On Mandarin Degree Adverbial *Hen*

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1. Introduction

In Mandarin, when an adjective is the main predicate of a declarative, degree modifiers, such as *feichang* 'very' and *xiangdang* 'quite', are obligatory (Chao 1968; Li and Thompson 1981, Yip and Rimmington 2004). The most common element co-occurring with the adjectives in declaratives is *hen*, traditionally translated as 'very'.

(1)   Adjectives with extra-elements:

zhangsan *(hen)   gao.

Zhangsan   HEN   tall.

i 'Zhangsan is tall.'

ii 'Zhangsan is very tall.'

Key questions:
- When and why are the extra-elements obligatory?
- Why does *hen* has two interpretations: semantically bleached or "very".

Claims/Quick Answers:
- The extra-elements are typing the clause into a declarative.
- There are two *hen*s: (i) degree *hen*, which is degree expression and merged at the head of DegP, and (ii) functional *hen*, which is semantically bleached and is directly merged at IP, head.

2. Adjectives and *Hen*

2.1 Obligatory Extra-elements

- Under certain conditions, Mandarin adjectives must co-occur with some extra elements to express declarative meaning (Chao 1968; Li and Thompson 1981; Yip and Rimmington 2004).

(2) a. zhangsan gao
     Zhangsan tall.
     'Zhangsan is taller (than someone known in the context)'

   b. zhangsan feichang   gao.
      Zhangsan very   tall.
      'Zhangsan is very tall.'

   c. zhangsan hen   gao.
      Zhangsan HEN tall.
      i 'Zhangsan is tall.'
      ii 'Zhangsan is very tall.'

Note here in (2c) we got two interpretations (Li and Thompson 1981; Xiandai hanyu xuci lishi 1982). Specifically, *hen* can be semantically bleached, or it can function as an intensifier.

- **Under what condition are extra-elements obligatory?**

"*A gradable adjective in Mandarin requires a degree expression for positive interpretation only when the adjective is the entire predicate of a matrix-level declarative clause.*"   Grano (2008:5)

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(3) non-predicate:
   zhangsan mai   le   yi duo **hong**   (de) hua
   Zhangsan buy Asp one Cl   red   DE flower
   'Zhangsan bought a red flower'

(4) non-matrix
   dajia   dou renwei [zhangsan **gao**], buguo   wo   juede   ta   bing   bu gao
   everyone all   think   Zhangsan tall, however 1SG believe 3SG actually NEG tall
   'Everyone thinks Zhangsan is tall, but I think he's actually not.' (Grano2008:7)

(5) non-declarative:

zhangsan **gao** ma?

Zhangsan tall   Q

'Is Zhangsan tall?' (Liu 2005:2)

2.2 **Unambiguous *Hen***

● In some conditions, *hen* can be intensifier only (i.e. it cannot be semantically bleached).

(6) With Q

zhangsan hen   gao ma?

Zhangsan HEN tall   Q

'Is Zhangsan very tall?'

'* Is Zhangsan   tall?'

(7) With Negation

zhangsan meiyu hen gao.

Zhangsan Neg   HEN tall

'Zhangsan is not very tall'

'* Zhangsan is not   tall'

3. Previous Analysis

3.1 Liu (2005): *hen* as positive morpheme

● **Proposal**

Kennedy and McNally (2005) proposed that adjectives denote function of type <d,et> (d = degree). Before an adjective combines with a nominal, it must combine with a positive morpheme (POS) first to shift an adjective into a function of type <et>.

In English, this POS morpheme is null in phonology. Liu (2005) proposed that in Mandarin there are at least four ways to shift an adjective into a function of type <et>, which include the use of overt degree morphology such as *feichang* 'very', reduplicative morphology, the particle *le*, and contrastive focus.

(8)   a. Overt degree morphology

zhangsan feichang gao.

Zhangsan very   tall

'Zhangsan is very tall.'

b. Reduplicative morphology

zhangsan gao-gao-de.

Zhangsan tall-RED-DE

'Zhangsan is really tall.'

c. Particle *le*

zhangsan gao le.

Zhangsan tall PRF

'Zhangsan has become tall.'

d. Contrastive focus

zhangsan gao,   lisi ai.

Zhangsan tall   Lisi short

'Zhangsan is tall, but Lisi is short.'

As for those occurring bare adjectives in (3), (4) and (5), Liu claims that in those cases there is **a covert POS**, which is a **phonologically null allomorph of hen**, and the distribution of this covert *hen* is like a **negative polarity** item.

● **Problems**

a. In Liu (2005) *hen* along with other degree marker are all positive morphemes.

→ Why can *hen* be semantically null (as in 2ci), but other positive morphemes must denote a degree instead of semantically null ?

→ Why does covert *hen* distribute like a negative polarity item while other positive morphemes do not?

b. In Liu (2005) positive morpheme has two allomorphs: the overt positive allomorph and the covert positive allomorph. Covert positive allomorph is always semantically null, (i.e. it is never an intensifier), while the overt counterpart can denote to a degree (i.e. it can be an intensifier).

→ Why should two allomorphs of the same morpheme have different semantic interpretations?

3.2 Huang (2006): *hen* as type-shifter

● **Proposal**

Huang (2006) proposed that bare adjectives in Mandarin are individual-denoting and *hen* shifts bare adjectives into property-denoting expression. This approach links to the classifier structure in Mandarin nominal. In Krifka (1995) and Chierchia (1998), it is proposed that bare nouns in Mandarin are also type e and require classifiers in order to yield type <et>.
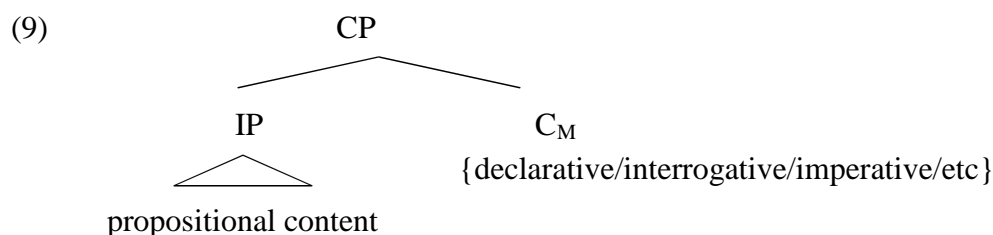
4

- **Problems**

 As pointed out in Grano (2008), Huang (2006) would predict that all the adjectives in Mandarin must co-occur with extra elements. However, as discussed in section 2.1, there are cases in which bare adjectives are okay.

3.3 Grano (2008): *hen* as clause-typer

- **Proposal**

 Grano (2008) proposes that the obligatory degree elements are not due to the property of adjectives itself in Mandarin but rather a consequence of the way matrix-level assertions in Mandarin are realized.

 In Searle (1969), illocutionary acts are of the general form F(p), where F indicates illocutionary force and p is a proposition. In many syntactic theories, the locus of illocutionary force is realized as the head of CP (Rizzi 1997; see also Cinque 1999 and Speas and Tenny 2003 for similar proposals), as depicted in the following tree:

(9)

```
                        CP
              ┌──────────────────┐
             IP                  C_M
           ┌─────┐               {declarative/interrogative/imperative/etc}
  propositional content
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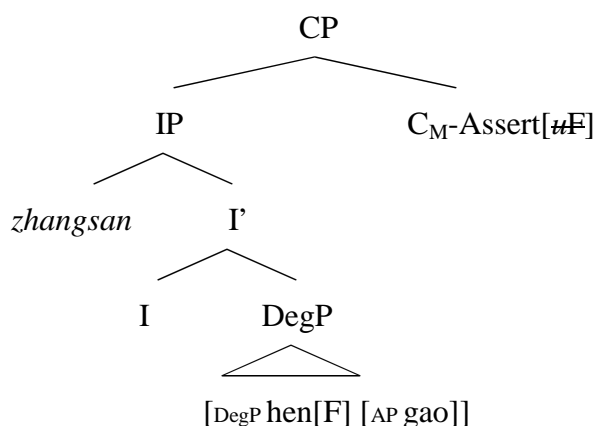
 Cheng (1991) further proposed Clausal Typing Hypothesis. She argued that all clauses must be typed specified for illocutionary force. Grano (2008) adopted Cheng (1991) and proposed *hen* and other extra element are the head of degree phrase, and they license the matrix C-assert. Specifically, he proposed the following hypothesis (Grano 2008: 17):

(11) *Mandarin Assertion Principle: Although C$_{M\text{-}ASSERT}$ is phonologically null in Mandarin, it is nonetheless present in the syntax and must find within its complement IP support in the form of an overt VP-external (or AP-external) functional head.*

(12) zhangsan hen   gao. = (2c)
  Zhangsan HEN tall.
  'Zhangsan is tall.'

```
                         CP
                _____/  _____
               IP                  C_M-Assert[uF]
          ____/  \____
    zhangsan         I'
                ____/  \____
               I           DegP
                         __/  \__
                    [DegP hen[F] [AP gao]]        Grano (2008: 26)
```

- **Problems for Grano**

a. In Grano (2008), both the semantically bleached *hen* and other intensifiers, such as *feichang* "very" (*hen* as intensifier included), are merged at DegP. His approach implies that elements merged at DegP may have nothing to do with degree.

b. For the ambiguity of *hen* of being semantically null or being an intensifier (as shown in 2c), Grano may simply claim it is due to the lexical ambiguous property of *hen*. If this is case, it is very puzzling about why in (6) and (7) we can not get the semantically bleached *hen*, but only intensifier *hen*.

4. Core Proposal: the Semantically Null *Hen* as Head of IP

  I follow Grano's (2008) proposal that the extra elements co-occurring with adjectives serve to type the clause. However, I propose that the semantically bleached *hen* is directly merged as the head of IP instead of degree phrase.

- **Distinguishing *hen* from other Degree Phrase**

  a. *Hen* may be semantically null, while other degree modifiers must denote to a certain degree.

  b. Degree expressions are usually incompatible with absolute adjectives, such as *dui* 'ture' and *yuan* 'round'. However, *hen* is okay to co-occur with absolute adjectives.

  (13) a. * Nei ge penzi feichang yuan.

    that CL bowl very round

    Intended 'That bowl is very round'

  b. Nei ge penzi feichang liang.

    that CL bowl very bright

    that CL bowl very bright

    'That bowl is very bright

(14) a. Nei ge penzi hen **yuan**.

    that CL bowl HEN round

    'That bowl is round'   (Li and Thompson 1981:144)

  b. Enlai Jianying de yijian hen **dui**. [1]

    Enlai Jianying DE opinion HEN correct

    'Enlai and Jianying's opinion is correct.'

  c. Daduoshu ren dailai de yishupin hen **jia**. [2]

    most people bring DE works of art HEN fake

    'The works of arts bought by most people are fake.'

In cases like (14), *hen* does not merge at DegP

- ### *Hen* is merged at head of IP: evidence from A-not-A test

  In Law (2006) and among others, it is argued that Mandarin A-not-A
  constructions consists of a Q morpheme in INFL that is raised to C domain.

(15) *Hen* is not compatable with A-not-A contrsution

 a * zhangsan hen gao-bu-gao?

  Zhangsan HEN tall-not-tall

  Intended: Is Zhangsan very tall?

 b *zhangsan hen cong-bu-congming?

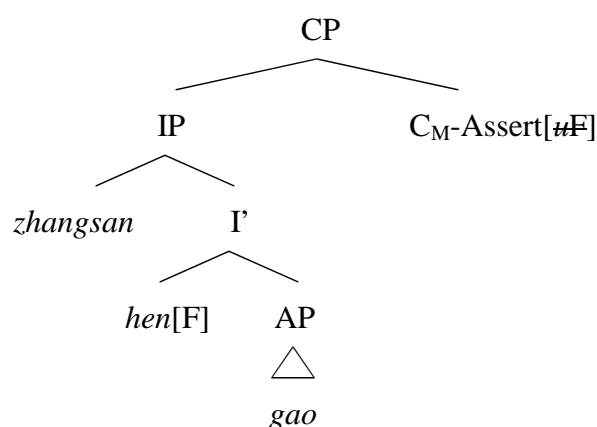 Zhangsan HEN smart-not-smart

  Intended: Is Zhangsan very smart?

Hen is competing for the same syntactic position (IP head)

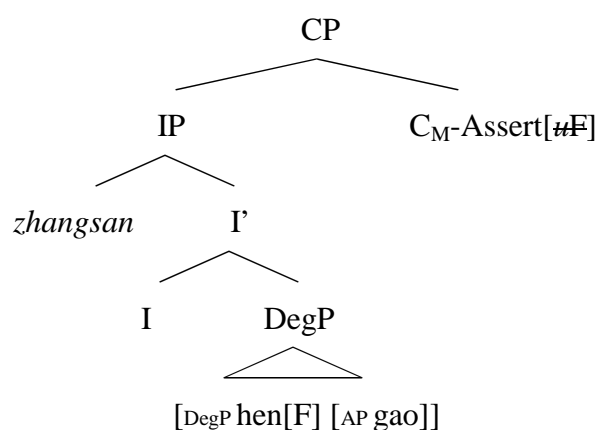- ### Explanation for two interpretations of *hen:*

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[1] From on-line newspaper: http://www.takungpao.com/news/09/08/25/junshi02-1132045.htm

[2] From on-line newspaper: http://money.hexun.com/2009-09-03/120942761.html

(16a) zhangsan hen gao "zhangsan is **tall**"

```
                        CP
              ┌──────────┴──────────┐
              IP                C_M-Assert[uF]
        ┌─────┴─────┐
    zhangsan        I'
                ┌───┴───┐
            hen[F]      AP
                        △
                       gao
```

(16b) zhangsan hen gao "zhangsan is **very tall**"

```
                        CP
              ┌──────────┴──────────┐
              IP                C_M-Assert[uF]
        ┌─────┴─────┐
    zhangsan        I'
                ┌───┴───┐
                I      DegP
                        △
              [DegP hen[F] [AP gao]]
```

- ### *Hen*-Support Principle

Considering the semantics of the bleached *hen*, I suggest that the reason that *hen* does not denote to a degree is because it is a pure functional element. Because it is pure functional, functioning only to type the clause into a declarative, its distribution is very restricted. Specifically, I propose the following principle:

> (17) *Hen*-Support Principle: If there is no element available to type the clause, insert semantically bleached *hen* to the head of IP.

5. Implications

● **Unambiguous** *Hen*

Recall that the *hen*s in (6) and (7), repeated as (18) and (19), can only be an intensifier.

(18) With Q

  zhangsan hen   gao ma?

  Zhangsan HEN tall   Q

  'Is Zhangsan very tall?'

  '* Is Zhangsan   tall?'

(19) With Negation

  zhangsan meiyu hen gao.

  Zhangsan Neg   HEN tall

  'Zhangsan is not very tall'

  '* Zhangsan is not   tall'

> In a context that 180cm is tall, and 200 cm is very tall.
>
> If Zhangsan is 181 cm,
>
> then the answer to (18) would be **NO**, and the proposition
>
> expressed in (19) would be true.
>
> If Zhangsan is 201 cm,
>
> then the answer to (18) would be **YES**, and the
>
> proposition expressed in (19) would be false.

> a. *Hen*-support is the last resort to type the clause (i.e. other clause-typing element
>   would block this *hen*-support).
> b. In (18), the clause is typed by Q, and in (19) the clause is typed by Neg. Thus,
>   *Hen*-support is blocked (i.e. *hen* cannot be semantically bleached).
> Consequently the *hen* here cannot merge to IP, head; instead, it is merged at DegP. As
> a result, *hen* is unambiguously interpreted as 'very'.

● *Hen*'s Compatibility with Absolute Adjectives

Hen is compatible with absolute adjectives as in (14), repeated as (20) here.

9

(20) a.   Nei   ge penzi   hen   **yuan**.
            that CL bowl   HEN   round
            'That bowl is round'   (Li and Thompson 1981:14)

   b.   Enlai   Jianying   de   yijian   hen   **dui**.
         Enlai   Jianying   DE opinion HEN correct
            'Enlai and Jianying's opinion is correct.'

   d.   Daduoshu   ren   dailai de   yishupin   hen   **jia**.
         most   people   bring DE works of art   HEN   fake
            'The works of arts bought by most people are fake.'

If *hen* is directly merged at the head of IP and has nothing to do with degree, then it is not surprising that *hen* is compatible with absolute adjectives.

When there are other elements typing the clause such as negation or Q, then *hen*-support does not apply. In this condition, *hen* must be merged at DegP, and unambiguously interpreted as intensifier. And absolute adjectives are incompatible degree expressions. As a result, if there is a clause-typing element, *hen* would be incompatible with absolute adjectives.

This is indeed the case:

(21) With Q

   a.   *Nei   ge penzi   hen   yuan   ma?
            that CL bowl   HEN   round   Q

   b. * Enlai   Jianying   de   yijian   hen   dui   ma?
         Enlai   Jianying   DE opinion HEN correct Q

   c. * Daduoshu   ren   dailai de   yishupin   hen   jia   ma?
         most   people   bring DE works of art   HEN   fake   Q

(22) **With Negation**

   a.   *Nei   ge penzi meiyou   hen   yuan
            that CL bowl   NEG   HEN   round

   b. * Enlai   Jianying   de   yijian   meiyou   hen   dui
         Enlai   Jianying   DE opinion   NEG   HEN   correct

   c. * Daduoshu   ren   dailai de   yishupin   meiyou   hen   jia
         most   people   bring DE works of art   NEG   HEN   fake

The compatibility and in compatibility of *hen* with absolute adjectives provide further evidence supporting this *hen*-support approach.

6. Summary and Conclusion

In this paper, I follow Grano (2008) that the extra-elements co-occurring with adjectives in Mandarin actually serve to type the clause. However, I argue that the semantically bleached *hen* is directly instantiated at the head of IP as the last resort to type the clause.

- *Hen* is incompatible with A-not-A:
  hen and Q compete for the same position (the head of IP)

- Ambiguity of the sentences like "*zhangsan hen gao (zhangsan is tall/ zhangsan is very tall)*:
  Different merging sites of *hen* (at the head of IP or DegP)

- Unambiguous *hen*:
  Other extra-elements block *hen*-support. *Hen* must merged at DegP.

- Compatibility with absolute adjectives
  ***Hen* is merged at I, and has nothing to do with degree.**

7. Appendix: More on Clause-Typing

7.1 Other Clause-Typing Elements

● What elements can type the clause?

As mentioned in sections 5, negation and Q are clause-typing elements. There are other elements which can type the clause.

Test 1: Those that can license bare adjectives:

Test 2: Those that are in complementary distribution with semantically bleached *hen*.

Aspect marker le:

(24) a. zhangsan   gao/pang/manzu/kaixin **le**.

Zhangsan   tall/fat/satisfied/happy   asp

'Zhangsan became tall/fat/satisfied/happy.'

b. zhangsan **hen**   gao/pang/manzu/kaixin **le**.

Zhangsan HEN tall/fat/satisfied/happy   asp

'Zhangsan is already *(very) tall/fat/satisfied/happy.'

Phonologically null contrastive focus:

(25) a. zhangsan   gao,   lisi ai.

Zhangsan   tall, Lisi short.

'Comparing with each other, Zhangsan is taller and Lisi is shorter.'

b.   zhangsan hen gao,   lisi hen ai.

Zhangsan HEN tall, Lisi HEN short.

'Zhangsan is *(very) tall, Lisi is *(very) short'

● Clause-typing when verbs are the predicate:

By *le*

(26) zhangsan   shui/ si/ lai *(le).

Zhangsan sleep/die/come

'Zhangsan slept/died/came'

By phonologically null contrastive focus

(27)   zhangsan lai,   lisi zou

Zhangsan come, Lisi go.

'Zhangsan came, Lisi went away'

● Can hen-support apply to non-adjective predicates?

Verb

(28) a. Zhangsan pao   le.

　　　Zhangsan run asp

　　　'Zhangsan ran away'

　　b. * Zhangsan hen pao.

Noun

(29) a. Zhangsan shi   yisheng

　　　Zhangsan be   doctor

　　　'Zhangsan is a doctor'

b.　* Zhangsan hen yisheng

No. What blocks hen-support in these cases? And how?

Syntactic constraint: Hen-support applies only on adjectives.

7.2 Clause-typing in other languages:

Brandner (2004) suggested that declarative clause typing is achieved in some languages via an overt assertion complementizer (e.g., Korean -ta), and in others via I-to-C movement (Germanic V2 languages).

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