an arithmetical operation: *even* (or *also*) adds a set to a set (whereas a particle such as *only* restricts a set to a subset) (see also Barbiers 1995). Thus, in the case of (24), *even* behaves like an additive particle: it "adds to the set" {today Zhangsan bought x} an additional subset {today Zhangsan bought this book}. Altmann (1976) clearly distinguishes between a quantificational use (additive property) and a scalar use for *even*. In the case of (24) the two semantic effects can be described as follows:

(25) Scalarity:[14] x is the last likely alternative, is in the lowest point in the pragmatic probability scale.

   Additivity: *even* adds to the set - for ex. in (24) {today I bought x} - an additional subset - in (24) {today I bought a book} -.

Different from *even* in English, in Chinese quantificational and scalar uses are not unified in one and the same particle, but they are overtly expressed by two separated elements, *lian* and *dou*, which, when combined together, yield the *even* interpretation (see Tsai 1994, Hole 2004 among others). I argue that *lian* and *dou* have two independent functions which are combined through movement in order to yield the *even* reading. As for *lian*, it gives the Focus stress to the XP, forming with it a constituent and it seems to maintain its original meaning "connecting, including" (see Xing 2004), namely it maintains its original function: the "additive" one. It combines with *dou*. Following Cheng & Giannakidou (2006) and Cheng (to appear) I define *dou* as a Maximality Operator,[15] which operates over the set of alternatives , closes the domain and gives the Maximal set of these alternatives, i.e. it maximizes the set of the presuppositions. Moreover, Cheng (ibid.) argue that *dou* plays the same role as definite determiners in other languages (for instance Greek and Basque), in that it provides contextual domain restriction[16] (in particular for strong quantifiers).[17]

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[14] Note that here the scale invoked by *even* is defined in terms of *likelihood*, but it has been analyzed also in terms of: unexpectedness (Fillmore 1965 quoted in Kay 1990), pragmatic entailment (Fauconnier 1975, 1979), informativeness (Kay 1990), noteworthiness (Herburger 2000), flexible scale (Giannakidou 2003).

[15] Giannakidou & Cheng (2006) propose that *dou* is a Maximality OP, when it combines with *wh*-phrases to make Free Choice Items.

[16] Cheng (to appear) argues that the contextual domain restriction can be done overtly, in Chinese, or coverlty, for instance in English (though of course an overt domain can be spelled out as well).

Thus, *dou* is the overt expression of the different alternatives expressed by the Focus value, ordered in a scale. In this sense *dou* contributes to the *even* reading giving the "scalarity" interpretation to the *lian…dou* structure. Comparing this structure with *even* in English, *even* by itself includes the two properties, "additivity" and "scalarity", while in Chinese *even*-construction these two properties are distributed in two different elements: *lian* (overt or covert) gives "additivity" and *dou* gives "scalarity".[18]

5. Conclusions

In this paper I proposed that: when *lian*-NP is on the right of the subject, it is in the designated *lian*-Focus position situated within the Low Periphery in IP. I've shown that the two possible positions of *lian*+XP, the sentence-initial and the sentence-internal one, are syntactically different: the former shows more Topic-like properties than the latter, which displays more Focus-like properties. As for the *even* interpretation, I proposed that *lian* gives the emphasis and adds an element to a set implied by the *even* reading. *Dou* represents the whole scalar set to which the *lian*+XP is added. In order to obtain this structure, *lian*+XP needs to move out of the set selected by *dou* on its right and to go up to a position on the left of *dou* in order to be extrapolated and emphasized with respect the set as a whole.

References

ALTMANN Hans. 1976. *Die Gradpartikeln im Deutschen: Untersuchungen zu ihrer Syntax, Semantik und Pragmatik*. Tübingen: Niemeyer.

ANDERSON Stephen R. 1972. How to Get "Even". *Language* 48, 4: 893-905.

BADAN Linda. 2007. *High and Low Periphery: A Comparison between Italian and Chinese*. PhD Dissertation. Università di Padova.

BADAN Linda, DEL GOBBO Francesca. In press. On the Syntax of Topic and Focus in Chinese. In P. BENINCÀ, N. MUNARO (eds.) *Mapping the left periphery*. Oxford-New York: Oxford University Press.

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[17] Giannakidou (2004) and Etxebarria (2005) (quoted in Cheng 2007) argue that the domain restriction can be composed with the quantificational determiner, since strong quantifiers are accompanied by the definite marker (the Greek determiner "each" is composed by "the+every"). Cheng (to appear) considers *mei* "every" as a case of strong quantifier which shows the obligatory presence of *dou* providing the domain restriction, instead quantifiers such as *hen duo* "many" and numerals are weak quantifiers because *dou* is not obligatory.

[18] As for the interchangeability between *dou* and *ye* ("also"), Hole (2004) argues that *dou* reflects universal quantification over alternatives (all alternatives are true) and *ye* reflects existential quantification over alternatives (some alternatives are true).

BARBIERS Sjef. 1995. *The Syntax of Interpretation.* The Hague: Holland Academic Graphics. BAYER Josef. 1996. *Directionality and Logical Form: On the Scope of Focusing Particles and Wh-in situ.* Dordrecht: Kluwer.

BELLETTI Adriana. 2001. "Inversion" as Focalization. In A. HULK, J.Y. POLLOCK (eds.) *Inversion in Romance and the theory of Universal Grammar.* Oxford-New York: Oxford University Press.

BELLETTI Adriana. 2004. Aspects of the low IP area. In L. RIZZI (ed.) *The Structure of IP and CP. The Cartography of Syntactic Structures, vol. 2.* Oxford-New York: Oxford University Press.

BELLETTI Adriana (ed.). 2004. *Structures and Beyond. The Cartography of Syntactic Structures, vol 3.* New York & Oxford: Oxford University Press.

BENINCÀ Paola, POLETTO Cecilia. 2004. Topic, Focus and V2: Defining the CP sublayers. In L. RIZZI (ed.) *The Structure of CP and IP. The Cartography of Syntactic Structures*, *vol. 2*: 52-75. New York-Oxford: Oxford University Press.

CHAO Yuan-Ren. 1968. *A Grammar of Spoken Chinese.* Berkeley, California: University of California Press.

CHENG L.-S. Lisa. 1995. On *Dou*-Quantification. *Journal of East Asian Linguistics* 4: 197-234.

CHENG L.-S. Lisa. To appear. On Every type of quantificational expression in Chinese. In M. RATHERT, A. GIANNAKIDOU (eds.) *Quantification, Definiteness, and Nominalization.* Oxford University Press.

CHENG L.-S. Lisa, DOWNING Laura. J. 2007. Phonology and Syntax at the Left Edge in Zulu. Paper presented at the *What's the TOPIC?-Workshop*, Centre for Language Studies (CLS), 23-24.I. Radboud University Nijmegen.

CHENG L.-S. Lisa, GIANNAKIDOU Anastasia. 2006. (In)Definiteness, polarity, and the role of wh-morphology in free choice. *Journal of Semantics* 23: 135–183.

CHOMSKY Noam. 1971. *Deep Structure, Surface Structure and Semantic Representation.* In D. STEINBERG, L. JACOBOVITS (eds.) *Semantics*: 183-216. London: Cambridge University Press.

CINQUE Guglielmo. 1990. *Types of Abar-dependencies.* Cambridge, MA: MIT Press.

ERNST Thomas, WANG Chengchi. 1995. Object Preposing in Mandarin Chinese. *Journal of East Asian Linguistics* 4, 3: 235-260.

FAUCONNIER Gilles. 1975. Pragmatic Scales and Logical Structures. *Linguistic Inquiry* 6: 353-375.

FAUCONNIER Gilles. 1979. Implication reversal in a natural language. In F. GUENTHER, S. J. SCHMIDT (eds.) *Formal semantics and pragmatics for natural languages*. Dordrecht: Reidel.

FILLMORE Charles. J. 1968. The Case for Case. In E. BACH, R. HARMS (eds.). *Universals in Linguistic Theory*: 1-88. New York: Holt, Rinehart & Winston.

FOOLEN Ad. 1993. *De betekenis van partikels*. PhD Dissertation. Katholieke Universiteit Nijmegen.

FU Jinqi. 1994. SOV word order in Chinese and IP specifier. Paper presented at *NACCL-6*. University of Southern California.

GASDE, Horst-Dieter. 1999. Are "Topic-Prominence" and "Subject-Prominence" relevant typological parameters?. *First Meeting of the European Association of Chinese Linguistics*. EHESS, CRLAO, Paris.

GIANNAKIDOU Anastasia. 2003. *Polarity and the presuppositions of EVEN*. Ms. University of Chicago.

HERBURGER Elena. 2000. *What Counts: Focus and Quantification*. Cambridge, MA: MIT Press.

HOLE Daniel. 2004. *Focus and background marking in Mandarin Chinese: System and theory behind cai, jiu, dou and ye*. London-New York: Routledge Curzon.

HORN Laurence R. 1969. A Presuppositional Analysis of "Only" and "Even". *Chicago Linguistic Society* 5: 98-107.

JACKENDOFF Ray. 1972. *Semantics in generative grammar*. Cambridge MA: MIT Press.

JACOBS Joachim. 1983. *Fokus und Skalen*. Tübingen: Niemeyer.

KAY Paul. 1990. Even. *Linguistics and Philosophy* 13: 59-111.

KARTTUNEN Laurie, PETERS Stanley. 1979. Conventional Implicature. In O. CHOON-KYU, D. A. DINEEN (eds.) *Syntax and Semantics, Volume 11: Presupposition*: 1-55. New York: Academic Press.

KRIFKA Manfred. 1995. The semantics and pragmatics of polarity items. *Linguistic Analysis* 25: 209-257.

LI Boya. 2006. *Chinese Final Particles and the Syntax of the Periphery*. PhD Dissertation. Universiteit Leiden.

LIN Jo-Wang. 1992. The syntax of *zenmeyang* "how" and *weishenme* "why" in Mandarin Chinese. *Journal of East Asian Linguistics* 1: 293-331.

PARIS Marie-Claude. 1979. Some aspects of the syntax and semantics of the *lian...ye/dou* costruction in Mandarin. *Cahiers de linguistique – Asie orientale* 5: 47-70.

PARIS Marie-Claude. 1998. Focus Operators and Types of Predication in
        Mandarin. *Cahiers de Linguistique-Asie Orientale* 27, 2: 139-159.
PARIS Marie-Claude. 1999. Ordre des mots, topique et focus en chinois
        contemporain. In C. GUIMIER (ed.) *La thématisation dans les langues.*
        Actes du Colloque de Caen, *9/11-10-1997.*
PAUL Waltraud. 2002. Sentence-internal topics in Mandarin Chinese: the case of
        object preposing. *Language and Linguistics* 3-4: 695-714.
PAUL Waltraud. 2005. Low IP and left periphery in Mandarin Chinese. *Recherches
        Linguistiques de Vincennes* 33: 111-134.
POH EAN Agnes. 1996. *The deletability of "Lian" in the construction of
        "Lian…Ye/Dou…" in Mandarin Chinese.* Unpublished MA Thesis.
        Université Paris VII.
QU Yanfeng. 1994. *Object Noun Phrase Dislocation in Mandarin Chinese.* Ph.D.
        Dissertation. University of British Columbia.
RIZZI Luigi. 1997. The fine structure of the left periphery. In HAEGEMAN L. (ed.)
        Elements of Grammar. Handbook of Generative Syntax: 281-337.
        Dordrecht: Kluwer.
ROOTH Mats. 1985. *Association with Focus.* PhD dissertation. University of
        Massachusetts, Amherst.
ROOTH Mats. .1992. A Theory of Focus Interpretation. *Natural Language
        Semantics* 1: 75–116.
SHYU Shu-ing. 1995. *The Syntax of Focus and Topic in Mandarin Chinese.* PhD
        Dissertation. University of Southern California.
SHYU Shu-ing. 2001. Remarks on Object Movement in Mandarin SOV Order.
        Language and Linguistics 2, 1: 93-124.
SHYU Shu-ing. 2004. (A)symmetries between Mandarin Chinese *Lian-dou* and
        Shenzhi. Journal of Chinese Linguistics 32, 1: 71-128.
SYBESMA Rint . 1996. Review of the syntax of focus and topic in Mandarin
        Chinese by Shu-ing Shyu. *GLOT International* 2: 13-14.
TSAI W.-T. Dylan. 1994. *On Economizing the theory of A-bar dependencies.* PhD
        Dissertation. MIT: Cambridge, MA.
WU Jianxin. 1999. *Syntax and Semantics of Quantification in Chinese.* PhD
        Dissertation. University of Maryland.
XING Janet Z. 2004. Grammaticalization of the scalar focus particle *lian* in
        Mandarin Chinese. *Journal of Historical Pragmatics* 5, 1: 81-106.
XU Liejiong, LANGENDOEN D. Terence. 1985. Topic Structures in Chinese.
        Language 61, 1: 1-27.