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External Degree Constructions in Mandarin

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Abstract This paper analyzes the Mandarin counterpart of a German construction that is initiated with a [degree+determiner] cluster, such as *total die Party* 'a total party'. It shows that the Deg-to-D head movement in German is also seen in the Mandarin *hao+yi+ge* construction. Moreover, it argues that in Mandarin, the head cluster moves further out of the DP, explaining why the construction rejects an overt copula and why it is used as a predicate exclusively. Furthermore, it identifies the null subject of the construction in Mandarin, which is exclamative, as a new type of obligatorily silent subject, parallel to the type of null subject that is found in imperatives and exhortatives.

Keywords expressive · intensifier · degree · exclamative · copula · *pro* · Mandarin

1. Introduction

This paper analyzes the syntax of the counterpart of a special type of German nominal construction in Mandarin Chinese. The German degree words *total* 'total', *voll* 'fully', and *sau*, which is diachronically derived from the homophone expression for female pig or sow, are analyzed as Expressive Intensifiers (EIs) in Gutzmann & Turgay (2015; G&T henceforth). The Mandarin degree word *hao* 'Lit.: good' is also an EI (Xie & Luo 2019). Unlike a plain degree word such as *sehr* 'very' or its Mandarin counterpart *hen* 'very', an EI encodes a speaker's attitude that is not part of the main content of the clause (Kaplan 1999; Potts 2007). An EI, as a degree word, is usually next to a gradable expression, as seen in the DegP predicate in (1a) and (1b), and in the *hao*-AP modifier, regardless of the pre-CL position, as seen in (2a), or post-CL position, as seen in (2b).[1]

(1) a. Das Ding ist {sau/voll/total} schnell. (G&T (6))
the thing is EI fast
'That thing is EI (≈ totally) fast.'

b. Zhe dongxi hao kuai a!
this thing EI fast EXCL
'This thing is really fast!'

(2) a. (Na shi) hao da-de yi ge pingguo a![2]
that be EI big-DE one CL apple EXCL

b. (Na shi) yi ge hao da-de pingguo a!
that be one CL EI big-DE apple EXCL
Both a and b: 'What a big apple!'

Meinunger (2009) and G&T analyse a German construction in which an EI is separated from its associated gradable expression by an article, as seen in (3). G&T call the construction **E**xternal **D**egree Modification **C**onstruction (EDC).

[1] Abbreviations in the glosses: CL: classifier; DE: modification; EI: expressive intensifier; EXCL: exclamatory; FM: focus marker; PRF: perfective aspect; Q: question.

[2] A nominal like that in (2a) can be built by the raising of the modifier phrase to the left edge of the nominal (Matushansky 2002 for English, Kallulli & Rothmayr 2008 for German, and Zhang 2015b for Mandarin).

(3) total die coole Party
EI the cool party
'an EI cool party'

Mandarin also has EDCs, as seen in (4a). In this example, the EI *hao* is also not next to the associated gradable *sou* 'sour'. The word *yi* here cannot be replaced with a numeral, as seen in (4b) (Yang 2017: 213). This fact shows that *yi* here is used as an indefinite article (see Zhang 2019 for the indefinite article use of *yi*).

(4) a. hao yi ge sou zhuyi
EI one CL sour idea
'an EI bad idea'

b. *hao san ge sou zhuyi
EI three CL sour idea

The degree word use of *hao* in an EDC is seen in the fact that an example like (5) does not mean a good cheater. Instead, it means that a certain person is a downright cheater.

(5) hao yi ge pianzi
EI one CL cheater
'EI a cheater'

If a degree word is not an EI, it may not occur in an EDC (G&T: 189, 199, 208), as seen in the German example (6a) and the Mandarin one in (6b) (Yang 2017: 214).

(6) a. Du hast gestern {sau/*sehr} die coole Party verpasst.
you have yesterday EI/very the cool party missed
'Yesterday, you missed {EI/*very} a good party.'

b. {hao/*hen} yi ge sou zhuyi (cf. (4a))
EI/very one CL bad idea

Xie & Luo (2019) report three EIs in Mandarin, *hao, lao* 'Lit.: old', and *guai* 'Lit.: strange'. We find that only *hao* can occur in an EDC.

Major contributions of this paper include the following.

(7) a. The Deg-to-D head movement in German is also seen in Mandarin.
b. The head movement does not stop at D in Mandarin. This explains why predicates whose head has a degree element reject a copula and why expressions headed by a degree element, including EDCs, are used as predicates exclusively, in Mandarin.
c. There is a new type of obligatorily silent subject in certain kind of exclamatives, in addition to the null subjects that are found in English imperatives and exhortatives.

In §2, we report major similarities and differences in EDCs between German and Mandarin. In §3 we extend G&T's head movement analysis to EDCs in Mandarin, aiming at (7a). In §4, we explain why an EDC predicate occurs with a copula in German but not in Mandarin, and why an EDC can be an argument in German but not in Mandarin, aiming at (7b). In §5, we explain why EDCs reject any overt subject, aiming at (7c).[3]

[3] Our discussion is restricted to the constructions that are initiated with the cluster *hao*+*yi*+CL. (i) represents a more complex construction, where *da* 'big' precedes the classifier or unit word. We do not discuss it here.

(i) Hao yi da guan mifeng gai zenme chuli a?
EI one big jar honey should how deal.with Q
'How should I deal with this big jar of honey?'

2. A comparison of EDCs in German and Mandarin

2.1 Major similarities of EDCs in the two languages

There are four major similarities between German EDCs and Mandarin EDCs.

First, in both languages, there are two types of EDCs. If an EI is associated with a gradable modifier, typically a gradable adjective, the EDC can be called M-EDC (= G&T's EA type). Also, since some nouns are also gradable and occur with a degree element like a gradable adjective does (e.g., *Clyde is more of an idiot than Floyd*; see Morzycki 2009, 2012; also see Constantinescu 2011 and Li 2019), if an EI is associated with such a noun directly, the EDC can be called N-EDC (= G&T's EN type). When an EI is associated to a gradable noun, as in (8b), the whole nominal refers to an entity that exhibits the typical property denoted by the noun to a high degree, in the speaker's mind.

(8) a. total die coole Party (M-EDC)
EI the cool party
'an EI cool party'

b. total die Party (N-EDC)
EI the party
'EI a party'

In Mandarin, two M-EDC examples are in (9), and two N-EDC examples are in (10).

(9) a. hao yi duo meili-de moli-hua
EI one CL beautiful-DE jasmine-flower
'an EI beautiful jasmine'

b. hao yi ge sou zhuyi
EI one CL sour idea
'an EI bad idea'

(10) a. hao yi duo moli-hua
EI one CL jasmine-flower
'EI a jasmine'

b. hao yi zuo fu-qiao
EI one CL float-bridge
'EI a pontoon'

The use of an EI in an EDC is not independent from the normal use of a degree word. As in the canonical constructions in (1) and (2), the EI in an EDC must be associated with a gradable adjective or noun, although it is not next to the latter. If there is no proper context, neither *Auto* 'car' nor *Haus* 'house' is gradable, thus it is hard for the EI *total* in (11a) and (12a) to be associated with them.

(11) a. #total das Auto
EI the car

b. total die Schrottkarre (G&T: (67))[4]
EI the junker
'EI a junker'

(12) a. #total das Haus
EI the house

b. total die Villa (G&T: (68))
EI the villa
'EI a villa'

In Mandarin, many common nouns can be used as gradable expressions if we find a right context. The acceptability of the following a-examples needs contexts, whereas that of the b-examples does not, since the nouns there are evaluative. Geist (2019) distinguishes role and class predicative nouns. It seems that the Mandarin versions of all of her class nouns can occur

We also leave for future research the *hao-ni-ge* construction, as seen in (ii). Unlike EDCs, the construction is used to condemn or mock the hearer only: it cannot be used to address to any other persons.

(ii) Hao ni ge pianzi!
EI you CL cheater
'EI you cheater!'

[4] In G&T, their (67a) and (68a), which are our (11a) and (12a), respectively, are marked with *. But as pointed out by an anonymous reviewer, these examples can be acceptable in a right context. We thus marked them with #.

in EDCs easily (e.g., *genius*, *coward*), but the Mandarin versions of the role nouns need a context support in order to occur in EDCs (e.g., *student, translator*). (13a) can be acceptable when the speaker is impressed by a particular building. Similarly, (14a) can be acceptable when the speaker is impressed by a particular student.[5]

(13) a. #hao yi zuo fangzi
EI one CL house
b. hao yi zuo bieshu
EI one CL villa

(14) a. #hao yi ge xuesheng
EI one CL student
b. hao yi ge tiancai
EI one CL genius

Second, G&T discuss three EIs that may occur in EDCs: *total*, *sau*, and *voll*; we find that the EI *hao* in Mandarin is parallel to *voll*. Specifically, the EI *voll* has been grammaticalized from the adjective *voll* 'full' (Meinunger 2009, G&T: 197). When *voll* precedes an NP immediately, it is used as an adjective, as seen in (15a); whereas when it precedes an adjective, as in (15b), and when it precedes an article, as in (15c) and (15d), it is an EI. Only the last two examples are EDCs.

(15) a. mit ein-er voll-en Flasche (G&T: (39a))
with a-NOM.SG.F full-NOM.SG.F bottle.NOM.SG.F
'with a full bottle'; not 'with a total bottle'

b. da kommt jetzt ein voll cooler Typ. (G&T (58b))
there comes now a EI cool guy
'there comes an EI cool guy.'

c. da kommt jetzt voll der cooler Typ. (G&T (57))
there comes now EI the cool guy
'there comes an EI cool guy.'

d. voll der Idiot (G&T: (11b))
EI the idiot
'EI an idiot'

Similarly, in Mandarin, the EI *hao* has been grammaticalized from the adjective *hao* 'good'. When *hao* precedes an NP immediately, it is an adjective, as seen in (16a), but when it precedes an adjective, as in (16b), or an article, as in an EDC, as in (16c) and (16d), it is an EI. Only the last two examples are EDCs.

(16) a. hao moli-hua
good jasmine-flower
'good jasmine'

b. hao meili-de moli-hua
EI beautiful-DE jasmine-flower
'EI beautiful jasmine'

c. hao yi duo meili-de moli-hua
EI one CL beautiful-DE jasmine-flower
'EI a beautiful jasmine'

d. hao yi duo moli-hua
EI one CL jasmine-flower
'EI a jasmine'

[5] One reviewer asks if the adjective in the EDC in (ib) is gradable, why it cannot occur with *hen* 'very' in (ia).

(i) a. *hen naohonghong de jiaoshi
very chaotic.noisy DE classroom
b. hao yi ge naohonghong de jiaoshi.
EI one CL chaotic.noisy DE classroom
'EI a chaotic and noisy classroom'

A complex adjective such as *naohonghong* is indeed incompatible with a degree word (Lü 1980; Zhang 2015: 27). One account for the acceptability of (ib) is that the construction can be an N-EDC, instead of M-EDC. In other words, the EI *hao* is associated with the whole nominal *naohonghong de jiaoshi*, rather than *naohonghong* alone. But I leave the issue for future research.

Thus the two languages have similar EIs for EDCs. As we mentioned before, other EIs in Mandarin do not occur in EDCs. Also, other EIs in German may have properties different from *voll* and *hao* in Mandarin. We do not discuss these EIs in this paper.

Third, the EI is next to an article in an EDC, and this is the only position beyond its canonical position, which is next to a gradable expression. If an EI occurs in any other positions, the result is not acceptable. In (17a) and (17b), the EI *sau* is neither next to a gradable expression nor next to an article, and thus the two examples are not acceptable. The same problem is seen in the EI *hao* in the unacceptable Mandarin examples in (18a) and (18b).

(17) a. *Sau hast du die coole Party verpasst. (G&T: (46))
EI have you the cool party missed
b. *Die coole Party hast du sau verpasst.
the cool party have you EI missed

(18) a. *hao na shi yi duo moli-hua.
EI that be one CL jasmine-flower
b. *na hao shi yi duo moli-hua.
that EI be one CL jasmine-flower

Fourth, the dependency of the EI on its canonical position in an EDC exhibits a blocking effect. Specifically, A, an EI cannot be associated with a gradable element if a measure expression intervenes. The unacceptable (19a) has the measure expression *Liter* 'litre', and the unacceptable (19b) has the measure expression *2 Meter* '2 meters'.

(19) a. *sau der Liter Saft b. *sau die 2 Meter langen Bretter (G&T: (82))
EI the litre juice EI the 2 meters long planks

In Mandarin, although a construction like (20a) is fine, an EDC like (20b) is not acceptable. In (20b), *hao*'s association with *shitou* 'stone' is intervened by *10 gongjin* '10 kilograms'. In (20c), the measure expression is used to indicate a sub-kind of the entity denoted by the NP, and thus it is part of complex NP (see Zhang 2013: 244). *Hao* can be associated with this complex NP.

(20) a. yi kuai 10 gongjin de shitou
one CL 10 kilogram DE stone
'a kilogram stone'
b. *hao yi kuai 10 gongjin de shitou
EI one CL 10 kilogram DE stone
c. hao yi tai 200 cun de da dianshi
EI one CL 200 inch DE big TV

B, an EI cannot be associated with a gradable element if another degree word intervenes. In (21), if both the EI *sau* and the EI *totale* are associated with *reiche*, the example is not acceptable.

(21) *sau der totale reiche Idiot (G&T: (16a), (83), (107))
EI the EI rich idiot

The same is true of Mandarin. As seen in (22), the EI *guai* or the plain degree word *hen* 'very' may not intervene between the initial EI and the gradable element (also see Yang 2017: 214).

(22) a. *hao yi ge guai sou de zhuyi
EI one CL EI sour DE idea
b. *hao yi ge hen sou de zhuyi
EI one CL very sour DE idea

Finally, C, an EI cannot be associated with a gradable element if another gradable element intervenes. In (23), if *voll* is associated with *coole*, it is impossible for *große* to intervene.

(23) *Heute steigt voll die große, coole Party. (G&T: (89), also (16b))
today goes.on EI the big cool party
Intended: 'Today an important, totally cool party goes on.'

The same is true of Mandarin. In (24a), the dependency between *hao* and *meili* 'beautiful' may not be intervened by *miren* 'attractive'. However, if one adjective is embedded in another adjective, *hao* may be associated with the higher one alone. In (24b), *hao* is associated with *yuchun* 'foolish', instead of the embedded *sou* 'sour'. Also, in examples like (24c), the multiple gradable adjectives can be coordinated, before the coordinate complex is associated with *hao*.

(24) a. *hao yi duo miren-de meili-de moli-hua
EI one CL attractive-DE beautiful-DE jasmine-flower
b. hao yi ge yuchun-de sou zhuyi
EI one CL foolish-DE sour idea
'What a foolishly bad idea!'
c. Hao yi ge zisizili, tanlan jiaozha-de zongtong.
EI one CL selfish greedy decietful-DE president
'EI a selfish, greedy, and deceitful president.'

In contrast to the above three kinds of blocking effects, two EIs may co-occur if each is associated with its own gradable expression and the two associations do not intervene each other. In (25a), *voll* is associated with *Idiot*, and within the modifier, *total* is next to and associated with *reiche*. Similarly, in (25b), *hao* is associated with *guer*, and within the modifier, *guai* is next to and associated with *kelian*.

(25) a. voll der [total reiche] Idiot (G&T: (109))
EI the EI rich idiot
'a total totally rich idiot'
b. hao yi ge [guai kelian-de] guer
EI one CL EI pitiable-DE orphan
Intended: 'EI an orphan who is EI pitiable'

These four major similarities between the EDCs in German and the EDCs in Mandarin show that they may undergo similar steps in their syntactic derivations.

2.2 Major differences of EDCs in the two languages

There are four major differences between EDCs in German and in Mandarin. First, the function ranges of EDCs are different. On the one hand, in both languages, an EDC can be a predicate, as seen in (26a) (G&T: (64); also their (65), (74b,c)) and (26b) (later we explain why (26b) is translated as a sentence, rather than a nominal).

(26) a. Der David ist son kleines Genie, voll der EINSTEIN…
the David is such.a small genius EI the Einstein
'David is such a genius, a total Einstein.'
b. Hao yi ge sou zhuyi.
EI one CL sour idea
'That's an EI bad idea.'

On the other hand, an EDC can be an argument of a verb in German, but not in Mandarin. We have seen the object use of EDC in (6a) (also G&T: (44), (62a)). An example of the subject use of EDC is (27) (G&T: (56a); also (57)). The examples in (28) show that an EDC may occur as neither an object nor a subject in Mandarin, a fact that has not been reported in the literature.

(27) Heute steigt sau die coole Party.
today goes.on EI the cool party
'Today, EI a cool party is going on.'
(28) a. *Wo mai-le hao yi duo moli-hua.
I buy-PRF EI one CL jasmine-flower
b. *Hao yi duo moli-hua diaoxie-le.
EI one CL jasmine-flower wither-PRF

An EDC may also be used as a temporal adverbial in Mandarin, as seen in (29). In this use, an EDC is a secondary predicate. Again, it is not an argument.

(29) Mang-le hao yi ge xingqi.
busy-PRF EI one CL week
'X has been busy for EI a week.' (X is defined in the discourse context)

In fact, when an EDC occurs alone in Mandarin, it can always be translated as 'That's …'. This means that EDCs in the language can only be used as predicates. A fact compatible with this exclusive predicate use is that they reject a definite marker. (30a) is not an EDC, and it has the demonstrative *na* 'that'; but (30b) is an EDC, and it rejects *na* (also see Yang 2017: 213).

(30) a. Wo kanjian-le na duo hao miren-de meiguihua.
I see-PRF that CL EI attractive-DE rose
'I saw that EI attractive rose.'
b. (*na) hao yi duo miren-de meiguihua
that EI one CL attractive-DE rose
'an EI attractive rose'

In German, an EDC argument can be coordinated with a canonical DP. In (62a) (G&T: (45)), the first conjunct is an EDC, but the second one is not. Instead, it is a canonical DP that contains an EI. Such a coordination is impossible for EDCs in Mandarin. In (62b), the first conjunct is an EDC, but the second one is a canonical DP that contains an EI. The choice of the coordinator does not affect the acceptability judgment. The unacceptability of (62b) further shows that in Mandarin, EDCs are different from the nominals that can be used as arguments.

(31) a. Du hast [$_{DP}$ sau die coole Party] und [$_{DP}$ ein tolles Konzert] verpasst.
you have EI the cool party and a great concert missed
'You missed EI a cool party and a great concert.'

b. *hao yi ge sou zhuyi {gen/erqie/∅} yi ge lao nan-de wenti
EI one CL sour idea and/and one CL EI difficult-DE question

Second, when an EDC is used as a predicate, no copula is allowed in Mandarin. Third, an EDC also rejects an overt subject in Mandarin. These two restrictions are shown in (32a) (Yang 2017: 218), different from the German example in (32b).

(32) a. (*Ta shi) hao yi ge pianzi.
he be EI one CL cheater
'He is EI a cheater.'
b. Gerade bin ich voll der arbeitslose Penner (G&T: (74c))
currently am I EI the unemployed bum
'Currently, I am a totally unemployed bum.'

Fourth, in an EDC, only a definite article is allowed in German, whereas only an indefinite article is allowed in Mandarin, which has no definite article. However, the definite article in this use in German must be interpreted as an indefinite one (see G&T: 202f). For instance, an EDC can occur in an existential construction, which rejects a definite nominal, as seen in (33).

(33) Es gibt sau den coolen Typen auf meiner Schule. (G&T: (61))
it gives EI the cool guy at my school
'There is EI a cool guy at my school.'

Also, the article in an EDC cannot be replaced with a definite marker, such as a demonstrative, a possessive pronoun, or a genitive proper name, as seen in (34):

(34) *Heute steigt sau {diese/ihre/Ronjas} coole Party. (G&T: (54))
today goes.on EI that/her/Ronja.GEN cool party

Thus, the use of a definite article in EDCs in German is a semantic-morphologic mismatch. A similar mismatch in definiteness is also seen in other constructions. See G&T for details. Also, the word *same* in English and the word *gleich* 'same' in German must occur with a definite determiner (Lasersohn 2000: 86). Such an obligatory use of the definite article does not have to encode a definite meaning. Mandarin has no definite article, and thus there is no such semantic-morphologic mismatch.

Also, in Mandarin, *yi* may follow a demonstrative, as seen in (35a), where it is used as a numeral. However, no demonstrative may occur with *yi* in an EDC, as seen in (35b), indicating that the nominal is always indefinite, a conclusion compatible with that of G&T. Therefore, there is no real difference with respect to the definiteness of EDCs in the two languages.

(35) a. na yi duo moli-hua
that one CL jasmine-flower
'that jasmine'

b. (*na) hao (*na) yi duo moli-hua
that EI that one CL jasmine-flower

Other than the above three issues, there are some other differences that do not affect the basic syntactic derivations of EDCs in the languages. For example, EIs, as well as adjectives and any other elements, are never inflected in any position in Mandarin, but this is not true in German (see G&T: 188). Moreover, a classifier occurs with an indefinite article in Mandarin, but no classifier is used in EDCs in German. This difference will be considered in our syntactic analysis, to be presented in §3. As for the first and the second differences, they are discussed in

§4, and the third one is discussed in §5.

3. Deriving EDCs via a Deg-to-D head movement

3.1 G&T's (2015) derivations of EDCs in German

An EI is base-generated at the same position as the degree word *sehr* 'very', Deg^0 (G&T: 193). G&T argue that D can come with an expressivity feature that must be realized phonologically; and thus, Deg-to-D head movement occurs in a EDC (p. 211, 224). (37a) is the structure of the M-EDC in (36a) (= (8a)), and (37b) is the structure of the N-EDC in (36b) (= (8b)) (G&T: (81)).

(36) a. total die coole Party (M-EDC)
EI the cool party
'an EI cool party'

b. total die Party (N-EDC)
EI the party
'EI a party'

(37) a. $[_{DP}\ [_{D^0}$ total+die$]\ [_{NP}\ [_{DegP}\ [_{Deg^0}$ ~~total~~$]\ [_{AP}$ coole$]]\ [_{NP}$ Party$]]]$ (M-EDC)

b. $[_{DP}\ [_{D^0}$ total+die$]\ [_{Deg_NP}\ [_{Deg_N^0}$ ~~total~~$]\ [_{NP}$ Party$]]]$ (N-EDC)

In these EDC structures, both the D and the EI have an expressivity feature. We understand that there is an Agree relation between them. Importantly, an ordinary degree word such as *sehr* 'very' does "not carry the necessary [+ex]-feature that triggers the movement" (p. 219, 224), and thus it may not occur in an EDC, as seen in (6a) before.

In (37a), the head of an adjunct moves. Theoretically, if a whole adjunct can move (e.g., *Quicky he ran away*; also see the pre-*yi* attributiec *hao da-de* in (2a)), so can the head of an adjunct (instead of any other element in an adjunct).

The structures in (37) explain the properties of EDCs reported in 2.1. First, the difference between an M-EDC and an N-EDC comes from the structural positions of the DegP, which is headed by the EI. In both constructions, the EI is base-generated next to its selected gradable expression, forming a DegP. The base-position is the same as that of any other degree head element. In (37a), the DegP is an adjunct of the NP *Party*, and in (37b), the Deg_NP is the complement of D directly. In both cases, the Deg head *total* moves to D, forming the head cluster *total-die*.

Second, the positions of the EI *voll* show that if it is associated with a gradable adjective, it can either remain in situ, as in (38b), or move to D, as in (38c). But when it is associated with a gradable noun, it must move to D, as seen in (38d). If the form *voll* precedes a noun immediately, it is used as an adjective, instead of an EI, as seen in (38a). This is just a lexical limitation of the EI use of *voll*.

(38) a. mit ein-er voll-en Flasche (= (15a))
with a-NOM.SG.F full-NOM.SG.F bottle.NOM.SG.F
'with a full bottle'; not 'with a total bottle'

b. da kommt jetzt ein voll cooler Typ. (= (15b))
there comes now a EI cool guy
'there comes an EI cool guy.'

c. da kommt jetzt voll der cooler Typ. (= (15c))
there comes now EI the cool guy
'there comes an EI cool guy.'

d. voll der Idiot (= (15d))
EI the idiot
'EI an idiot'

G&T show that the EI *total* can have more positions: in addition to adjectives, when it is

associated with a gradable noun, it can also either remain in situ, as in (39a) (G&T: (9)), or move to D, as in (39b) (G&T: (10)). The differences between these two EIs do not affect the general availability of the movement from Deg to D.

(39) a. die total-e Party
the EI-NOM.SG.F party-NOM.SG.F
'the total party'

b. total die Party
EI the party
'EI a party'

We have introduced that the EI *hao* in Mandarin patterns with *voll*. Any syntactic analysis of the EI *voll* should apply to the EI *hao* as well.

Third, since the EI moves to D, the two elements form a cluster in an EDC. Then no other syntactic operation can separate them. Thus, if an EI does not move, it is next to a gradable expression; and if it moves, it adjoins to the article. The EI alone has no other positions. The ungrammatical forms in (40) (= (17)) cannot be generated in syntax.

(40) a. *Sau hast du die coole Party verpasst. (G&T: (46))
EI have you the cool party missed

b. *Die coole Party hast du sau verpasst.
the cool party have you EI missed

Fourth, the blocking effects can also be explained in this movement analysis. Specifically, A, a gradable element is type <d, et> (e.g., Seuren 1973; Kennedy & McNally 2005), and either a degree word or a measure expression can saturate the d-argument. Syntactically, they never co-occur with the same gradable expression. If the left-edge EI comes from a position next to the gradable expression, it is impossible for a measure word to occur in the same DP, since only one of them saturates the d-argument of the gradable element. The ungrammaticality of (41) (= (19)) comes from the illegal base-generation.

(41) a. *sau der Liter Saft
EI the litre juice

b. *sau die 2 Meter langen Bretter (G&T: (82))
EI the 2 meters long planks

B, for the same semantic reason, one gradable expression cannot be associated with two degree words. Syntactically, if the left-edge EI comes from a position next to a gradable expression, it is impossible for another EI to associate with the same gradable expression. The movement of one EI would be blocked by the other EI in the same DP. The ungrammaticality of (42) (= (21)) comes from a relativized minimality effect.

(42) *sau der totale reiche Idiot (G&T: (16a), (83), (107))
EI the EI rich idiot

Finally, C, it is impossible for an EI to select two gradable expressions; thus, if the left-edge EI comes from a position next to the selected gradable expression, no other gradable expression may occur in the same DP. The ungrammaticality of (43) (= (23)) comes from the bad selection.

(43) *Heute steigt voll die große, coole Party. (G&T: (89), also (16b))
today goes.on EI the big cool party
Intended: 'Today an important, totally cool party goes on.'

All of these intervention effects show that the left-edge EI in an EDC is base-generated next to one gradable expression, as in the canonical constructions, that its surface position is derived

by movement, and that the movement may not skip any degree-related element, a relativized minimality effect. G&T (p. 212) point out that "we do not see a reasonable explanation for this blocking effect under a base-generation approach, whereas the derivational account does not need any additional assumptions".

The movement analysis also explains the acceptability contrast between (21) and (25a), repeated here as (44a) and (44b). In (44a), the two copies of the EI *sau* are intervened by the EI *totale*, whereas in (44b), the two copies of the EI *voll* are not intervened by any other EI.

(44) a. *<u>sau</u>der <u>totale</u> ~~sau~~ reiche Idiot (G&T: (107))
EI the EI rich idiot

b. voll der [$_{DegNP}$ [$_{DegN}{}^{0}$ ~~voll~~ [$_{NP}$ [total reiche] Idiot]]] (G&T: (109))
EI the EI rich idiot
'a total totally rich idiot'

In this section, we have introduced G&T's Deg-to-D head movement, to capture the major structural properties of EDCs in German.

3.2 Applying G&T's head movement analysis to EDCs in Mandarin

Since the basic properties of EDCs in German are shared by EDCs in Mandarin (2.1), the Deg-to-D head movement proposed in G&T is applicable to Mandarin. EDCs in Mandarin are also built by a similar Deg-to-D head movement. In this section, we elaborate certain details of the derivation of EDCs in Mandarin.

Following G&T, we assume that an EI heads a DegP. In Mandarin, a DP headed by the indefinite article *yi* has CLP between DP and NP. Since a head movement cannot skip any intervening head (Travis 1984, Rizzi 1990), the head movement from Deg to D needs to go through CL^{0}, and thus the resultant cluster contains three elements, *yi*, a CL, and a Deg element. Accordingly, we propose the structure in (45b) for the M-EDC in (45a), and the structure in (46b) for the N-EDC in (46a) (we ignore the position of the enclitic *de* in (45a)).

(45) a. hao yi duo meili-de moli-hua [M-EDC]
EI one CL beautiful-DE jasmine-flower
'an EI beautiful jasmine'

b. [$_{DP}$ [$_{D}{}^{0}$ hao+yi+duo] [$_{CLP}$ ~~hao+duo~~ [$_{NP}$ [$_{DegP}$ [$_{Deg}{}^{0}$ ~~hao~~] [$_{AP}$ meili-de]] [$_{NP}$ moli-hua]]]]

(46) a. hao yi duo moli-hua [N-EDC]
EI one CL jasmine-flower
'EI a jasmine'

b. [$_{DP}$ [$_{D}{}^{0}$ hao+yi+duo] [$_{CLP}$ ~~hao+duo~~ [$_{Deg_{N}P}$ [$_{Deg_{N}}{}^{0}$ ~~hao~~] [$_{NP}$ moli-hua]]]]

The two structures in (45b) and (46b) are similar to the structures in (37a) and (37b), respectively, except that CLP is projected below DP.

In both (45b) and (46b), the order of the head elements in the cluster is *hao-yi*-CL. Head movement allows either left- or right-adjunction, so long as the direction is consistent for the same moving element in the same language (cf. e.g., Haider 2003: 113). In Mandarin, when there are two steps of head movement, the highest head may surface between the two heads that have been grouped together via the first step of head movement. For example, assume that a resultative VV cluster is formed by the raising of result V to the activity V (e.g., Sybesma 1999). If such a VV cluster moves further to the modal *de* 'can' or the negative head *bu* 'not', the modal or the negative element surfaces between the two Vs (e.g., *ca-ganjing* 'wipe-clean' => *ca-de-ganjing* 'can wipe clean'; *ca-ganjing* => *ca-bu-ganjing* 'unable to wipe clean') (cf. Tsai

2008: 487). In (45b) and (46b), after the first step of the head movement, the cluster *hao-duo* is formed, and after the cluster moves to *yi*, this *yi* surfaces between *hao* and *duo*. The order *hao-yi-duo* is the surface order observed. This discussion may also answer the question raised by an anonymous reviewer: why is the order **yi hao duo* impossible? I leave it to future study the surface linearization in resultative constructions and EDCs.

In the structures in (45b) and (46b), no NumP, which hosts a numeral, has to be projected. Possibly, such a projection is vacuous, since the indefinite article already has the 'one' reading.

As in German, the movement analysis explains the acceptability contrast between (22a) and (25b), repeated here as (47a) and (47b). In (47a), the two copies of the EI *hao* are intervened by *guai*, whereas in (47b), the two copies of the EI *hao* are not intervened by any other EI.

(47) a. *hao yi ge [guai ~~hao~~ sou (de) zhuyi]
EI one CL EI sour DE idea

b. hao yi ge [$_{DegNP}$ [$_{DegN}{}^{0}$ ~~hao~~ [$_{NP}$ [guai kelian-de] guer]]].
EI one CL EI pitiable-DE orphan
Intended: 'EI an orphan who is EI pitiable.'

The head movement analysis explains the major syntactic properties of EDCs in Mandarin.

3.3 One additional argument: the selection of a classifier

We add one more argument to the head raising analysis of EDCs in Mandarin. If an element is not only related to two positions that are syntactically local to each other, but also exhibits the same selection restriction in the two positions, it is possible that the element moves from the low positon to the high one (Adger & Ramchand 2005). Indeed, EDCs have this reconstruction effect in selection. Many CLs select the semantic types of nouns (e.g., Zhang 2011). In the canonical construction, in which an EI is next to a gradable expression, and a classifier is not in the left-edge head cluster, the classifier *duo*, but not *zhi*, can select the NP *moli-hua*, as seen in (48a); whereas the classifier *zhi*, but not *duo*, can select the NP *xiao-mao*, as seen in (48b). In the EDCs in (49), however, the three head elements do form a cluster, and therefore, the classifier is away from its canonical position. But the selection of the classifier on the nominal in the cluster remains the same as in (48a) and (48b). One can see that as in (48a), *duo*, but not *zhi*, is allowed for the nominal *moli-hua* in (49a); and as in (48b), *zhi*, but not *duo*, is allowed for the nominal *xiao-mao* in (49b). If the cluster-internal classifier were base-generated in the cluster, it would not be sensitive to the nominal that is external to the cluster, considering that the cluster does not select the nominal. The consistent selection of a classifier in the two positions (the base-position and the left-cluster-internal position) indicates the movement of the classifier.

(48) a. yi {duo/*zhi} hao meili-de moli-hua [Canonical]
one CL/CL EI beautiful-DE jasmine-flower
'an EI beautiful jasmine'

b. yi {zhi/*duo} hao ke'ai-de xiao-mao [Canonical]
one CL/CL EI lovely-DE small-cat
'an EI lovely kitten'

(49) a. hao yi {duo/*zhi} meili-de moli-hua [EDC]
EI one CL/CL beautiful-DE jasmine-flower
'an EI beautiful jasmine'

b. hao yi {zhi/*duo} ke'ai-de xiao-mao [EDC]
EI one CL/CL lovely-DE small-cat
'an EI lovely kitten'

In this section, we have extended G&T's head movement analysis of EDCs in German to the EDCs in Mandarin and also added one more argument to the CL-raising part in the analysis.

4. Explaining the exclusively predicative use of EDCs in Mandarin

The goal of this section is to explain why an EDC rejects a copula and why an EDC cannot be an argument, in Mandarin. I show that the restrictions correlate with the presence of a degree element in the head of a phrase in the language consistently, and propose a possible unified account for the two restrictions.

4.1 The rejection of a copula by degree predicates

In this subsection, we explain the incompatibility of an EDC and a copula in Mandarin. When an EDC is used as a predicate, it occurs with a copula in German, as seen in (50a) (G&T: (74b)); however, it rejects a copula in Mandarin (Yang 2017: 218), as seen in (50b).

(50) a. das war voll das unlösbare Problem
that was EI the unsolvable problem
'That was a totally unsolvable problem.'

b. (*shi) hao yi duo moli-hua.
be EI one CL jasmine-flower

In Mandarin, nominal predicate constructions always allow an overt copula. Under certain conditions, a nominal predicate with an overt subject may have an optional copula, as seen in (51b). A nominal predicate with a null subject may also occur with a copula, as seen in the A part in (51c). Thus the rejection of a copula in an EDC should not correlate with the null subject of the construction.

(51) a. Na *(shi) yi duo moli-hua.
that be one CL jasmine-flower
'That is a jasmine-flower.'

b. Xia yi zhan (shi) Qianmen. (Zhang 2009)
next one station be Qianmen
'Next station is Qianmen.'

c. Q: Na shi shenme-ren? A: Shi ge qigai.
that be what-person be CL beggar
'What kind of person is that?' 'He is a beggar.'

In some other languages such as Russian, a copula is optional, but not rejected, for a nominal predicate in the present tense, but is required otherwise. We have not seen any nominal predicate that rejects a copula. But this is the case of an EDC in Mandarin. The rejection of a copula correlates with the left-edge position of the degree element.

A relevant well-known fact is that a degree predicate also rejects a copula in Mandarin consistently (we do not consider the focus marker use of *shi*). In (52a), the DegP predicate is headed by *hen* 'very' (Zhang 2015a). In (52b), the degree predicate is headed by a null POS element (Liu 2010), and in (52c), the comparative degree predicate is headed by a null comparative morpheme (Grano 2012). In all of the degree predicates, the copula *shi* is rejected.

(52) a. Na ke shu (*shi) hen gao.
that CL tree be very tall
'That tree is very tall.'

b. Na ke shu (*shi) gao ma?
that CL tree be tall Q
'Is that tree tall?'

c. Na ke shu (*shi) bi zhe ke shu gao.
that CL tree be than this CL tree tall
'That tree is taller than this tree.'

A shared property between an EDC and constructions like those in (52) is that the head of the predicate has a degree element. A generalization is then that in Mandarin, degree predicates reject a copula, unlike in languages such as German and English.

Cross-linguistically, "a clear consensus emerges that copulas are devices that are required in order to support other elements in situations where a full verbal predication is not defined" (Arche et al. 2020: 25). A degree element in Mandarin is not verbal (contra Grano 2012: 537). All verbal elements are able to form the so-called A-not-A question form, but no degree element is able to do so (**hen-bu-hen*). Thus, a degree predicate in the language requires the support from a copula-like device.

In some languages, there are multiple copular forms, occurring in different syntax and semantics contexts (see Arche et al. 2020 for a review). It is well-known that in Spanish, the copula *ser* is associated with individual-level predicates, and the copula *estar* is associated with stage-level predicates (Milsark 1974, Carlson 1977), as seen in (53a) and (53be), respectively. Also, in Kinyarwanda, the copula *-ni* has various uses but the copula *-ri* is restricted to locative predicates (see Arche et al. 2020: 9 for examples and references).

(53) a. Anacleto es español. b. Anacleto está desnudo. (Arche et al. 2020: 5)
Anacleto is Spanish Anacleto is naked

We assume that Mandarin has two versions of copula to support non-verbal predicates: *shi* and a silent form, and the former rejects a degree predicate (or any predicate whose head has a degree element), whereas the latter selects such a predicate (note: Mandarin has no PP predicate). This explains why EDCs and the examples in (52) reject *shi*.

Structurally speaking, the position of a copula is generally assumed to be higher than the theta-domain but lower than a modal. It is also well-assumed that a copula heads a functional projection. Since different forms of copulas may correlate with different types of predicates, this functional projection licenses a predicate, and must be compatible with the features of the predicate.

We conclude that an EDC predicate rejects the copula *shi* in Mandarin because the head of the predicate has a degree feature, and it is compatible with a null version of the copula only, like the DegP predicates in (52).

4.2 The intrinsic predicate status of degree expressions

In this subsection, we explain a restriction reported in 2.2: an EDC cannot be an argument of a verb in Mandarin. The restriction is seen in (54) (= (28)):

(54)a. *Wo mai-le hao yi duo moli-hua.
I buy-PRF EI one CL jasmine-flower
b. *Hao yi duo moli-hua diaoxie-le.
EI one CL jasmine-flower wither-PRF
c. *Hao yi duo moli-hua piao zai shui-li.
EI one CL jasmine-flower floatat wither-in

In contrast to an EDC, a *hao*-AP-nominal may occur as an argument, as seen in (55) (also see Yang 2017: 192; Xie & Luo 2019: 261). In the object of *mai* 'buy' in (55), the EI *hao* is next to its selected AP *da* 'big', and thus there is no Deg-to-D movement. Therefore, the inability

for an EDC to be an argument correlates with the left-edge position of the degree element.

(55) Yani mai-le [hao da-de yi ge pingguo] a!
Yani buy-PRF EI big-DE one CL apple EXCL
'What a big apple Yani bought!'

In Mandarin, a DegP cannot be an argument (cf. Zhang 2015a: 22), as shown in (56).

(56) a. Wo xihuan (*hen) chengshi.
I like very honest
'I like honesty.'
b. (*hen) chengshi shi yi zhong meide.
very honest be one CL virtue
'Honesty is a virtue.'

In an EDC, the degree word *hao* moves to D, and thus the whole expression is headed by a complex that contains the degree element. The non-argument restriction on an EDC is expected: it cannot be an argument because its head has a degree ingredient, as in (56).

In 4.1, we claimed that if the head of a predicate has a degree feature, the predicate is compatible with a null version of the copula. We now further propose that if the head of any phrase has a degree element, it always moves to the null copula in Mandarin. Then, for an EDC, since the complex head contains a degree element, the complex head moves to a null copula. Since a copula is verbal, after the head movement, the resultant head complex is verbal (marked as [+V]). Then, an EDC is necessarily headed by a verbal element. As a result, it cannot have a Case relation with any element, and thus it cannot be an argument of any verbal element. This is also true of any other degree expressions in the language. In German, however, the head movement in an EDC stops at the DP-level, and the EDC may occur with a copula and function as an argument.

We now update the M-EDC structure in (45b) and the N-EDC structure in (46b) as (57a) and (57b), respectively. F is the position of a copula. The choice of the label for this functional head in the clausal spine does not affect the argumentation of the paper.

(57) a. $[_{FP}[_{F^{0[+V]}}$ hao+yi+duo$][_{DP}[_{D^0}$~~hao+yi+duo~~$][_{CLP}$~~hao+duo~~$[_{NP}[_{DegP}[_{Deg^0}$~~hao~~$][_{AP}$meili-de]] $[_{NP}$ moli-hua]]]]]
b. $[_{FP}[_{F^{0[+V]}}$ hao+yi+duo$][_{DP}[_{D^0}$~~hao+yi+duo~~$][_{CLP}$~~hao+duo~~$[_{Deg_NP}[_{Deg_N{}^0}$~~hao~~$][_{NP}$moli-hua]]]]]

This Deg-to-F analysis of degree expressions in Mandarin means that such expressions are verbal, and EDCs are also verbal, not nominal (contra Yang 2017). The analysis also means that when degree expressions function as modifiers of a noun, as in (2), they are necessarily hosted in a reduced relative (Cinque 2010).

In this section, we have explained two syntactic restrictions on EDCs in Mandarin: such expressions cannot occur with a copula and cannot occur as arguments, because their head has a degree element, and the head moves to a null version of the copula. Our analysis explains why degree expressions are intrinsic predicates syntactically in the language.

5. Licensing the obligatorily null subjects in EDC exclamatives

This section shows that an EDC in Mandarin has an obligatorily null subject, and this subject is a new type of *pro* subject.

Note that the discussion of this section does not apply to the adverbial use of an EDC, as seen in (29), repeated here as (58a). There are two predication relations in this example: the

busy state is a predicate of a *pro* subject (the matrix predication), and temporal-denoting EDC is a predicate of an event argument (Davison 1967, Parsons 1990). The latter is a secondary predication. The event argument of the DED can be a PRO. As illustrated in (58b). Such an event PRO is also found in examples in (59).

(58) a. Mang-le hao yi ge xingqi.
busy-PRF EI one CL week
'X has been busy for EI a week.'

b. [*pro* BUSY [PRO$^{\text{e-subject}}$ [$^{\text{EDC}}$ A WEEK]]]

(59) a. [John went to New York]$_i$ PRO$_i$ to annoy Mary. (Williams 1985: 308)
b. [The car collided with a lorry]$_i$, PRO$_i$ killing both drivers. (Mittwoch 2005: 70)
c. Bill danced [PRO {in the park/after 9pm}].

Thus the EDC in (58a) is not a predicate of the matrix subject *pro*. Then, it is not necessary to discuss the nature of the null subject of this use of EDC.

5.1 The rejection of an overt subject

We have argued that an EDC occurs as a predicate in Mandarin (2.2 and 4.1). But such a predicate never has an overt subject (Yang 2017: 218), as seen in (60), in contrast to other examples, such as the non-EDC example in (61a), and the German EDC in (61b).

(60) a. *Na (shi) hao yi duo moli-hua.
that be EI one CL jasmine-flower
b. *Ta (shi) hao yi ge nazi-han
that be EI one CL male-man

(61) a. (Na shi) hao da-de yi ge pingguo a! (= (2a))
that be EI big-DE one CL apple EXCL
'What a big apple!'
b. das war voll das unlösbare Problem (G&T: (74b))
that was EI the unsolvable problem
'That was a totally unsolvable problem.'

Does an EDC predicate have no subject at all, or does it have a null pronominal subject? There is evidence to support the second hypothesis. In (62a), two predicates are conjoined. The unacceptability of (62b) and (62c) shows that if the second conjunct is changed into a clause, which has its own subject, the result is not acceptable. The parallel unacceptability of (62d) indicates that the EDC in the second conjunct can also be a clause, which has its own subject.

(62) a. Na duo hua [zhen xiao], ye [zhen miren].
that CL flower really small also really attractive
'That flower is really small and also really attractive.'
b. *Na duo hua [zhen xiao], ye [ta zhen miren].
it really attractive
c. *Na duo hua [zhen xiao], ye [ta zhen shi yi duo miren de hua].
it really be one CL attractive DE flower
d. *Na duo hua [zhen xiao], ye [hao yi duo miren de moli-hua].
EI one CL attractive DE jasmine-flower

Therefore, there is a *pro* subject for an EDC. It is singular.[6] It can have a third, second, and first person reading, as seen in (63a), (63b), and (63c), respectively.[7]

(63) a. hao yi ge xinshang ziji de jiahuo.
EI one CL appreciate self DE guy
'What EI a guy who admires himself he is.'

b. Ni zhen weida! Hao yi ge bu gu ziji de ren!
you really great EI one CL not care self DE person
'You are really great! You are EI a person who does not care about yourself.'

c. Zhe jiu shi wo. Hao yi ge daomei-de zhuli!
this then be I EI one CL unlucky-DE assistant
'This is me. I am an EI unlucky assistant!'

The silence of the subject in Mandarin EDCs cannot be the result of any deletion, since there is no antecedent for the deletion. The null subject cannot be a normal little *pro*, either, since the latter can be replaced with an overt form. We have seen in (60) that no overt form is allowed for the subject of an EDC. We will discuss how this obligatorily silent subject is licensed in the next two subsections.

The conclusion of this subsection is that an EDC is a predicate that occurs with an obligatorily null subject in Mandarin.

5.2 EDCs are exclamatives in Mandarin

In the previous subsections, we have argued that an EDC in Mandarin is a predicate, occurring with a silent subject. In this subsection, we show that the clause formed in this way is an exclamative.

Among the three EIs in Mandarin, only *hao* occurs in an EDC, and according to Xie & Luo (2019: 258), only *hao* is "often used to convey exclamation". Yang (2017: 211) states that EDCs are exclamatives, but she does not give evidence. We provide the following systematic arguments for this status of EDCs, considering certain widely assumed criteria for exclamatives.

First, an exclamative must have a gradable expression. Both types of EDCs, i.e., M-EDCs and N-EDCs, satisfy this condition.

Second, an exclamative must have a degree element which expresses the speaker's attitude towards a degree (Castroviejo 2006; 2008: 6, 13; Hohaus & Bochnak 2020: 252). The EI *hao* in an EDC satisfies this condition.

Third, an exclamative must be factive (e.g., Elliott 1974; Zanuttini & Portner 2003; Portner & Zanuttini 2005; Badan & Cheng 2015). For example, the EDC in (64c) can be an answer to the question in (64a), but not to the question in (64b), which asks about an irrealis situation.

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[6] The *pro* subject of an EDC in Mandarin may not be plural, as seen in (i). But this restriction comes from the *yi*-nominal itself. This restriction is seen in any nominal predicate that has *yi*, not restricted to EDCs.

(i) Hao yi ge xingshang {ziji/*tamen-ziji} de ren!
EI one CL admire self/they-self DE person
'What a person that admires himself!'

[7] The compound *zi-wo* 'self-1st.SG' is synonymous to *ziji* 'self', and thus it does not have a first person feature. In (63a) and (63b), *ziji* can be replaced with *zi-wo*.

Also, for some unknown reason, if a reflexive is intended to have a second or first person reading, only the bare *ziji*, but not *ni-ziji* 'yourself' or *wo-ziji* 'myself', is allowed in an EDC (I thank Hsuan-Hsiang Wang for noticing this fact):

(ii) Hao yi ge xingshang {ziji/*ni-ziji} de ren!
EI one CL admire self/you-self DE person
Intended: 'You are an EI person that admires yourself!'

(64) a. Ni xianzai kandao-le shenme? b. Ni mingtian hui kandao shenme?
you now see-PRF what you tomorrow will see what
'What have you seen now?' 'What will you see tomorrow?'
c. Hao yi duo meili-de moli-hua.
EI one CL beautiful-DE jasmine-flower
'What an EI beautiful jasmine it is!

Fourth, compatible with the factive condition, an exclamative cannot be negated (Portner & Zanuttini 2005: 58). This is true of an EDC, as seen in (65).

(65) a. *bu hao yi duo meili-de moli-hua
not EI one CL beautiful-DE jasmine-flower
b. *meiyou hao yi duo meili-de moli-hua
not EI one CL beautiful-DE jasmine-flower

Fifth, also compatible with the factive condition, an exclamative cannot be questioned (Portner & Zanuttini 2005: 58). Indeed, an EDC cannot be questioned, as seen in (66).

(66) a. *hao yi duo meili-de moli-hua ma?
EI one CL beautiful-DE jasmine-flower Q
b. *Hao yi duo meili-de moli-hua, dui-bu-dui?
EI one CL beautiful-DE jasmine-flower right-not-right

Also note that like a canonical *hao* exclamative in the language, as seen in (67a), an EDC allows, but does not require, an exclamative sentence-final particle (Yang 2017: 13; 214), which is recognized at C, as seen in (67b).

(67) a. Zhe duo moli-hua hao piaoliang (a)!
this CL jasmine-flower EI beautiful EXCL
'How beautiful this jasmine is!'
b. hao yi duo meili-de moli-hua (a)!
EI one CL beautiful-DE jasmine-flower EXCL
'What an EI beautiful jasmine it is!'

Thus, such *hao*-constructions can be exclamatives intrinsically, without the support of the exclamative particle *a*.[8]

Two contrasts between EDCs and other degree constructions, mentioned by an anonymous reviver, can both be explained by the exclamative status of EDCs. First, a "canonical" degree expression, but not an EDC, may occur in a small clause, as seen in (68a) and (68b), respectively.

[8] One reviewer asks the question that if an EDC is an exclamative, whether its impossibility to function as an argument and rejection of a copula can be explained directly. Let us consider the contrast between (ia) and (ib):

(i) a. Mary knows how very cute he is. (Zanuttini & Portner 2003: 46)
b. *Mali zhidao hao yi duo moli-hua.
Mali knowEI one CL jasmine-flower

If *know* c-selects either a DP or CP, (ia) satisfies the CP selection, since the wh-movement of the *how*-phrase lands in the C-domain. Assume that *zhidao* 'know' also c-selects either a DP or CP. The unacceptability of (ib) may suggest that the clause level of an EDC in Mandarin is lower than a CP and thus it cannot be selected by *zhidao*. Thus, an EDC in the language is still different from other kinds of exclamatives.

The rejection of a copula in an EDC is indeed compatible with the status of an exclative clause, which never follows a copula. Thus, the restriction can be explained from different perspectives. Nevertheless, the head movement of a degree element is still necessary to derive an EDC, where *hao* is not in its canonical position (§3).

Since an exclamative never occurs in a small clause, as seen in (68c), the restriction on EDCs is explained ((68c) can be accepted if *ta hao ben a* is a direct quotation).

(68) a. Laoshi jingchang ma ta tai ben.
teacher often scold he too stupid
'The teacher often scolds him as too stupid.'
b. *Laoshi jingchang ma (ta) hao yi ge (da) bendan.
teacher often scold he EI one CL big fool
c. *Laoshi jingchang ma ta hao ben a.
teacher often scold he EI stupid EXCL

Second, a "canonical" degree expresiion may, but an EDC may not, be focused by the focus marker *shi*, as seen in (69a) and (69b), respectively. Since an exclamative cannot be focused by *shi*, either, as seen in (69c), the restriction on EDCs is explained.

(69) a. Xiaoming shi feichang ben.
Xiaoming FM very stupid
'Xiaoming IS very stupid.'
b. *shi hao yi ge bendan.
FM EI one CL fool
c. *Xiaoming shi hao ben a.
Xiaoming FM EI fool EXCL

5.3 A new type of *pro* subject

In 5.1, we have reported that an EDC has an obligatorily null subject. The goal of this subsection is to identify what kind of null subject this is.

As we reported before, an EDC rejects an overt subject:

(70) a. *Na hao yi duo moli-hua.
that EI one CL jasmine-flower
b. *Ta hao yi ge nanzi-han
he EI one CL male-man

We can compare this null subject with some other types of obligatorily null subject: PRO in control constructions and the *pro* subject in English imperatives and exhortatives.

In languages such as English, PRO cannot be replaced with an overt form. Its reading must be either bound by an argument of the controlling verb or generic (or called arbitrary, and the PRO is written as PRO_{ARB}).

Imperatives in English also do not have any overt subject, but they must have a null second person subject. This is because a second person reflexive is licensed, as seen in (71), and if an imperative is in a tag-question form, the overt subject in the tag has to agree with the null subject of the matrix clause, as seen in (72) (Bolinger 1967; see Adger 2003: 57-60 for more arguments of the null subject of imperatives; see Zanuttini et al. 2012 for a further cross-linguistic research of the issue). The null subject is a second-person *pro*.

(71) a. Wash yourself! b. *Wash himself!
(72) a. Close the door, won't you! b. *Close the door, won't he!

An exhortative, such as (73), also has an obligatorily silent subject. According to Zanuttini et al. (2012), the null *pro* subject is a first person inclusive of the addressee, different from the second person *pro* subject of imperatives. These person-feature contrasts in different types of *pro* subjects are represented in a functional head in the C-domain.

(73) Let's buy lunch.

In 5.2, we have argued that an EDC is an exclamative. In all of the four cases of obligatorily null subject (PRO, imperative, exhortative, and EDC exclamative), there are syntactic licensing conditions on the features of C. PRO is syntactically licensed by a non-finite null C. The *pro* subject of imperatives is licensed by the imperative feature in C, and the *pro* subject of exhortatives is licensed by the exhortative feature in C. Although the interpretation of the *pro* subject in Mandarin EDCs is determined in the context, its obligatory silence is licensed by the exclamative feature in C.

In this section, we have identified a type of *pro* subject that may not be replaced with any overt form. Parallel to the *pro* subject in imperatives and exhortatives in English, this type of *pro* subject occurs in the EDC exclamatives in Mandarin.

6. Conclusions

We have applied G&T's Deg-to-D movement analysis of EDCs in German to the derivation of EDCs in Mandarin. Moreover, we have argued that the overt copula *shi* in the language rejects, but its null version selects, a predicate whose head has a degree element. We have further claimed that the head of a degree expression moves to the null copula. This raising explains why such an expression, including an EDC, rejects *shi* and may not be an argument in the language. Furthermore, we have argued that an EDC in Mandarin does not have an overt subject because it encodes a type of exclamative, and the silence of the subject parallels that of imperatives and exhortatives.

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