Two categorial issues of degree constructions in Mandarin

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Abstract This squib argues against Yiwen Zhang's (J East Asian Linguist 29:393–434, 2020) adjective analysis of the Mandarin word *you* 'have' to the left of a gradable noun, as in *you yongqi* 'have courage', showing that it is a verbal element. It also shows that for a gradable predicate of any category, if the question under discussion is about a comparison of individuals with respect to a gradable property, the degree word *hen* 'very' is banned; if the question under discussion is about the content of a gradable property of an individual, *hen* must occur; and finally, if the question under discussion is not about either of the two above, *hen* is optional.

Abbreviations
BA	Causee
CL	Classifier
MOD	Modification
PRF	Perfective aspect
PRT	Sentence-final particle
Q	Question
RED	Reduplicant

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1 Introduction

In Mandarin, gradable predicates can be of various syntactic categories. In (1a), *yonggan* 'brave' is an adjective; and in (1b), *yongqi* 'courage, braveness', which follows *you* 'have', is a noun.

(1) a. Awen hen yonggan. b. Awen hen you yongqi.
     Awen very brave   Awen very have courage
     'Awen is brave.'   'Awen is brave.'

In some other languages, gradable predicates can also be of various syntactic categories, as seen in the adjective in (2a) and the noun in (2b) (Francez & Koontz-Garboden 2017: 1).

(2) a. Krishna is wise b. Krishna has wisdom

This squib first challenges Zhang's (2020: §4.2) claim that a phrase that contains *you* 'have' and a gradable NP, as in (1b), is an Adjective Phrase. I call this use of *you* Pre-Gradable Noun *you* (PGN-*you* hence). Second, it challenges the popular belief that the degree word *hen* 'very' is not obligatory when the non-comparative predicate is a VP in Mandarin, such as *xihuan Lisi* 'like Lisi' (e.g., Grano 2012: 536, 558). The goal of this squib is not to argue for or against a particular view, but rather to clarify certain empirical issues regarding the syntactic properties of PGN-*you* and the interactions between various types of gradable predicates and the presence of *hen*, and to motivate generalizations which any adequate theory must account for.

In Sect. 2, I argue that PGN-*you* is a verbal element. In Sect. 3, I demonstrate the cross-categorial patterns of the presence of *hen* with gradable predicates. Sect. 4 is a conclusion.

2 *You* 'have' as a verb in gradable NP constructions

In this section, I argue for the verbal category of PGN-*you*. PGN-*you* is not a substantial word, since it has no obvious semantic role other than to support a gradable nominal to function as a predicate. Thus, the AP construction in (1a) and the NP construction in (1b) are truth-conditionally identical (also see Francez & Koontz-Garboden 2015, 2017 for the semantics of the examples in (2) and their counterparts in other languages). If PGN-*you* does not occur, a gradable NP can neither be a predicate, as seen in (3a), nor be selected by a degree word, as seen in (3b) (cf. (1b)).

(3) a. Awen *(you) yongqi ma? b. Awen hen *(you) yongqi.
     Awen have courage Q   Awen very have courage
     'Is Awen brave?'   'Awen is brave.'

Zhang (2020: 425) tries a semantic approach to the category of PGN-*you*. Since the combination of PGN-*you* and an NP is truth-conditionally equivalent to its correlated AP, she claims that the combination is also an AP. However, syntactic

category can only be identified by morpho-syntactic evidence. If semantics could decide the category of the *you*+NP string, where *you* plays no semantic role, the string would be an NP, instead of the alleged AP.

The category of a phrase is determined by the head of the phrase. Zhang admits that PGN-*you* and the gradable NP are sisters (p. 431). If their mother node is not NP, the category of the mother must be decided by PGN-*you*. If Zhang claims that the phrase is an AP, she assumes that this *you* is an adjective. I falsify this assumption and argue that this *you* is a verb, with four arguments: negation, control, reduplication, and stranding.

First, all verbs allow *mei* 'not', whereas all adjectives allow *bu* 'not', in their negative forms. For example, the verb *chouyan* 'smoke' can occur with *mei* in (4a), and the adjective *gao* 'tall' can occur with *bu* in (4b). PGN-*you* allows *mei*, but rejects *bu*, as seen in (5).

(4) a. Awen {mei/bu} chouyan. b. Awen {*mei/bu} gao.
        Awen not/not   smoke   Awen not/not   tall
        Awen does not smoke.'   'Awen is not tall.'
(5) Wo renwei Awen {mei/*bu} you   zhihui.
    I   think   Awen not/not   have wisdom
    'I think Awen is not smart.'

If PGN-*you* is a verb, the acceptability of the *mei*-version in (5) is expected (cf. (4a)). If PGN-*you* were an adjective, it would allow *bu*, as in the adjective construction in (4b), contrary to the fact. Thus, the adjective analysis of PGN-*you* makes a wrong prediction.

Second, only verbs can control the dependent subject of an embedded clause, whereas no adjective can do so. A clause introduced by the complementizer *lai* 'come' is a purposive clause that has a PRO subject (Liao & Lin 2019), as seen in (6a). An adjective can never control a *lai*-clause. As seen in (6b), *yonggan* 'brave' cannot control the *lai*-clause. Like the verb in (6a) and unlike any adjective, PGN-*you* can control the dependent subject of a *lai*-clause, as seen in (6c).

(6) a. Ta mai-le   yi   zhang caipiao   [lai   shi   yixia shouqi].
        he   buy-PRF one   CL   lottery.ticket to   try   once luck
        'He bought a lottery ticket to try his luck.'
    b. Ni yonggan (*lai   shi   yixia)   ma?
        you brave   to   try   once   Q
        'Are you brave?'
    c. Ni you   yongqi [lai   shi   yixia] ma?
        you have   courage to   try   once Q
        'Are you brave enough to have a try?'

It needs to be clarified that in (6c), the *lai*-clause does not form a complex nominal with *yongqi* 'courage', since the cluster *yongqi lai shi yixia* does not behave like a nominal. (7a) shows that the cluster cannot function as subject, unlike *zhe jian*

shi 'this matter'; and (7b) shows that it cannot follow a possessor, unlike the noun *yongqi* 'courage'.

(7) a. Wo renwei {zhe jian shi/   *yongqi lai shi yixia} hen   zhongyao.
       I   think   this CL matter courage to try once very important
       'I think this matter very important.'
    b. Wo peifu   tade {yongqi/*yongqi lai shi yixia}.
       I   admire his   courage/courage to try once
       'I admire his courage.'

Verbs such as *xihuan* 'like', and, as pointed out by an anonymous reviewer, some other stative verbs such as *tang* 'lie' and verbs with the imperfective aspect marker *zai*, do not control an embedded subject in a *lai*-clause. But these constraints do not affect the categorial contrast that no adjective but some verbs can do so. Since PGN-*you* can do so, it is not an adjective.

Third, adjectives and verbs have different reduplication patterns in Mandarin, as recognized by Zhang (2020: 424). However, Zhang does not consider a reduplication test, because she wants to identify the category of the whole [*you* + NP] phrase, rather than that of PGN-*you* (p. 424). As we stated above, only when the category of PGN-*you* is identified, can the category of its combination with an NP be decided. Since PGN-*you* itself is not a phrase, reduplication can be used to check its category.

For a monosyllabic adjective, its reduplication form is XX-*de*. In (8a) (see Liu 2010: 1012), the reduplicate adjective occurs as a predicate; and in (8b), it occurs as an attributive.

(8) a. Awen gaogao-de. b. Wo kanjian-le na ge gaogao-de nanhai.
       Awen tall.RED-DE   I   see-PRF   that CL tall.RED-DE boy
       'Awen is tall.'   'I saw that tall boy.'

But no monosyllabic verb can appear in an XX-*de* form, as seen in (9a). Like a verb and unlike an adjective, the monosyllabic PGN-*you* never appears in such a form, as seen in (9b).[1]

(9) a. *Awen ai-ai-de   hua. b. *Awen you-you-de yongqi.
       Awen love-RED-DE flower   Awen have-RED-DE courage

Also, Zhang's adjectival analysis of the cluster *you* N wrongly predicts that the cluster should behave like an adjective if it were reduplicated. In (10a), the adjective is reduplicated in an AABB-*de* form; and (10b) shows that the *you* N cluster cannot

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[1] Functional elements, as well as lexical ones, can be reduplicated, e.g., the quantifier *mei* 'each', the focus markers *pian* 'only', *jin* 'only', and *du* 'only', and all classifiers (N. Zhang 2014) can be reduplicated.

be in this form. In (11a), the adjective is reduplicated in an ABAB-*de* form; (11b) shows that the *you* N cluster cannot be in this form. If the cluster were adjectival, it would follow the adjectival pattern of reduplication, contrary to the fact. Thus, neither PGN-*you* nor the *you* N cluster behaves like an adjective.

(10) a. gaoxing => gaogao-xingxing-de b. you qian => *youyou-qianqian-de
      glad   have money
(11) a. xue-bai => xuebai-xuebai-de b. you qian => *youqian-youqian-de
      snow-white   have money

Fourth, in Mandarin, if a functional or lexical verbal element has a complement, it can be stranded, as seen in (12); in contrast, an adjective has no complement to its right. Zhang (2020: 426) assumes that PGN-*you* might behave like the derivational suffix -*ful* in English, "which combines with a nominal and renders an adjective, such as *beauty* → *beautiful*". However, like the verbal elements in (12), PGN-*you* can be stranded, as seen in (13). This shows that PGN-*you* is a verbal element, taking the noun as its complement.

(12) a. Putao, Awen xihuan, lizhi, ta ye xihuan.
      grape Awen like litchi he also like
      Grapes, Awen likes, and litchis, he also likes.'
    b. Awen hui lai, Ali ye hui.
      Awen will come Ali also will
      'Awen will come, and so will Ali.'
(13) a. Zhihui, Awen you. Yongqi, ta ye you.
      wisdom Awen have courage he also have
      'Wisdom, Awen has, and courage, he also has.'
    b. Awen you caihua, Lili ye you.
      Awen have talent Lili also have
      'Awen has talent, and so does Lili.'

It needs to be pointed out that the strandability of PGN-*you* supports Zhang's claim that the PGN-*you* cluster is a phrase, not a complex word that is composed of an affix and a noun.

Based on the above four arguments, I conclude that PGN-*you* is a verbal element. Nevertheless, I call the predicate supported by PGN-*you* gradable NP predicate, to distinguish it from the predicate headed by a substantial verb such as *xihuan* 'like'.

One anonymous reviewer asked whether the word *you* has different flavors and whether in this particular flavor, i.e., PGN-*you*, it is an adjective, rather than a verb, which is seen in other constructions such as a possessive one. It is true that v has been claimed to have "different semantic flavors" (Arad 2005: 197; also see Folli & Harley 2007), which correlate with different argument structures. However, the semantic variation is within the same verbal category. If an element can be used as either an adjective or a verb, it shows systematic syntactic contrasts in the two uses.

What we have seen is that PGN-*you* simply does not show any adjective properties. Moreover, Koontz-Garboden (2016) and Koontz-Garboden and Francez's (2010) diachronic and typological research shows that one and the same HAVE-morpheme is used in possessive and property concept constructions in many languages.

3 The presence of *hen* 'very' with gradable predicates of various categories

3.1 A categorial contrast?

There seems to be a haunting question in Mandarin: in non-comparative readings, why is it the case that "degree expressions are not obligatory when the predicate is verbal" (Grano 2012: 535; also see Zhang 2020: 422), as seen in (14c), but obligatory when the gradable predicate is adjectival, as seen in (14a), and nominal, as seen in (14b)?[2]

(14) a. Zhangsan *(hen) gao.   b. Zhangsan *(hen) you zhihui.
      Zhangsan very tall   Zhangsan very have wisdom
      'Zhangsan is tall.' (Liu 2010: 1018) 'Zhangsan is wise.' (Zhang 2020: 395)
    c. Zhangsan (hen) xihuan Lisi.
      Zhangsan very like Lisi
      'Zhangsan (very much) likes Lisi.'   (Grano 2012: 536; Zhang 2020: 395)

The contrast between gradable APs and VPs has been well-assumed and extensively discussed in works such as Grano (2012), and the parallel contrast between gradable NPs and gradable VPs is discussed in Zhang (2020). However, the acceptability pattern assumed in this haunting question is not accurate. We show that the distribution of *hen* is sensitive to the context. Following the Gricean maxim of relevance, interlocutors deliver the utterance meaning that is intended to address the question under discussion (QUD) (Roberts 2012; Koev 2018). In fact, in all three (i.e., AP, NP, VP) constructions, the following three generalizations hold in Mandarin.

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[2] In this paper, we discuss *hen* 'very' only, not other degree words. In some constructions, the degree word cannot be replaced with *hen*, as seen in (i). We do not discuss this issue here. Also, *hen* and adjective reduplication, as seen in (8), are in complementary distribution (Zhang 2015). We do not consider reduplication in this section.

(i) Awen xian [wo {tai/*hen} ben].
   Awen dislike I too/very fool
   'Awen dislikes me, thinking me too foolish.'

(15) a. If the QUD is to provide the content of a gradable property, *hen* must occur.
    b. If the QUD is about a comparison between individuals with respect to a gradable property, *hen* does not occur.
    c. If the QUD is not about either of the above two, *hen* can be optional.

(15a) addresses the issue WHAT P (P = property) X has; (15b) addresses the issue WHICH ONE has more P; and (15c) does not address either of the two issues. (15a) and (15b) are based on works such as Sybesma (1999: 26–27), Liu (2010), and Grano (2012: 516) for AP constructions, and Zhang (2020: 395) for NP constructions. We show the cross-categorial nature of these three generalizations in the following subsections. Note that in this section, examples with * are unacceptable only in the given context.

3.2 QUD A: a gradable property

Context: No comparison between individuals is available; instead, the speaker provides the content of a gradable property. For example, the question in (16a) can be answered in the AP construction in (16b), or the NP construction in (16c), or the VP construction in (16d). In this context, *hen* is obligatory in the answers. (15a) is thus confirmed.

(16) a. Awen   dui   zhe   jian   shi   de   taidu   zenmeyang?
      Awen   to   this   CL   issue   MOD attitude how
      'How does Awen react to this issue?
   b. Ta *(hen) keqi.   &boxed{AP}   c. Ta *(hen) you   limao.   &boxed{NP}
      he very   polite   he very   have politeness
      'He is polite.'   'He is polite.'
   d. Ta *(hen) danxin zhe jian shi.   &boxed{VP}
      he very   care   this CL matter
      'He is worried about the matter.'

(15a) is also seen in complememt clauses. If a person asks about the characteristics of an individual, without a comparison with anyone else, the following are possible answers. In addition to *faxian* 'discover', *tingshuo* 'hear' can also be the matrix verb in these constructions.

(17) a. Women faxian [ta *(hen) congming]. (Grano 2012: 551)   AP

   we   discover he very   smart
   'We discovered he's smart.'

   b. Women faxian [ta *(hen) you   caihua].   NP

   we   discover he very have   talent
   'We discovered he's talented.'

   c. Women faxian [ta *(hen) danxin zhe   jian shi].   VP

   we   discover he very care   this   CL   matter
   'We discovered he's worried about the matter.'

(15a) is also seen in the modifiers of nominal predicates. If one talks about a letter and asks what kind of a letter it is, the following are possible answers. *Hen* is required in all of them.

(18) a. Na shi yi feng *(hen) chang de   xin.   AP

   that be   one CL very long   DE   letter
   'That is a long letter.'

   b. Na shi yi feng *(hen) you   shuiping de   xin.   NP

   that be   one CL very have   level   DE   letter
   'That is a high-leveled letter.'

   c. Na shi yi feng wo   *(hen) xihuan   de   xin.   VP

   that be   one CL I   very like   DE   letter
   'That is a letter that I like.'

If an expression directly provides the answer to the question that asks about the property of an individual, the expression follows QUD A, regardless whether the expression is the matrix or embedded predicate. For such an expression, *hen* is obligatory.

3.3 QUD B: comparison between individuals

Context: A comparison of individuals occurs. To answer the questions in the a-forms in (19) through (22), *hen* is rejected, as seen in the answers in the correlated

b-forms. (19b) is an AP construction, (20b) is an NP construction, and (21) and (22) are VP constructions.

(19) a. Lili   gen   Awen, shei bijiao   keqi?
          Lili   and   Awen who comparatively   polite
          'Who is politer between Lili and Awen?'
      b. Awen (*hen) keqi.[3]   AP

          Awen very   polite
          'Awen is politer.'

(20) a. Lili   gen   Awen, shei   bijiao   you limao?
          Lili   and   Awen who   comparatively have politeness
          'Who is politer between Lili and Awen?'
      b. Awen (*hen) you   limao.   NP

          Awen very   have   politeness
          'Awen is politer.'

(21) a. Lili   gen   Awen, shei   bijiao   xihuan manhua?
          Lili   and   Awen who   comparatively like   comics
          'Between Lili and Awen, who likes comics more?'
      b. Awen (*hen) xihuan manhua.   VP

          Awen very   like   comics
          'Awen likes comics more.'

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[3] (19a) can also be answered by (i) or (ii), where *hen* occurs, without comparing the two persons, as expected.

(i) Awen gen Lili dou hen keqi.   (ii) Awen hen keqi, Lili ye   hen keqi.
     Awen and Lili all very polite   Awen very polite Lili also very polite
     'Awen and Lili are both polite.'   'Awen is polite, and Lili is also polite.'

(19a) can also be answered by (iii), a conjoined comparative (Rett 2020: 168). Also, the examples in (13) can be conjoined equatives (Rett 2020). We do not consider this strategy in this paper (cf. Liu 2010: 1027).

(iii) Awen hen keqi, dan Lili bu   name keqi.
       Awen very polite but Lili not that polite
       'Awen is polite, but Lili is not that polite.'

(22) a. Lili   gen   Awen,   ni   xihuan   nayige?
          Lili   and   Awen   you   like   which
          'Between Lili and Awen, which one do you like more?'
      b. Wo   (*hen)   xihuan   Awen. $\boxed{\text{VP}}$

          I   very   like   Awen
          'I like Awen more.'

In all of these dialogues, a comparison of individuals occurs: either the individual denoted by the subject, as in the first three dialogues, or the individual denoted by the object, as in the last one, is compared with another individual. These answers can also be preceded by *wo juede* 'I think', functioning as embedded clauses. *Hen* is banned in the answers consistently.

In addition to the overt individuals given in the questions, the individuals to be compared can also be salient individuals in the context (I thank an anonymous reviewer for asking me to address this). Imagine that one needs to choose a taxi or a subway to go to a place as soon as possible. When he realizes that the former is faster, he can say (23), where *hen* is rejected.

(23) (Wo juede) jichengche (*hen) kuai.
      I   think   taxi   very   fast
      '(I think) a taxi is faster.'

Thus, if the QUD is a comparison of individuals, *hen* is banned systematically. (15b) is confirmed. (15b) is expected, since a comparative predicate rejects *hen* (e.g., L. Zhang 2019):

(24) Awen bi   Lili (*hen) keqi.
      Awen than Lili very   polite
      'Awen is politer than Lili.'

3.4 QUD C: neither QUD A nor QUD B

Context: If the QUD is not about either the content of a gradable property or a comparison of individuals, *hen* can be optional. For instance, a polar question that contains a gradable expression can, but does not have to, have *hen*, as seen in (25a). This is also true of its answer, as seen in (25b). In this context, the speaker wants to confirm the existence or absence of a certain gradable property of an individual, rather than provide the content of any property or compare different individuals with respect to any property. When *hen* occurs and bears a stress, it functions as an intensifier. This can be seen in the elaborated answer in (25c). The same optionality is true of NP and VP constructions, as seen in (26) and (27), respectively.

(25) a. Awen (hen) yonggan ma? b. Ta (hen) yonggan.[4] $\boxed{\text{AP}}$

    Awen very brave   Q   he very brave
    'Is Awen very brave?'   'He is (very) brave.'

    c. Ta hai suan yonggan ba, buguo shuo-bu-shang hen yonggan.
       he yet count brave   PRT but   say-not-up   very brave
       'He can be counted as brave, but is not yet up to very brave.'

(26) a. Awen (hen) you xinxin zuo zhe jian shi ma? $\boxed{\text{NP}}$

    Awen very   have confidence do   this CL   job Q
    'Is Awen (very) confident in doing that job?'

    b. Ta queshi (hen) you xinxin zuo zhe jian shi.
       he   indeed very have   confidence do   this CL   job
       'He is indeed (very) confident in doing this job.'

(27) a. Awen (hen) xihuan Lili ma? b. Ta (hen) xihuan Lili. $\boxed{\text{VP}}$

    Awen very   like   Lili Q   he very   like   Lili
    'Does Awen like Lili (very much)?'   'He likes Lili (very much).'

See Liu (2010: 1019, 1046) for more gradable AP examples like those in (25a, b), and Zhang (2020: 427–428) for more gradable NP examples like those in (26).

QUD C is also seen in other contexts. The conditional clauses in (28) and the noun-modifiers in (29) are neither intended to compare any individuals, nor to answer any what P question. The QUD of the examples is addressed by the matrix predication. For example, the QUD of (28a) is addressed by the predicate headed by *gua* 'hang', rather than by a comparison between the coat denoted by the subject of the conditional and another coat with respect to the degree of wetness. The QUD of (29a) is also addressed by the matrix predicate, headed by *gua*, rather than by a comparison between the coat denoted by the modifiee of *chaoshi* 'wet' and another coat with respect to the degree of wetness. In these constructions, *hen* occurs if the embedded gradable predicate is emphasized. In all of these gradable predicates, *hen* can be optional. (15c) is thus confirmed.

(28) a. [Ruguo dayi (hen) chaoshi], jiu ba ta gua zai shu-shang. $\boxed{\text{AP}}$

    if   coat very wet   then BA it hang at   tree-on
    'If the coat is (very) wet, hang it up on the tree.'

    b. [Ruguo ta (hen) you nengli], ni jiu bie dangxin la. $\boxed{\text{NP}}$

    if   he very have   ability you then not worry   PRT
    'If he is (very) diligent, you should not be worried.

    c. [Ruguo ta (hen) xihuan Lili], ni jiu bie dangxin la. $\boxed{\text{VP}}$

    if   he very like   Lili   you then not worry   PRT
    'If he likes Lili (very much), you should not be worried.'

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[4] The dialogue in (25a)–(25b) is similar to Grano's (2012: 541 (91)–(92)), who credited one of his anonymous reviewers with the observation that direct responses to polar questions do not require the occurrence of *hen*.

(29) a. Awen ba na   jian [(hen) chaoshi] de dayi gua zai shu-shang. $\boxed{\text{AP}}$

     Awen BA that CL very wet   MOD coat hang at tree-on

     'Awen hung up that (very) wet coat on the tree.'

  b. Awen jiang-le yi   ju [(hen) you   zheli]   de   hua. $\boxed{\text{NP}}$

     Awen say-PRF one CL very   have philosophy MOD sentence

     'Awen said a sentence that is (very) philosophical.'

  c. Awen mai-le yi kuai [ta (hen) xihuan] de   dangao. $\boxed{\text{VP}}$

     Awen buy-PRF one piece he very like   MOD cake

  'Awen bought a piece of cake that he likes (very much).'

This QUD analysis applies to other constructions in which the absence of *hen* does not have to trigger a comparison reading (see Liu 2010 for such constructions).

Eventually, there is no contrast between gradable predicates of different syntactic categories, with respect to the presence of *hen* (contra Grano 2012 and Zhang 2020). We have thus achieved unified generalizations, seen in (15), from the perspective of QUD.

4 Conclusions

First, PGN-*you* is a verbal element, and thus it heads a VP, rather than an AP. Second, cross-categorially, the presence and absence of *hen* correlate with the QUD of the construction: if the QUD is about a comparison of individuals with respect to a gradable property, *hen* is banned; if the QUD is about the content of a gradable property of an individual, *hen* must occur; and finally, if the QUD is not about either of the above two, *hen* is optional.

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