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The diachronic development of postverbal *dé* 得 in Chinese

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The modal *dé* 得 is one of the modal verbs of possibility in Late Archaic Chinese (LAC) and Early Middle Chinese (EMC). Different from other modals verbs of possibility, which are confined to preverbal position, *dé* 得 ‘obtain, get, manage to, can’ occurs in two different positions in Modern Chinese and other Sinitic languages: preverbal and postverbal. This chapter argues that the two different functions of DE in modern Sinitic languages reflect two syntactic instantiations of DE in LAC and EMC. The preverbal modal auxiliary developed from the modal auxiliary verb *dé* ‘manage to, can’, which only allows a *v*P complement, and the postverbal DE developed from the lexical verb *dé* ‘get, obtain’, which allows a CP complement.

Keywords: grammaticalisation, modal verbs, Late Archaic Chinese, Early Middle Chinese

1. Introduction

This paper discusses the diachronic development of *dé* 得 ‘obtain, manage to’ from a lexical verb into two different functional heads as an exemplary case of grammaticalisation as an upward movement on the functional spine; the two functional heads are (a) a preverbal deontic modal, (b) a postverbal modal marker expressing possibility and potential. Particular focus is on the diachronic development of (b). The latter development distinguishes *dé* from the other basic modal verbs expressing POSSIBILITY and ABILITY in Late Archaic (5th–2nd c. BCE) and (Early) Middle Chinese (1st c. BCE–2nd c. CE, 2nd–6th c. CE): *néng* 能 ‘able to’, *kě* 可 ‘possible’ (Li 2001; Peyraube 1999), which, in the course of their grammaticalisation, remain confined to the preverbal position typical for modal auxiliaries. The particular development of *dé* is attributed to its syntactic constraints as an event verb (Example (1)) in opposition to other modals, which are derived from state verbs.

- (1) 「吾得罪於君，悔而無及也。」 (Zhuozhuan, Xiang 20)
wú dé zuì yú jūn huǐ ér wú jí yě
 I get guilt PREP ruler regret CON not.have arrive SFP
 'I incurred guilt towards my ruler, regret does not lead anywhere.'

Three different readings of postverbal DE in Modern Mandarin have been proposed in Xie (2012: 393): ability, opportunity, and disposition, which all “have to do with the potential to cause or undergo ‘change of state’” (Bhatt 1999). This definition can be connected directly to the original functions of premodal *dé* in Late Archaic Chinese (LAC). Ability modals are stative, behaving like individual level predicates, whereas opportunity modals behave like stage level predicates, involving a temporal element (Xie 2012: 391). The ability reading requires an agentive subject (Xie 2012: 391) (2a); with a non-agentive unaccusative subject this reading is not available (Example 2b). Instrumental subjects and state verbs preceding DE cause dispositional readings (Xie 2012). (2c) shows the opportunity reading of DE in a particular temporal setting, while (2d) is a typical instance of disposition reading.

- (2) a. *Zhāngsān yīgèrén bān de qīlai nà xiāng shū*
 Zhangsan alone lift DE up that box (CL) book
 ‘Zhangsan can lift up that box of books all by himself.’ (Xie 2012: 388)
- b. *dàrén cóng xiépō shàng huá de xiàlái*
 adult from slope on slip DE down
 ‘An adult can slide down from the top of the slope.’ (Xie 2012: 391)
- c. *Nǐ zài wǎng shàng kàn de dào wǒ de shíhòu wǒ dōu xián zhe*
 You at internet on see DE reached me MOD time I all free PROG
 ‘When(ever) you see me on the internet, I am free.’ (Xie 2012: 392)
- d. *zhè zhǒng jīqì yīge xiǎoshí suì de wán shí dūn yù mǐ*
 this kind machine one hour crush DE finish ten ton corn
 ‘This machine can crush ten tons of corn in an hour.’ (Xie 2012: 393)

The deontic modal marker DEI from the same etymological source appears in the regular preverbal position of modal auxiliaries.

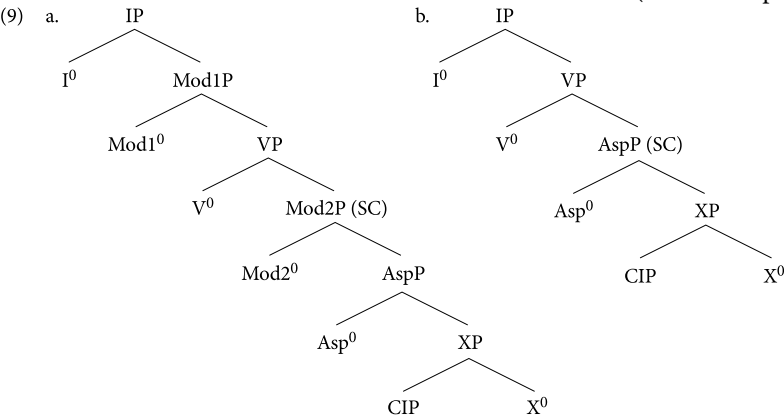
- (3) *Zhāngsān jīntiān děi qù kàn yīshēng*
 Zhangsan today must go see doctor
 ‘Zhangsan must go see his doctor today.’ (Xie 2012: 396)

Cheng & Sybesma’s (2004) analysis of postverbal ‘can’ in Cantonese and Hakka distinguishes two different readings of *dak*, the Cantonese cognate of Mandarin DE: a root (deontic) permission reading and a potential reading. They argue that *dak* is a verb (though defective), which is inserted in two different positions in

order to derive the different readings: the deontic reading is derived in the matrix clause, and the potential reading is derived in a resultative small clause.

- (4) a. *keoi zaa-dak li-ga ce*
3s drive-DAK this-CL car
's/he can [i.e., is permitted to] drive this car.'
- b. *keoi lo-dak-hei li-seung syu*
3s take-DAK-up this-box book
's/he can [i.e., will manage to] lift this box of books.'

- (5) Cheng & Sybesma's proposal for the different positions of DE
- (their Example (9))



Mod₁ is the position for preverbal DAK when existent, and Mod₂ is the regular position for postverbal DAK.

This paper focuses on a syntactic analysis of the diachronic development of postverbal DE, proposing that the different instantiations of Modern Sinitic DEI/DE are based on two different syntactic developments of the lexical verb *dé* into a functional category.

2. The diachronic development of DE from Late Archaic to Middle Chinese

The diachronic development of postverbal DE has been discussed e.g., in Feng (1992), Sun (1996), Wei (2004). Feng (1992) provides a detailed study of the different structures of postverbal DE predominantly from the 13th century text *Zhu_zi yulei*, a text particularly relevant for the study of early Mandarin. Whereas Sun (1996) provides a brief overview on the diachronic development of postverbal DE,

Feng (1992) concentrates on its synchronic employment, focusing on the categories of verbs *DE* attaches to and on the complements possible with *V+DE*. Wei (2004) focuses on negation and the position of the object in the complement of postverbal *DE* in Early Mandarin. In a brief study on postverbal complements in the *Dunhuang bianwenji*, Wu F. (2004) discusses the resultative and possibility functions of postverbal *DE* in vernacular Tang period texts. His examples demonstrate that the employment of postverbal *DE* was still quite confined during that time.

2.1 *DE* as a lexical verb

Dé 得 in its basic readings ‘receive, get’, ‘obtain’, ‘win’, ‘succeed’, ‘manage to’ has a goal or recipient subject (Example (6a));¹ in (6b) the negated verb *dé* ‘obtain, find’ is intransitive with a theme subject. Sun (1996) analyses this structure as a passive construction; the subsequent loss of the passive meaning triggered the development of the *V-DE-V* and *V-DE-S* constructions (Sun 1996: 117).

- (6) a. 其後亡也，成子得政。 (Zuozhuan, Zhuang 22)
Qí hòu wáng yě Chéngzǐ dé zhèng
 GEN after perish SFP Chengzi get government
 ‘After it perished, Chengzi received the government.’
- b. 匪媒不得。既曰得止，曷又極止！ (Shijing, Guofeng)
Fěi méi bù dé jì yuē dé zhǐ hé yòu jí zhǐ
 is.not go.between NEG get already say get SFP why again extreme SFP
 ‘Without a go-between, she will not be gained (=you do not succeed).
 After saying ‘she has been gained, why go on to such extremes!’

Negation played a relevant role in the grammaticalisation of lexical verbs to modal auxiliaries in Chinese. Deontic readings first developed in the context of negation and of rhetorical questions (e.g., Li 2000). The lexical verb *dé* appeared with all kinds of negators in LAC. In (7a), transitive *dé* occurs with the regular negator *bù*; in (7b), the aspectual negator *wèi* 未 and the perfective adverb *jì* 既 demonstrate that *dé* is an event verb, which includes a change of state variable.

- (7) a. 「吾不得志於漢東也，我則使然。」 (Zuozhuan, Huan 6, LAC)
Wú bù dé zhì yú Hàn dōng yě wǒ zé shǐ rán
 I NEG get will PREP Han east SFP I then cause PRT
 ‘That we have not got our will in Handong, this is all self-caused.’

1. Meisterernst (2020b) provides a comprehensive discussion of the lexical semantics of *dé*.

- b. 其未得之也，患得之；既得之，患失之 (Analects 17.5)
qí wèi dé zhī yě huàn dé zhī jì dé zhī huàn shī zhī
GEN NEG_{ASP} get OBJ SFP worry get OBJ already get OBJ worry loose OBJ
‘When he has not got it yet, he worries about getting it; after he got it, he
worries about losing it.’

In the LAC texts *Zuozhuan* and *Guoyo*, *dé* 得 functions predominantly as a transitive lexical verb with an NP complement; VP complements are the exception.

2.2 DE as an auxiliary verb in LAC and EMC

The frequency of the auxiliary verb *dé* only increased at the end of the LAC period. The auxiliary function apparently grammaticalised by splitting off the lexical verb *dé*, which prevails in functions that are not modal in a strict sense. This split may have been triggered by the etymology of *dé* as an original achievement verb, different from the other possibility modals, and we propose that it was also the basis of the grammaticalisation of *dé* into a postverbal element introducing manner and result.² As an auxiliary, *dé* expresses circumstantial values, including opportunity, disposition, and ability. The opportunity reading is common to all examples with *dé* independent of their temporal settings. It also underlies the derived deontic reading. *Dé*, by default, has telic complements; although these are compatible with the perfective aspect, they are not marked for tense or aspect (Meisterernst 2017). According to Tsai’s (2015) cartographic approach, circumstantial readings, i.e., dynamic modalities, are located in the lexical layer.

I. Ability reading

Ability modals are stative, referring to “stable properties of an individual”, they behave like individual level predicates; the ability reading requires an agentive subject (Xie 2012: 391). (8a) is a likely example for a true ability reading; the subject has the ability to change. Probably due to the original argument structure of *dé* with a goal subject, ability readings are not very frequent. (8b) reveals the difference between *néng* 能 and *dé* 得: (1) participant-internal ability with *néng*, (2) participant-external possibility with *dé*; *dé* has an opportunity besides a possible ability reading.

2. Sun (1996: 143f) proposes a grammaticalisation from the lexical meaning ‘obtain’ to ‘possibility’ and ‘result’ among other meanings. Our proposal contrasts with Wang (2017), who assumes a grammaticalisation of postverbal DE directly from the auxiliary *dé*.

- (8) a. 盜賊得變，此不得變也。 (Xun 5/10/4, LAC)
Dào zé dé biàn cǐ bù dé biàn yě
 Robber thief DE change this NEG DE change SFP
 ‘Although robbers and thieves can change, he would not be able to change them.’
- b. 「... 然不自意能先入關破秦，得復見將軍於此。」 (Shiji: 7,312, EMC)
... rán bù zì yì néng xiān rù guān pò Qín dé fù jiàn
 ... but NEG self think able.to before enter pass destroy Qin DE again see
jiàngjūn yú cǐ
 general at this
 ‘... but I do not think myself that I am able to enter the gate and destroy Qin, and to get / to be able to meet the general again here.’

II. Opportunity reading

Opportunity modalities behave like stage level predicates involving a temporal element; e.g., they allow past-denoting temporal phrases (Xie 2012:391). The opportunity reading of *dé* is closest to the English semi-modal ‘able to’, which according to Bhatt (1999:184) is a non-stative implicative verb similar to ‘manage to’, involving an actuality entailment in the past tense and the perfective (Bhatt 1999:188). The implicative reading of *dé* is discussed under section III. Opportunity reading is the default reading of *dé*; often the enabling conditions are revealed in the preceding context, as in (9a) and (9b).

- (9) a. 此幸臣之所以得欺主成私者也。 (Han Feizi 14/1/5, LAC)
Cǐ xìng chén zhī suǒ yǐ dé qī zhǔ chéng sī
 This favour subject GEN REL YI DE cheat ruler achieve personal.advantage
zhě yě
 REL SFP
 ‘This is how favoured subjects manage to cheat their rulers and achieve their own personal advantages.’
- b. 如此則太后心安，君等幸得脫禍矣。」 (Shiji: 9;399, EMC)
Rú cǐ zé tài hòu xīn ān jūn děng xìng dé tuō
 Like this then Queen.dowager heart secure prince group luck DE remove
huò yǐ
 misfortune SFP
 ‘Like this the Queen dowager will feel secure and you and your party will be lucky enough to be able to remove misfortune.’

III. Implicative reading

In past tense and perfective contexts, *dé* has an implicative reading, an actuality entailment is implied in a conventional implicature similar to ‘manage to’. This

reading establishes a sub-group of the opportunity – or ability – reading of *dé*. Many of the requirements for implicative verbs are met by *dé*.³ In the examples in (10), the possible situation expressed by the modal predicate has been actualised.

- (10) a. 克舍之，丑父遂得亡歸齊。 (Shiji: 32,1497, EMC)
Kè shě zhī Chǒufù suì dé wáng guī Qí
Ke release OBJ Choufu thereupon DE flee return Qi
‘Ke released him, and Choufu (managed to) could thereupon flee and return to Qi.’
- b. 行十七日計可千五百里。得至鄴鄴國。 (Faxian, T51,n2085,p.857, MC)
Xíng shí qī rì jì kě qiān wǔ bǎi lǐ dé zhì
Travel ten seven day calculate POSS thousand five hundred mile DE arrive
Shànshàn guó
Shanshan state
‘They travelled seventeen days and calculated that it was about one thousand five hundred miles when they managed to arrive at the state Shanshan.’

2.3 Deontic DE

Deontic readings with possibility modals first emerged in LAC and EMC in polarity contexts, i.e., in rhetorical questions and negated contexts. Both a possibility and a deontic (necessity) reading are available with *dé* in combination with negation. The deontic reading is logically implied, because NEG MOD_{poss} ‘not possible’ that $p \rightarrow p$ is equivalent with ‘necessary that not p : $\Box \neg p$ ’ in terms of necessity (Meisterernst 2020a). Meisterernst (2020a) proposes an analysis of the semantic scope of negation as evidence for different syntactic positions in which the deontic and possibility readings of MOD_{poss} in LAC and EMC are interpreted, following a proposal in Cormack & Smith (2002). The development of *dé* into the deontic modal *děi* ‘must’ of Modern Mandarin is supposedly the result of this early ambiguity of reading of MOD_{poss} in polarity contexts.⁴ In (11a), *dé* evidently has a possibility reading, the negator scopes over the modal; in (11b) and (11c), the negator is within the scope of the modal, which thus receives a deontic interpretation.

3. Meisterernst (2020b) provides a detailed analysis of the implicative reading of *dé*. The basis of grammaticalization of the auxiliary *dé*, the verbs ‘get’, ‘manage to’, are listed as implicative verbs in Karttunen (1971: 341, 350); Karttunen paraphrases ‘get’ as “get to do depends on the chance to get to do.” (1971: 351)

4. Due to the lack of space, this development is not related in detail in this discussion; the focus is rather on the development of post-verbal DE. The reader is referred to Meisterernst (2020a).

- (11) a. 我等梵天所化。是以無常。不得久住。 (Agama, T01, 1, _p.69b, MC)
Wǒ děng fàntiān suǒ huà shìyǐ wúcháng bù dé jiǔ zhù
 I PL Brāhma REL change therefore impermanent NEG DE long stay
 ‘We are who god Brāhmā changed, therefore we don’t have permanence and cannot remain long.’
 Paraphrase: we do not manage to remain long = NOT [POSSIBLE: circumstantial].
- b. 明主之道，臣不得以行義成榮，不得以家利為功。
Míng zhǔ zhī dào, chén bù dé yǐ (Han Fei zi 48/8/3, LAC)
 Enlighten ruler GEN way, minister NEG DE YI
xíng yì chéng róng bù dé yǐ jiā lì wéi
 carry.out righteousness achieve glory NEG DE YI house advantage make
gong
 merit
 ‘According to the way of an enlightened ruler, the ministers may not achieve glory with just carrying out righteousness, and they may not gain merit by advantages for their families.’
 Paraphrase: ‘it is necessary that they do not achieve glory..., that they do not gain merit by = NECESSARY [NOT
- c. 時優婆夷，聞佛世尊，正由我故，制諸比丘，不得食肉，
Shí yōupóyí wén fó (Xianyujing T4, 202, _p.375c, MC)
 Time upāsika ask Buddha
shìzūn zhèng yóu wǒ gù zhì zhū bǐqiū bù
 World-Honoured-One, correct from I reason determine PL bhiksū NEG
dé shí ròu
 DE eat meat
 ‘At the time a laywoman asked the Buddha: “World-Honoured-One, did you make these corrections because of me and determined that the bhiksū may not to eat meat.”’
 Paraphrase: it is mandatory that *bhiksū* does not eat meat = NECESSARY [NOT

In this section, we demonstrated that the auxiliary verb *dé* in LAC and EMC predominantly functioned as a circumstantial modal expressing possibility, opportunity. Deontic readings were present, but required particular syntactic constraints related to polarity. Both the possibility (potential) reading and the deontic (permissive) reading proposed for postverbal Cantonese DAK in Cheng & Sybesma (2004) are attested for the preverbal modal *dé* in EMC, suggesting that the paths of grammaticalisation of pre- and postverbal DE were, to a certain extent, semantically similar.⁵

5. The epistemic readings proposed in Sun (1996: 139) are not attested for *dé* in LAC and EMC.

3. The complement of DE

3.1 DE with a vP complement

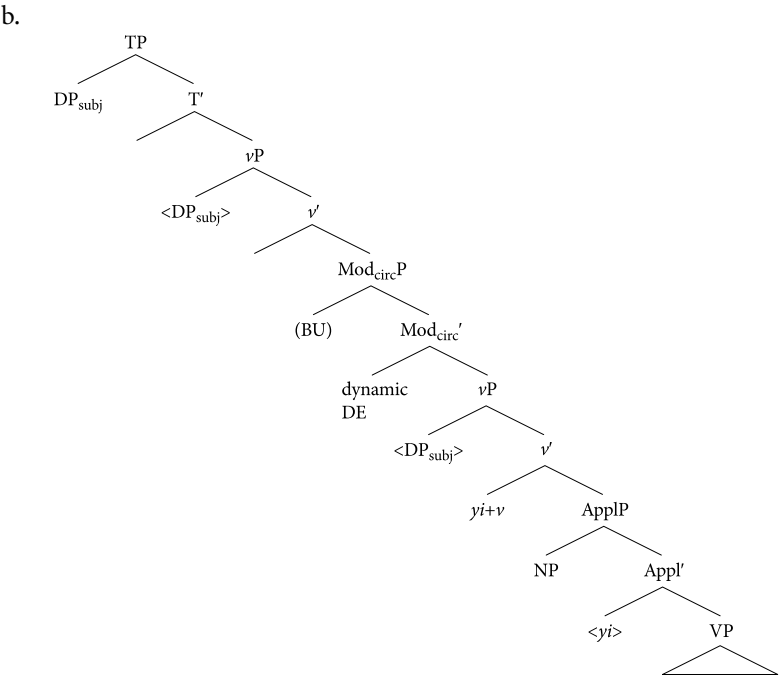
The default complement of the auxiliary *dé* is not larger than vP; it is tenseless and non-finite according to the scope of the SFP *yǐ* 矣;⁶ thus it may be a restructuring infinitive following Wurmbrand’s definition (2012).⁷ The constraints on negated complements can differ though. Modal, temporal, and aspectual adverbs as a rule precede *dé*. In Example (12a), the perfective adverb *jì* 既 ‘already’, which is within the scope of the SFP *yǐ*, precedes *dé*. In (12b), the epistemic adverb *bì* 必 and the future marker *dāng* 當 precede *dé*. Only vP internal adverbs, such as *jiǔ* 久 ‘long’ are allowed to follow *dé* as in (12c).

- (12) a. 『舜往于田，則吾既得聞命矣； (Mengzi 5A1, LAC)
Shùn wǎng yú tián, zé wú jì dé wén mìng yǐ
Shun walk PREP field, then I ASP DE hear advice SFP
‘That Shun went out to the fields, I already could hear some instructions about that.’
- b. 大智舍利弗，今得受尊記，我等亦如是，必當得作佛。
dà zhì Shèlìfú jīn (Miaofa lianhua jing, T9,n.262, p.12a, MC)
Great wisdom Śāriputra now
dé shòu zūn jì wǒ děng yì rú shì, bì dāng dé
DE receive honoured.one promise I PL also like this certainly FUT DE
zuò fó
be Buddha
‘Śāriputra in his great wisdom could now receive the promise [of future Buddhahood] of the Honoured One, we are also like that and will certainly manage to become Buddhas.’
- c. 然袁盎亦以數直諫，不得久居中， (Shǐjì: 101, 2741)
Rán Yuán Àng yì yǐ shù zhí jiàn bù dé
But Yuan Ang also because.of several straightforward admonish NEG DE
jiǔ jū zhōng
long stay middle
‘But Yuan Ang, because he made several straightforward admonishments, could also not stay long in the centre (at court).’

6. See Lin (2011) on the scope of the Modern Chinese equivalent of *yǐ*, SFP *le* 了.
7. Wurmbrand proposes that the tense of a tensed infinitive “establishes a temporal ordering relation between the time of the infinitival event and the time of the matrix event” (Wurmbrand 2012: 75). On the other hand, no such temporal ordering relation can be established in a tenseless infinitive.

An applicative phrase with *yǐ* 以 always follows modal *dé* as in (13a), unless it takes a *wh*-pronoun as its complement, in which case the *wh*-phrase precedes *dé* by default. Aldridge (2012) analyses the YI-phrase as a high applicative located within *v*P. Accordingly, all elements following the YI-phrase are *v*P internal. (13b) provides an analysis of the circumstantial modal *dé* as the head of ModP in the lexical layer, integrating Aldridge’s analysis of the YI-phrase.

- (13) a. 「高固內宮之廝役也，幸得以刀筆之文進入秦宮，
Gāo gù neigong zhī sīyì yě xìng dé yǐ (Shiji: 87, 2549, EMC)
Gao once inner.palace GEN servant SFP lucky DE YI
dāo bǐ zhī wén jìn rù Qín gōng
knife brush GEN culture promote enter Qin palace
knife brush GEN culture promote enter Qin palace
‘I was once a servant of the Inner Palace, then I luckily managed to get pro-
moted and enter the Qin palace due to my skills with the scraper and the
brush.’



Adverbial *wh*-phrases appear above ModP, i.e., outside the complement *v*P of the modal. In LAC, no *wh*-words were attested between the modal and the complement verb; this situation changes in EMC. Adverbial *wh*-words differ to a certain extent from object *wh*-words; the latter moved to a low focus position in LAC

(Aldridge 2010); however, the exact syntactic constraints of adverbial *wh*-words still have to be figured out.⁸ In any case, *dé* has to be merged below the position in which the interrogative occurs (see Aldridge 2010, 2012). In (14a), an interrogative phrase with *yóu* 由 precedes *dé* 得; in (14b), it is the *wh*-phrase *yǐhé* 以何 ‘how’. The order *yǐhé dé* 以何得 is attested, but the order *dé yǐhé* 得以何 is not.⁹ This provides more evidence for the location of possibility *dé* within *vP*, i.e., in the lexical layer when it functions as a possibility modal (Tsai 2015).

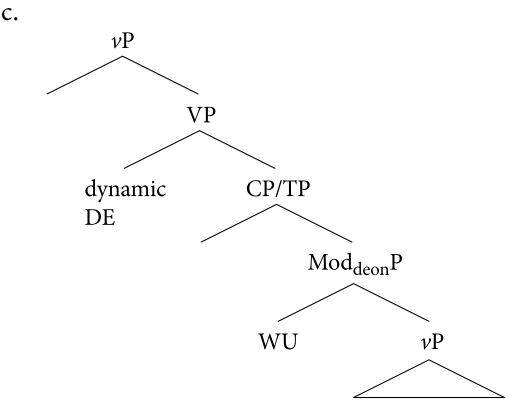
- (14) a. 我是女人。何由得先見佛。 (Faxian T51,n.2085,p859c, MC)
Wǒ shì nǚrén hé yóu dé xiān jiàn fó
I COP woman how from DE advance see Buddha
‘I am a woman, how could I advance and see the Buddha?’
b. 以何捨離苦，以何得清淨 (Za Ahanjing 50, MC)
Yǐhé shělí kǔ yǐhé dé qīngjìng
How discard pain how obtain purification
‘How do we discard pain and how do we obtain purification?’

3.2 DE with a CP complement

The examples in §3.1 show no indications for a TP layer in the complement of *dé*. Contrastingly, the following examples demonstrate that *dé* can also have a CP complement. Evidence for this comes from deontic negators in the complement of *dé* in the examples in (15). These argue for the status of *dé* as a lexical verb, and for a split between lexical and auxiliary verbs *dé* in EMC. Deontic negative markers are necessity operators, i.e., deontic modals (Meisterernst 2020a) generated in TP above the possibility operator; in a mono-clausal analysis this would lead to the irregular order *possibility necessity* with *dé*. Li (2015: 163) notes that modal negators might have imperative force generated in the CP layer. Meisterernst (2020a) argues for two different positions of modal negators, one in the CP and one in the TP layer; thus modal negators argue for the CP status of the complement.

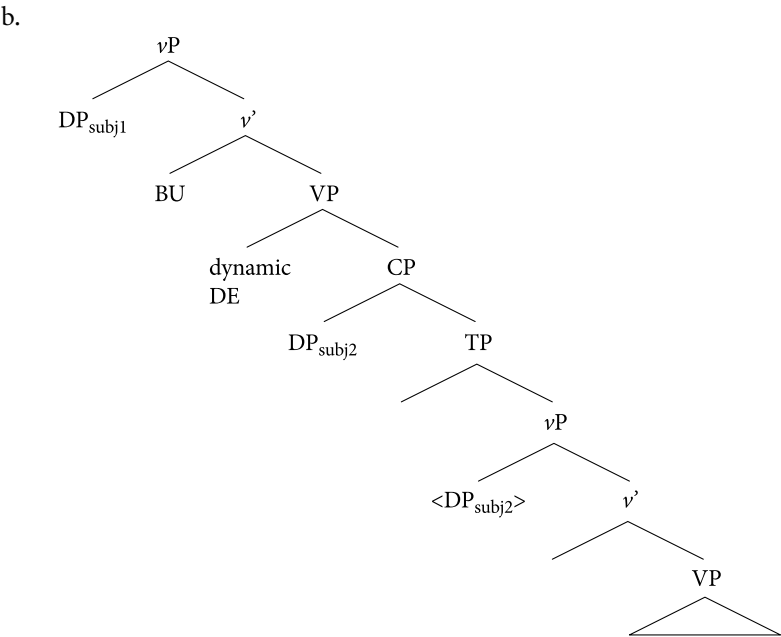
8. Object *wh*-words are extremely infrequent with modal verbs, and we have not found any instances for an object *wh*-pronoun preceding *dé*.
9. This is in contrast to the deontic modal *dāng*, which can precede *yǐhé* and other adverbial *wh*-words (Xiong & Meisterernst 2019).

- (15) a. 猶不予也，令秦來年復攻王，得無割其內而媾乎？」
yóu bù yǐ yě líng Qín lái nián fù (Zhanguo ce 20/10/11, EMC)
yet NEG give SFP cause Qin come year again
gōng wáng dé wú gē qí nèi ér gòu hū
attack king, DE NEG_{MOD} cede POSS inner CON contract SFP
‘If you do not give them this tiny piece of land, then you will cause Qin to attack you, and are you then able / could you then manage not to cede the inner parts [of the state] in order to negotiate peace?’
- b. 賴大臣爭之，及留侯策，太子得毋廢。 (Shiji: 9;395, EMC)
Lài dà chén zhēng zhī jí Liú hóu cè tài zǐ dé wú
Profit great minister fight OBJ arrive.at Liu lord scheme heir DE NEG_{MOD}
fèi
abolish
‘He profited from the great ministers who disputed it, and as it came to the scheme of lord Liu, the heir was able to manage not to be abolished.’



In (16) the complement of *dé* is a full finite clause; the subject has nominative case. In LAC, non-finite complement clauses usually have genitive subjects, in middle Chinese the case distinction, and thus the nominalisation feature, has disappeared (Aldridge 2013). The fact that the lexical verb *dé* allowed a CP as its complement may have facilitated the development of structures with postverbal DE with *vP* and with clausal complements.

- (16) a. 婆羅門作是說。言。此我不得名斷滅。
Póluómén zuò shì shuō yán cǐ (Chang Ahanjing, T1,n.1,p.93a, MC)
Brāhman make this speech say this
wǒ bù dé míng duànmiè
I NEG DE name eradicate
‘The brāhman made the following speech and said: This means that I do not succeed [in the attempt] that my name is being eradicated.’



The behaviour of *dé* in the examples discussed in §3 argues for two different analyses of *dé*: (1) as an auxiliary verb, similar to the semi-modal ‘able to/manage to’ in English with a clear implicative reading in past contexts, and (2) as a lexical verb with a semi-modal meaning. It is this syntactic split, which allows for two different developments of modal *dé* as a preverbal deontic modal verb and as a postverbal resultative marker.

4. The development of postverbal DE

According to Wang (2004:350), DE as *V*₂ first appears in EMC, where it still functions as a lexical verb ‘obtain’, referring to the successful achievement of the event expressed by the preceding verb, similar to other newly emerging resultative verb constructions. This is shown in the examples in (17): the two coordinated

verbs have a shared argument structure; the structure in (17a) is intransitive on the surface, but both verbs seem to require a transitive analysis involving object pro-drop.¹⁰ Based on the analysis of the verb *cǎi* 採 ‘gather, collect’ as transitive/agentive; the subject cannot be a theme argument. Although *dé* can be unaccusative with a theme subject, the first verb argues for the transitive analysis of both verbs and for a *pro* object. In (17b), the subject is the internal argument of the two complement verbs of *kě* 可 ‘can, possible’ in the raising structure of *kě* typical for LAC (e.g., Pulleyblank 1995; Meisterernst 2008, 2019). Both instances do not represent resultative constructions in the strict sense which require an intransitive V_2 .

- (17) a. 民採得，日重五銖之金，一色正黃。 (Lunheng 19.58, EMC)
mín cǎi dé rì chóng wǔ shú zhī jīn yī sè zhèng huáng
 people gather get day double five shu GEN metal one appearance real
 yellow
 ‘People gather and get it, and they daily double five *shu* of metal, it is monochrome and of a true yellow color.’
- b. 若道術不可學得，則變易形貌， (Baopuzi, Neipian Duisu 3, EMC)
Ruò dào shù bù kě xué dé zé biànyì xíngmào
 if dao art NEG can learn get then change appearance
 ‘If the magic art of the Dao cannot be learned and obtained, then one changes the appearance ...’

In LAC, lexical *dé* ‘obtain’ could occur in coordination with near synonymous verbs as in (18a) (Cao 1999). Contrastingly, in EMC, *dé* occasionally only seems to contribute aspectual information to the event, when it appears as the second in a sequence of verbs (Cao 1999). Cao argues that the object in (18b) cannot be analysed as the object of *dé*, because it is impossible to claim that the sun came into the possession of the subject. In those examples, *dé* is no longer lexical verb with the meaning ‘obtain’ but rather signals successful completion and realization of the action expressed by the first verb; the internal argument follows *dé*. This meaning can be derived from the unaccusative meaning of *dé* attested in LAC.¹¹

10. Chinese is a pro-drop language, but in LAC, object pro-drop seems to be subjected to particular constraints, e.g., negation. According to Wei (2000) the object pronoun *zhī* 之 is lost in MC leading to general object pro-drop.

11. For an analysis of the lexical semantics of *dé* and its employment in unaccusative constructions see Meisterernst (2020b).

- (18) a. 孟孫獵得麋，使秦西巴持之歸
Mèngsūn liè dé ní shǐ (Han Fei Zi 22.22.3, LAC; from Cao 1999: 21)
Mengsun hunt get fawn send
Qín Xibā chí zhī guī
Qin Xiba hold OBJ return
‘Mengsun hunted and caught a fawn and he sent Qin Xiba to get it and return with it.’
- b. 堯射得之，猶不能傷日 (Lunheng 19.1.4, EMC; from Cao 1999: 21)
Yáo shè dé zhī yóu bù néng shāng rì
Yao shoot get OBJ but NEG can hurt sun
‘Yao shot it, but he could not hurt the sun.’

These structures are the basis for the new resultative constructions with an intransitive V_2 , in which the first and the second verb do not constitute an object sharing construction anymore. For *dé*, Cao (1999) proposes the following grammaticalisation: $V_{t1}+V_{t2}+O \rightarrow V_{t1}+V_{it}+O \rightarrow V_{t1}+DE(\text{functional category})+O$ (Cao 1999: 26; Sun 1996: 117). Cao (1999) does not discuss the position of a negator with respect to DE, which we propose to be an indicative factor of the full grammaticalisation of DE as a postverbal functional category. In MC, the negator *bù* always precedes V_2 *dé* in a resultative construction.¹² Different from Modern Mandarin, where a negator can precede or follow $V+DE$ in certain constructions, the orders $NEG+V+DE/V+DE$ NEG are not attested. This suggests that *dé* still has to be analysed as a verbal head, although as one with a reduced argument structure. According to the syntax of grammaticalisation proposed in Roberts & Roussou (2003), the grammaticalisation of a lexical verb to a functional category is connected to the loss of argument structure. The two examples for the order V BU DE are from EMC and from Early Mandarin (13th c.).

- (19) a. 「荊軻為燕太子刺秦王，操匕首之劍，刺之不得。」
Jīng Kē wèi Yān zǐ cì Qín wáng cāo bǐshǒu (Lunheng 8, 26, EMC)
Jing Ke for Yan prince stab Qin kind grab bishou
zhī jiàn cì zhī bù dé
GEN sword stab OBJ NEG DE
‘Jing Ke was going to kill the king of Qin for the prince of Yan, he grabbed the *bishou* sword and stabbed him but didn’t hit him.’

12. For an interesting proposal on the development of the postverbal position of *bùdé* see Wang (2017). Wei (2004) proposes an analysis of the development of the order V *bùdé* O in Northern varieties of Early Mandarin.

- b. 「綱常千萬年磨滅不得」 (Zhuizi yulei 24,6, EM)
gāngcháng qiān wàn nián mómiè bù dé
 three.relations.five.virtues thousand ten-thousand year wear.away NEG DE
 ‘The three basic relations and the five constant virtues have been being
 obliterated for millions of years without result.’

In this investigation, we will concentrate on the emergence of structures with a *vP* or a *CP* following *V+DE*. Inspired by Wang (2004), Cheng & Sybesma (2004), and Wu Z. (2004), we propose that postverbal *DE* develops from the lexical verb *dé* ‘obtain’, and not from the modal auxiliary verb.¹³ The theoretical framework used follows the proposal in Roberts & Roussou (2003) that grammaticalisation can be analysed as an upward movement from the lexical to the functional layer which results in direct merge as a functional category as the least costly syntactic operation. We argue that the two different functions of *DEI/DE* in preverbal and post-verbal positions in Modern Sinitic languages develop from two syntactically distinguished instantiations of *DE* in LAC and EMC. The preverbal auxiliary, pronounced *děi* in MM, grammaticalises from the modal auxiliary verb *dé* ‘manage to, can’, which only allows a *vP* complement; the postverbal *DE* grammaticalises from the lexical verb *dé* ‘obtain’, which allows *DP* and *vP* complements, and – already in LAC – a very confined group of *CP* complements. *DE* with a *vP* complement is represented by (20a), and *DE* with a *CP* complement is represented by (20b=16a). In (20a), the circumstantial modal *dé* follows the deontic modal *dāng* 當 ‘should’; this is the regular position of *dé* in modal stacking; the complement of *dé* is a *vP*. In (20b), the *CP* complement constitutes the argument of the transitive verb *dé* ‘obtain’.

- (20) a. 我等亦如是，必當得作佛。 (Lotussutra T9, n.262, p.12a, MC)
Wǒ děng yì rú shì bì dāng dé zuò fó
 1P PL also like this certainly FUT DE be Buddha
 ‘... we are also like that and will certainly manage to become Buddhas.’

13. Simpson (2001: 111) proposes that the *pro* object argues for a movement analysis of *VP* in order to de-focus it. His approach is interesting, but we rather follow the resultative/aspectual proposal of Cheng & Sybesma (2004) and Wu Z. (2004). Our approach is based on the diachronic development of the aspectual marker *yǐ* 已 (Aldridge & Meisterernst 2018) and of resultative structures.

- b. 婆羅門作是說。言。此我不得名斷滅。
Póluómén zuò shì shuō yán cǐ (Chang Ahanjing, T,1,n.1,p.93a, MC)
Brāhman make this speech say this
wǒ bù dé míng duànmiè
I NEG DE name eradicate
‘The brāhman made the following speech and said: This means that I do not succeed [in the attempt] that my name is being eradicated.’

According to Wu F. (2004), in the *biànwén* literature (7th-10th c.), postverbal DE can be followed by both a CP complement as in (21a) and a *vP* complement; (20b) demonstrates that lexical *dé* was occasionally attested in the early 5th century with a CP complement. (20b) and (21a) differ, in that in (20b), the argument structure of the lexical verb *dé* is intact; this is not the case in (21a), where DE has to be analysed as a functional category introducing a result. Examples such as (21a) are very infrequent in Middle (Buddhist) Chinese, but are well attested in the 13th c. (Feng 1992) as in (21b); here the V+DE phrase expresses possibility or potential (Cheng & Sybesma 2004). This may indicate the upward movement of DE to a modal projection MOD_{poss} above *result*, but still within *vP*. Deontic readings, requiring the modal to be interpreted outside *vP* do not seem to be attested; rather, they are expressed by modal auxiliaries appearing in the TP layer.

- (21) a. 迷得襄王拋國位 (DHBW 8.7, MC)
Mí dé Xiāng wáng pāo guó wèi
Bewitch DE Xiang king cast.aside state position
‘King Xiang was bewitched so that cast aside his state position.’
b. 陰陽是氣，五行是質。有這質，所以做得物事出來。
Yīn yáng shì qì wǔxíng shì zhì yǒu (Zhuzhi yulei, 1, EM)
Yin Yang COP Qi five.elements COP substance have
zhè zhì suǒyǐ zuò de wùshì chūlái
this substance therefore do DE thing emerge
‘Ying and Yang are Qi, the five elements are substance; because they have this substance, they (can) make things emerge.’

Our preliminary account for the early stages of the grammaticalisation of postverbal DE partly builds on the analysis of Cantonese DAK in Cheng & Sybesma (2004). The analysis we propose is based on two parallel diachronic developments. The emergence of resultative constructions allowing the sequence V<sub>1|
| |</sub> V<sub>2|
| |</sub> O; in this construction the internal argument follows V₂, but is selected by V₁ and not V₂. Wu Z. (2004) proposes that resultative V₂ is generated in a lower AspP connected to situation type. In the present analysis of the internal structure of *vP* we employ Ramchand’s (2008) approach, who proposed a specific *res(ultative)* head in *vP*. The loss of argument structure causes V₂ to lose some of its semantic

content; this triggers a small number of V_2 s to develop into functional categories, for instance, expressing resultativity or realisation. In order to achieve this resultative reading, V_1 and DE have to appear in a monoclausal structure. The early instances of V_1 DE ν P all have a biclausal structure as in (22a, 22b); DE + ν P constitute the complement of V_1 ; *dé* functions as a circumstantial modal verb in the lexical layer with a ν P complement shown in the analysis in (22c). The negator *bù* always precedes *dé* in these structures, as in (22d) and (22e).

- (22) a. 令得漁采山林池澤，不收假稅。 (Hou Hanshu: 4, 467, 5th c., EMC)
 líng dé yú cǎi shān lín chí zé bù shōu jiǎ shuì
 order DE fish harvest mountain wood pond swamp NEG collect false tax
 ‘... and ordered that they can fish and harvest mountains, woods, ponds and swamps without collecting any inappropriate taxes.’
- b. 喜者，喜得逢見師也； (Taiping jing 41, EMC)
 xǐ zhě xǐ dé féng jiàn shī yě
 happy NOM happy DE meet see teacher SFP
 ‘The happy, they are happy that they get to meet the teacher.’
- c. [_{CP} [_{VP} [_{VP} xi] [_{CP} [_{VP} [_{ModP} PRO [_{Mod} DE [_{VP} ‘PRO’ [_v [feng jian shi]]]]]]]]]]]
- d. 災害益多，使王治不得平 (Taiping jing 35, EMC)
 Zāi hài yì duō shǐ wáng zhì bù dé píng
 Disaster misfortune increase many make king govern NEG DE peace
 ‘disasters increase and cause that the king rules without obtaining peace.’
- e. 一升蚺蟲共蝕此人，乃病痛不得臥， (Taiping jing 45, EMC)
 yī shēng jièchóng gòng shí cǐ rén nǎi bìng tòng bù dé
 one sheng lizard together corrode this person then sick pain NEG DE
 wò
 sleep
 ‘if one sheng of lizard medicine affects this person, then he is in so much pain that he cannot sleep.’

The examples for resultative DE in (23) are from Early Mandarin; the argument structure of DE is lost entirely even with respect to its external argument, which is still identifiable in (22); DE has become a functional head expressing resultativity. In (23b) a possibility reading is also available. The complements of V +DE can be CP or ν P. Note the aspectual negator *wèi* preceding V +DE in (23c) and the aspectual adverb *yǐ* 已 and the SFP 了 in contrastive negative and affirmative contexts. In (23d) the negator *bù* follows V_1 +DE; both structures in (23c) and (23d) are clearly monoclausal and provide evidence for the full grammaticalisation of DE. They contrast to the structures in (15) with a modal negator in the CP complement of the lexical verb *dé*.

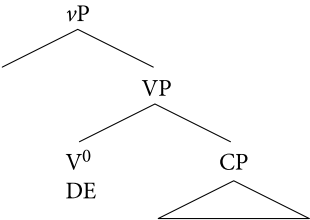
- (23) a. 後來元祐諸公治得此黨太峻， (Zhuzi yulei 130, EM)
hòulái yuányòu zhū gòng zhì dé cǐ dǎng tài jùn
later Yuanyou all noble regulate DE his party most strong
‘Later in the Yuanyou reign, all nobles made sure that this party became the strongest.’
- b. 皆是他見得天地之理如此。 (Zhuzi yulei 216)
jiē shì tā jiàn dé tiān dì zhī lǐ rú cǐ
all COP 3P see DE heaven earth GEN pattern be.like this
‘they are all such that they realize (can see) that the rules of heaven and earth are like this.’
- c. 某謂，看論孟未走得三步，看左傳底已走十百步了！ (Zhuzi yulei 83)
móu wèi kàn Lún Mèng wèi zǒu dé sān bù kàn Zuǒzhuàn dǐ
someone say read Lun Meng not.yet go DE three step read Zuozhuan DI
yǐ zǒu shí bǎi bù le
already go ten hundred step SFP
‘Someone said, reading Lunyu and Mengzi means not to have gone three steps, reading Zuozhuan means already having gone a thousand steps.’
- d. 做得好，也由你；做得不好，也由你。 (Zhuzi yulei 13)
zuò dé hǎo yě yóu nǐ zuò dé bù hǎo yě yóu nǐ
make DE good also from you make DE NEG good also from you
‘Whether you do it well, depends on you, whether you don’t do it well also depends on you.’

This brief discussion provides some evidence for the diachronic development of postverbal DE from the lexical verb *dé* 得 ‘obtain’. *Dé* could occur in an unaccusative construction with a theme subject in LAC; this facilitated its grammaticalisation into an intransitive V_2 in Early Middle Chinese in the emerging resultative construction. As a tentative analysis of the grammaticalisation of postverbal DE, we propose the following scenario.

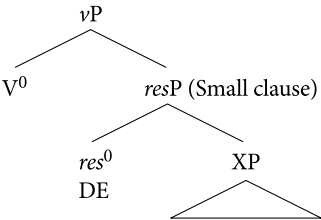
- a. Lexical (dynamic) DE → resultative V_2 , heading a small clause in *resP* (Ramchand 2008), expressing result and realisation following Cheng & Sybesma’s (2004) analysis presented in example (5). The V^0 s preceding DE are [*init*, *proc*] verbs, which do not include a *res* head. This approach accounts for both the word order of V DE and the proposed grammaticalisation from a lexical verb to a functional category. It does not involve movement of V_1 ; accordingly, it is the least costly operation.¹⁴ NEG is immediately attached to DE in this approach; in LAC and MC, NEG is required to attach directly to defective verbal heads (Meisterernst 2020a). This accounts for the regular word order V+O+NEG+DE in Middle Chinese, when DE is negated and for the subsequent grammaticalization of *bùdé* (Wang 2017). The analysis of the lexical verb and the resultative DE heading a small clause is in (24a, 24b)

b. In order to acquire a potential or possibility reading, the V_1 -DE complex has to move up to the νP internal ModP as in (24c). Possibility readings are dynamic and have been proposed to be generated in the lexical layer (e.g., Tsai 2015; Meisterernst 2020b). This movement can be overt or following spell-out. The details of this proposal still have to be figured out. Meisterernst (2019) shows that lexical aspect is in the scope of dynamic modality. Accordingly, the upward movement of DE(+V) to ModP constitutes a further step in the grammaticalisation of the lexical verb *dé* into a resultative and modal head: $V_{tr} \rightarrow V_{itr} \rightarrow res^0$ (result/realisation) $\rightarrow Mod^0$ (V+DE). In the last stage, Mod⁰ DE is no longer an even defective verbal head, accordingly, NEG can attach to the following XP (or replace DE).

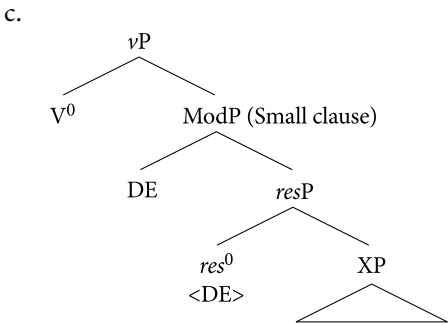
(24) a.



b.



14. This structure probably emerged after the loss of verbal morphology marking resultativity in resP (Meisterernst 2019).



5. Conclusion

The preceding discussion shows that the different readings proposed for Modern Mandarin DE in Xie (2012) can be straightforwardly derived from the auxiliary verb DE in LAC and EMC. This also accounts for the distinction between a potential and a permission reading proposed for Cantonese DAK in Cheng & Sybesma (2004).

Syntactically LAC and MC show a split into two different instantiations of DE:

- a. an auxiliary verb with a non-finite νP (tenseless, restructuring νP) complement.
- b. a lexical verb with a CP complement.

The auxiliary verb *dé* has two different modal readings which are distinguished in the syntax of DE:

- a. the possibility modal *dé*, as a circumstantial modal located in the lexical layer
- b. a deontic modal *dé*, dependent on polarity context and interpreted in the inflectional layer

The particular syntactic constraints of the achievement verb *dé*, which contrast it with other modal verbs of possibility in LAC, triggers the split between auxiliary *dé* and postverbal DE and its grammaticalisation into a marker of the resultative and of manner.

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