A semantic analysis of modal DE 得 in pre-modern Chinese¹

Barbara Meisterernst

bmeisterernst@gmail.com

National Tsing Hua University, Taiwan

Abstract: In this paper, the lexical semantics of the pre-modal verb 得 *dé* and its development into a modal auxiliary will be discussed. Two different positions are available for the modal *dé*, the default preverbal position of modal auxiliary verbs and a post-verbal position. The analysis of the event and the argument structure of the lexical verb *dé* reveals that the different modal uses of *dé* originate from its functions as an achievement verb. In this regard, *dé* clearly differs from the other verbs of possibility in Late Archaic Chinese. The particular syntacto-semantic constraints of *dé* can account for its development into both a modal auxiliary verb, and for the particular functions it develops in the Modern Sinitic languages as a postverbal modal marker.

Keywords: Lexical semantics, Lexical verb, Modality, Possibility modality, Grammaticalization

1 Introduction

In Late Archaic (5th – 2nd c. BCE, LAC) and Early Middle Chinese (2nd c. BCE – 6th c. CE, EMC)², the most important modal auxiliaries expressing POSSIBILITY and ABILITY are 能 *néng* ‘able to’, 可 *kě* ‘possible’, and 得 *dé* ‘manage to, able to’. The three verbs differ syntactically and etymologically: *kě* ‘be possible’, and *néng* ‘be able’ are derived from state verbs; *dé* ‘get, obtain, manage to, able to, (must)’ on the other hand is derived from an achievement verb. All three modals appear as lexical verbs and as modal auxiliary verbs in Late Archaic Chinese.³ The examples (1a-c) represent the lexical employment, and the examples in (1d-f) represent the employment as modal auxiliary verbs.

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² The 2nd c. BC is traditionally considered the last century of the LAC period, but it can also be considered part of the transition period in which the features of Early Middle Chinese start to develop. According to Peyraube (1996), the period from the 1st c. BCE – 1st c. CE is labeled Pre-Medieval, and the period from the 2nd – 6th c. CE is labeled Early Medieval Period.

³ The verb 獲 *huò* ‘catch, capture, manage to do, be able’ is very similar in meaning and functions to a verb of possibility in Archaic Chinese (Liu 刘利 2000: 175f). Liu 刘利 points to a similar path of grammaticalization of the two verbs *huò* and *dé*. However, *huò* is much less frequent in its function as an auxiliary verb than *dé* is. Liu 刘利 provides a comprehensive treatment of the grammaticalization of *dé* from a lexical verb to a modal verb expressing ‘objective conditioned permission’ 客觀條件許可 *kèguān tiáojiàn xǔkě* or ‘circumstantial permission’ 事理許可 *shìlǐ xǔkě*.

- (1) a. 有無父之國則可也。』 (zuǒzhuàn, huán 16.5.3) (LAC)
 Yǒu_wú_fù_zhī_guó_zé_kě_yě
 Have_not.have_father_GEN_state_then_possible_SFP
If there is a country without fathers, then it is possible.
- b. 能信不為人下，吾未能也。 (zuǒzhuàn, zhāo 1.1.13) (LAC)
 Néng_xìn_bù_wéi_rén_xià_wú_wèi_néng_yě
 Able_believe_NEG_be_man_below_I_NEG_able_SFP
Those who are able to believe are not below others; I am not able to.
- c. 申侯由是得罪。 (zuǒzhuàn, xī 5.5.2) (LAC)
 Shēn_hóu_yú_shì_dé_zuì
 Shen_hou_from_this_get_guilt
Shen hou had become guilty from then on.
- d. 「吾不可用也已。」 (zuǒzhuàn, dìng 4) (LAC)
 Wú_bù_kě_yòng_yě_yǐ
 I_NEG_KE_employ_SFP_SFP
I cannot be employed [anymore].
- e. 夫賢主者，必且能全道而行督責之術者也。 (shǐjì: 87, 2554) (EMC)
 Fú_xián_zhǔ_zhě_bì_qiě_néng_quán_dào_ér_xíng_dūzé_zhī_shù_z
 hě
 SIP_virtuous_ruler_NOM_certainly_FUT_NENG_complete_way_CON_
 perform_investigate.and.punish.crime_SUB_method_NOM_SFP
A virtuous ruler will certainly be one who is able to guard the right way and thus to perform the method of controlling and punishing criminals.
- f. 晉、楚無信，我焉得有信？』 (zuǒzhuàn, xuān 11) (LAC)
 Jìn_Chǔ_wú_xìn_wǒ_yān_dé_yǒu_xìn
 Jin_Chū_not.have_faith_I_how_DE_have_faith
Jin and Chu do not have faith, how can we manage/ be able to have faith.

The most conspicuous difference between modal DE and the other possibility modals is the postverbal position one of the successors of DE obtains in Modern Mandarin and other Sinitic languages. Two different positions are reported for DE, the preverbal position, identical to the preverbal position in LAC and EMC, and the postverbal position.

Xie (2012) in his study on postverbal DE in Modern Mandarin proposes three different readings of DE, an ability, an opportunity, and a disposition reading. All three readings “have to do with the potential to cause or undergo ‘change of state’ that is attributable to properties of the subject and/or of the utterance contexts (Hackl 1998; Bhatt 1999).” For an ability reading, represented by (2a), the subject needs to be agentive (Xie 2012: 391). Agency can be tested by the do-test (Cruse 1973), ‘John breaks the vase’ entails ‘John did something’, whereas ‘the vase broke’ does not. Cruse argues that agents can also be inanimate. With a non-agentive unaccusative subject, no ability reading is available (Xie 2012: 391) as in (2b). The same accounts for instrumental subjects and for state verbs preceding DE. These readings are termed dispositional readings in Xie. (2c) is an example for the opportunity reading of DE in a particular temporal setting and (2d) is a typical example for the disposition reading.

- (2) a. Zhāngsān_yīgèrén_bān_de_qīlai_nà_xiāng_shū (Xie 2012: 388)
 Zhangsan_alone_lift_DE_up_that_box_(CL)_book
Zhangsan can lift up that box of books all by himself.
- b. dàrén_cóng_xiépō_shàng_huá_de_xiàlái (Xie 2012: 391)
 adult_from_slope_on_slip_DE_down
An adult can slide down from the top of the slope.

- 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 PR
 OG
When(ever) you see me on the internet, I am free. (Xie 2012: 392)
- d. zhè zhǒng jīqī yīge xiǎoshí suì de wán shí dūn yù mǐ
 this kind machine one hour crush DE finish ten ton
This machine can crush ten tons of corn in an hour. (Xie 2012: 392)

Besides postverbal DE, a deontic modal marker DEI, appearing in the regular position of modal auxiliaries exists in Modern Mandarin.

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

This syntacto-semantic feature distinguishes modal DE from the other possibility modals and leads to the hypothesis that at least in some of its functions in LAC and EMC, DE rather has to be analyzed as a pre-modal lexical verb than as a fully grammaticalized modal auxiliary. We will argue that this special feature accounts for the particular diachronic development of DE into a postverbal element introducing manner or result. The syntacto-semantic features of *dé* as an achievement verb account for the particular constraints of *dé* as an implicative modal verb, basically expressing opportunity. In the following sections, the lexical semantics of the pre-modal lexical verb *dé* and its development into two different modal markers will be discussed. In section 2, the argument structure of the lexical verb *dé* is at issue, mainly based on the framework proposed in Levin (1993), Levin and Rappaport Hovav (1995), and Rappaport Hovav and Levin (1998), despite the problems pointed out in Dölling and Heyde-Zybatow (2007) with this approach. Section 3 is devoted to the different modal readings of DE in LAC and EMC, and section 4 provides a brief introduction to the development of postverbal DE and proposes a possible analysis for this development.

2 The lexical verb 得 *dé*

2.1 The argument structure of *dé* in Early Archaic and Late Archaic Chinese

The lexical verb *dé* can appear as an intransitive, i.e. unaccusative verb, a transitive verb, and in a ditransitive structure introducing an additional argument. Morphologically, the verb *dé*, EMC *tɕk*, belongs to the class of verbs of ‘receiving’ (得到 *dédào*). These are according to Jin 金理新 (2006: 364f) characterized by the fact that they do not occur in the *qùshēng* category (idem). The *qùshēng* is connected to an increase of valency, or to resultative readings. The verbs of receiving to which *dé* belongs are endodirectional (Mei 梅祖麟 2000, Xing and Schuessler 2020) telic achievement verbs. In the Early Archaic Chinese (10th – 6th c. BCE, EAC) text *Shijing*, *dé* is only attested as a lexical verb with the basic meanings 1) (itr.) ‘available, obtainable’ (TLS proposes an intransitive meaning ‘successful’)⁴; 2) (tr.) get, obtain, find, catch’. In (4a) *dé* is transitive, containing a direct object; in (4b) no object appears overtly, the verb is intransitive/unaccusative. For LAC, it has been proposed that a pronominal object can remain empty if the VP is negated (see e.g. Pulleyblank 1995), as in the first clause of example (4b) (>> ‘he does not gain PRO). According to this, it cannot be excluded that *dé* in this example

⁴ TLS: http://tls.uni-hd.de/main/basic_ch_text.lasso, accessed 01.10.2018.

is transitive with a covert object pronoun.⁵ In the second clause, no negation is involved. This argues for an intransitive analysis of *dé* in this clause, and – by way of parallelism of the two instances – for an unaccusative analysis in both instances in (4b), and subsequently also in (4c). In the examples (4d-f) the VPs with *dé* contain a 于 *yú* -PP. In (4d), *dé* appears in a syntactic ditransitive construction, the indirect object is introduced by the preposition 于 *yú*; the direct object of *dé* is *zuì* ‘crime, guilt’. 得罪 *dé zuì* is frequently attested in a transitive or a ditransitive construction, with an additional indirect object.⁶ The indirect object is not a goal, but rather an affectee in a benefactive (malefactive) construction. In (4e), the direct object is the *wh*-word 胡 *hú* ‘what’, the PP 焉 *yán*, representing *yú*+3Obj according to early commentaries, refers to a local complement ‘in it’. In (4f), *dé* again appears in its negated form; in this example, no direct referent for an internal argument seems to be available, accordingly it is understood as intransitive; the PP is locative. In (4g), *dé* is transitive and passivized in the complement of the possibility modal verb 可 *kě*, which requires a transitive/causative complement in a resultative, i.e. unaccusative construction (see e.g. Meisterernst 2008a, 2019a).

- (4) a. 燕婉之求，得此威施。(shījīng, guófēng) (EAC)
 Yānwǎn zhī qiú dé cǐ qīshī
 Pleasant docile GEN search get this toad
In search of a pleasant and docile one, she found this toad.
- b. 匪媒不得。既曰得止，曷又極止！(shījīng, guófēng) (EAC)
 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!’
- c. 寤寐求之。求之不得，(shījīng, guófēng) (EAC)
 Wù mèi qiú zhī. Qiū zhī bù dé
 Awake sleep search 3Obj. search 3Obj NEG get
Awake and sleeping he searched for her, he searched for her, but she was not found.

⁵ According to Djamouri (1991), transitive verbs are typically negated by the negator 弗 *fú* and not by 不 *bù*. This approach has also been adopted in the present study. The negator *fú* has attracted a lot of attention in the linguistic debate (see e.g. Djamouri 1991, Pulleyblank 1995, Wei 魏培泉 2001, and references to earlier work therein). One of the hypotheses proposed is that *fú* is a fusion of *bù* and the object pronoun 之 *zhī* (supported e.g. in Wei 魏培泉 2001), based on the fact that the object pronoun is zero when the verb is negated by *fú*. Pulleyblank (1995), by contrast, proposes an aspectual reading, due to the coda *-t. Additionally, he points out that a Han period taboo on *fú* might have blurred the picture of its occurrence in the transmitted texts. This taboo may be responsible for the apparent interchangeability of *fú* and *bù* in the transmitted Archaic Chinese literature. Aldridge (p.c.) proposes that LAC is not an object pro-drop language; object pro-drop seems to be mostly confined to negated contexts. This contrasts with the earliest attested periods of Chinese, which seem to allow object pro-drop, and with Modern Chinese, which clearly permits object pro-drop. The 3P object pronoun *zhī* 之 of LAC is attested only as a demonstrative pronoun in the oracle bone inscriptions; *zhī* as an object pronoun first appears in the bronze inscriptions of the beginning of the Spring and Autumn Period (770 BCE) according to Djamouri (1999). In the *Shijing*, in Early Archaic Chinese, the object pronoun *zhī* is well attested and seems to be obligatory with typical transitive verbs.

⁶ In the Thesaurus Linguae Sericae (<http://tls.uni-hd.de/>, accessed July 23, 2018) three different shades of meaning are listed for this frequent phrase: 1) transitive: ‘commit an offense against a contextually determined N; 2) ditransitive: ‘fall foul of, commit a crime against N’; in 3) the PP is left out, the indirect object is contextually determined. LAC has two different kinds of ditransitive structures with semantically ditransitive verbs: 1) V IO DO, b) V DO *yú* 於/于 IO. Morphologically *dé* belongs to the verbs of receiving, many of which are ditransitive verbs.

- d. 云不可使，得罪于天子； (*shījīng, xiǎoyǎ*) (EAC)
 Yún__bù__kě__shǐ__dé__zuì__yú__tiānzǐ
 Say__NEG__possible__sent__obtain__guilt__PREP__heaven__son
If one refuses to be employed, one becomes guilty (obtains guilt) against the son of heaven.
- e. 人之為言，胡得焉！ (*shījīng, guófēng*) (EAC)
 Rén__zhī__wèi__yán__hú__dé__yán
 Man__GEN__false__word__what__find__in.3Obj
The people's false words, what can you find in them!
- f. 如匪行邁謀，是用不得于道。 (*shījīng, xiǎoyǎ*) (EAC)
 Rú__fěi__xíng__mài__móu__shì__yòng__bù__dé__yú__dào
 Be.like__NEG__go__proceed__consult__therefore__NEG__get__PREP__road
This is like consulting without moving forward; therefore nothing will be gained on the road.
- g. 為鬼為蜮，則不可得。 (*shījīng, xiǎoyǎ*) (EAC)
 Wéi__guǐ__wéi__yù__zé__bù__kě__dé
 Be__ghost__be__turtle__then__NEG__KE__obtained
If you were a ghost or a turtle, you could not be caught.

In all instances in the *Shījīng* the subject is [+HUMAN], independently of the argument structure of *dé*, i.e. independently of whether the subject is a theme or a goal argument. The agentivity features of the subject of *dé* are in all cases very low, if existent at all, although agentivity has been proposed as distinguishing feature for postverbal ability DE according to Xie (2012). The internal argument in a transitive construction can range from [+HUMAN] to [+ABSTRACT]. For an intransitive employment of *dé* as in (4b), the TLS proposes the meaning ‘be successful’. This seems to be a translation derived from the unaccusative alternation ‘NP be gained, won, obtained’ >> the fact that NP has been obtained implies that subject has succeeded in obtaining the endpoint of the event.

The following argument structure of *dé* is attested in the *Shijing*:

- a) VP1: NP1[+HUMAN]_{goal} V NP2_{theme}[+HUMAN]/[+ABSTRACT] → transitive
 b) VP2: NP1[+HUMAN]_{theme} V → intransitive
 c) VP3: NP1[+HUMAN]_{goal} V (NP2_{theme}) *yú* 于-PP → (di)transitive, benefactive (malefactive)
 d) VP3: NP1[+HUMAN]_{theme} V *yú* 于-PP → intransitive with locative PP (source)

The set of subjects of the intransitive use [+HUMAN] is a subset of the objects of the transitive use [+HUMAN]/[+ABSTRACT]. According to Levin and Rappaport Hovav (1995: 86), “the asymmetry in the selectional restrictions is significant since it provides a guide to which variant is basic.” This seems to imply that the basic use of *dé* is the transitive use and not the intransitive/unaccusative use. The thematic role of the [+HUMAN] subject in (4a), (4c) and (4d) is the goal of the situation expressed by the predicate; no agent seems to be involved. Since the goal subjects of *dé* in the *Shijing* are [+HUMAN], i.e. sentient according to Dowty (1991: 581), and sentiency is a typical Proto-Agent entailment, this may be the distinctive feature that qualifies them as subjects of the verb of getting and receiving *dé* and allows a grammaticalization to functions requiring an agentive subject. According to the hierarchy of thematic roles in Bresnan (2001: 307, cf. Xiong 2017) *goal* or *experiencer* is the lowest of rank of the roles *agent*, *beneficiary* and *goal*; they all precede the roles of instrument and patient/theme though.⁷

⁷ See also Marelj (2004: 198, cf. Xiong 2017: 48) according to whom goals are [+CAUSE].

All the basic functions of the lexical verb *dé* are also attested in the Late Archaic Chinese texts *Zuǒzhuàn* and *Guóyǔ*; the auxiliary verb *dé* is still not very frequent in these texts. The transitive and ditransitive constructions become more frequent, whereas the intransitive construction is extremely infrequent. Examples for the intransitive construction appear in (5a) and (5b). The structure of the two examples is identical. Intransitive *dé* almost exclusively appears in this structure in the two texts checked. The subject is [-HUMAN/+ABSTRACT] in both examples.

- (5) a. 信、禮之亡，欲免，得乎？」 (*zuǒzhuàn, chéng* 15) (LAC)
 Xìn_lǐ_zhī_wáng_yù_miǎn_dé_hū
 Trustworthiness_propriety_GEN_demise_wish_avoid_gained_SFP/Q
When trustworthiness and propriety perish and one wishes to avoid it, will it be gained
 (= *will one be successful?*)
- b. 若殺不辜，將失其民，欲安，得乎？ (*zuǒzhuàn, chéng* 15) (LAC)
 Ruò_shā_bù_gū_jiāng_shī_qí_mín_yù_ān_dé_hū
 If_kill_NEG_guilty_FUT_loose_POSS_people_wish_pacify_gained_SFP/Q
If he kills the innocent he will lose his people, and if he wants to find peace [then], will it be gained (=will he succeed)?

The examples in (6) all show the transitive employment of *dé*: in (6a), *zuì* ‘guilt’, an abstract noun, appears as the internal argument of *dé*; in (6b), the internal argument is also an abstract noun; in (6c), the internal argument is a proper name and [+HUMAN], and in (6d), it is [+HUMAN]. In (6a-c), the goal subject is [+HUMAN], in (6d), it is abstract, referring to the name of the state. However, state names can be used metonymically in order to refer to the ruler of the state. Thus, it can also be considered [+HUMAN].

- (6) a. 申侯由是得罪。 (*zuǒzhuàn, xī* 5.5.2) (LAC)
 Shēn_hóu_yú_shì_dé_zuì
 Shen_hou_from_this_get_guilt
Shen hou had become guilty from then on.
- b. 歸之而質其大子，必得大成。 (*zuǒzhuàn, xī* 15.4.25) (LAC)
 Guī_zhī_ér_zhì_qí_dàizǐ_bì_dé_dà_chéng
 Return_3OBJ_CON_hostage_his_heir_certainly_get_great_achievement
Send him back, but keep the heir as a hostage, then you will certainly gain a great success.
- c. 「得華登矣！」 (*zuǒzhuàn, zhāo* 21.6.5) (LAC)
 Dé_Huá_Dēng_yǐ
 Get_Hua_Deng_SFP
I got Hua Deng!
- d. 晉得其民， (*guóyǔ, zhōuyǔ zhōng*) (LAC)
 Jìn_dé_qí_mín
 Jin_get_POSS_people
 ... *if Jin wins his people, ...*

In the examples in (7) the *dé*-VP contains a *yú*-PP; in (7a-c), the VP is ditransitive, the PP refers to a source. The goal subject is [+HUMAN]. In (7d), *dé* is intransitive with a theme subject; the PP refers to a goal or an affectee; the subject is [-HUMAN/+ABSTRACT].

- (7)a. 「若得道於虞，猶外府也。」 (zuǒzhuàn, xī 2) (LAC)
 Ruò_dé_dào_yú_Yú_yóu_wài_fǔ_yě
 If_get_way_PREP_Yu_still_outside_treasury_SFP
If you get the way of passage from Yu, it will still be [like in] a foreign treasury.
- b. 「夷吾無禮，余得請於帝矣，」 (zuǒzhuàn, xī 10) (LAC)
 Yíwú_wú_lǐ_yú_dé_qǐng_yú_dì_yǐ
 Yiwu_not.have_propriety_I_get_question_PREP_god_SFP
Yiwu does not have any propriety, I got [permission for] a request from the god.
- c. 「吾不得志於漢東也，我則使然。」 (zuǒzhuàn, huán 6) (LAC)
 Wú_bù_dé_zhì_yú_Hàndōng_yě_wǒ_zé_shǐ_rán
 1P_NEG_get_intention_PREP_Handong_SFP_I_then_make_SUF
If I do not get my will at/from Handong, this will be my own doing.
- d. 故是非不得於身。 (zhuāngzǐ 5.5.5) (LAC)
 gù_shì_fēi_bù_dé_yú_shēn
 therefore_right_wrong_NEG_succeed_PREP_body
Therefore right and wrong are not found on him.

The examples in (8) show different kinds of negators modifying *dé*: in the first clause of (8a), it is the neutral negative marker *bù*, the internal argument, again the abstract noun *zhì* 志 (see also ex. (8c)), is present; in the second clause, the internal argument is not present overtly; *dé* is intransitive. In (8b), the negative marker *fú*, identified as default marker of transitive verbs in Djamouri (1991), precedes *dé*, the pronominal internal argument does not appear overtly, but according to the negative marker, *dé* is analyzed as transitive. In (8c), the aspectual negative marker *wèi* 未 negates *dé*; this negative marker is located in the Outer Aspect Phrase, typically negating telic verbs. In all examples, the subject is [+HUMAN], in (8a) and (8b) it is a goal subject, and in (8c), it is a theme subject. A [+HUMAN] subject seems to be the default case when *dé* appears as a lexical verb. The structures do not differ from non-negated structures. The analysis as a telic achievement verb is supported by its co-occurrence with the aspectual negative marker *wèi* in (8c).

- (8)a. 成而不得志，公子變求令尹而不得，故二子作亂。 (zuǒzhuàn, wén 14) (LAC)
 Chéng_ér_bù_dé_zhì_gōngzǐ_Xiè_qiú_língyǐn_ér_bù_dé_
 gù_èr_zǐ_zuò_luàn
 Accomplish_CON_NEG_get_intention_prince_Xie_search_Lingyin_CON_
 _NEG_get_therefore_two_prince_make_chaos
This being achieved, he did not get his will. Prince Xie requested the position of Lingyin, but it was not received (he did not receive it), therefore the two princes made chaos.
- b. 弗得，鞭之，見血。 (zuǒzhuàn, zhuāng 8) (LAC)
 Fú_dé_biān_zhī_xiàn_xuè
 NEG_{tr}_get_whip_3Obj_appear_blood
When he didn't get it, he whipped him until blood appeared.
- c. 趙旃求卿未得，且怒於失楚之致師者， (zuǒzhuàn, xuān 12) (LAC)
 Zhào_Zhān_qiú_qīng_wèi_dé_
 Zhao_Zhan_search_minister_NEG_{Asp}_get
 qiě_nù_yú_shī_Chǔ_zhī_zhì_shī_zhě
 furthermore_angry_PREP_loose_Chu_GEN_bring.about_army_REL

Zhao Zhan requested the position of minister, but it was not obtained yet (= he had not succeeded yet). Furthermore, he was angry about having lost those who challenged the army of Chu.

Similar to the situation in the Early Archaic text *Shijing*, *dé* appears as an intransitive verb with a theme subject (VP1) and a transitive (and ditransitive) verb with a goal subject (VP2). The subject is predominantly [+HUMAN]. The intransitive construction in VP1 shows a wider range of subjects in LAC, allowing an occasional [+ABSTRACT] subject, than in Early Archaic Chinese.

- (9) a. VP1: NP1_{theme} [+HUMAN] V → intransitive, one example with [-HUMAN] subject.
- b. V1a: NP1_{theme} [+HUMAN]/[+ABSTRACT] V *yú* 于-PP → intransitive with locative PP/affectee (benefactive)
- c. VP2: NP1_{goal} [+HUMAN] V NP2_{theme} [+HUMAN]/[+ABSTRACT] → transitive
- d. VP2a: NP1_{goal} [+HUMAN] V NP2_{theme} *yú* 于-PP → source
- e. VP2b: NP1_{goal} [+HUMAN] V NP2_{theme} *yú* 于-PP → benefactive, this seems to be confined to *dé zuì*

As an achievement verb, *dé* focusses on a result. Rappaport Hovav and Levin (1998: 104) propose the event structure template in (10a) for ‘result verbs’. Two sub-events are involved in this representation, an activity in (10b), and a result state associated with achievements as in (10c).

- (10) a. [[x ACT] CAUSE [BECOME [y < STATE>]]]
- b. [x ACT]
- c. [BECOME [y < STATE>]]

The analysis of the argument structure of *dé* has shown that the [+HUMAN] subject/external argument in LAC is evidently rather a goal than an agentive subject. The goal subject may be involved in causing the GET event to happen, but it functions neither as direct agent nor as direct cause. Accordingly, the ACT feature is not expressed in the event structure of the lexical verb *dé* even in the transitive structure. Two different possibilities arise with regard to the analysis of the transitive variant of *dé*: 1) a light verb INVOLVE instead of ACT could be proposed in the lexical semantics of *dé*, in order to link the external argument to VP. This is inspired by a proposal in Feng (2014) with regard to the light verbs in *vP* in Archaic Chinese and represented by (12d-f); 2) The external argument is severed from the verb as proposed in Kratzer (1996); according to this analysis, the examples (12d-f) can be removed from the representation of the lexical semantics of *dé*. We propose the following basic event structure of *dé*:

- (11) [BECOME [y < STATE = GET/OBTAIN(ED)>]]

Including the possible adjuncts, the lexical verb *dé* can combine with in the event structure template, the following variants are attested in LAC:

- (12) a. V1: [BECOME [*y_{human/abstract}* < GET>]]; clear restrictions on the theme subject, in comparison to the theme in object position
- b. V1a: [BECOME [*y_{human/abstract}* < GET> at [*P_{loc} z*]]]
- c. V1b: [BECOME [*y_{human/abstract}* < GET/OBTAIN> for [*P_{bene/goal} z*]]] (?)
- d. V2: [*x_{human}* INVOLVE] [BECOME [*y_{human/abstract}* < GET>]]
- e. V2a: [*x_{human}* INVOLVE] [BECOME [*y_{human/abstract}* < GET/OBTAIN> from [*P_{source} z*]]]

- f. V2b: [*x*_{human} INVOLVE] [BECOME [*y*_{human/abstract} <GET> for [*P*_{bene/goal} z]]]

2.2 Discussion of the argument structure of the lexical verb *dé*

Due to its semantics and its argument structure, *dé* seems to belong to the verbs involving argument alternations within vP. According to the classification provided in Levin (1993) for English verb classes and their alternations, two different classifications seem to be possible for *dé*: 1) GET verbs, and 2) OBTAIN verbs. The latter include the English verbs ‘accept, acquire, obtain, receive, regain, seize, select, ...’ Most GET verbs allow a *from* phrase, and a *for* benefactive phrase, and they show a benefactive alternation (Levin 1993: 141f); they do not allow dative and locative alternations.⁸ Most OBTAIN verbs allow a *from* phrase, and a benefactive *for* phrase, but they do not show the Benefactive Alternation. They also do not allow dative and locative alternations. Example (13) shows the grammaticality of a benefactive alternation in English with the get verb ‘buy’, and the ungrammaticality of the benefactive alternation with the verb ‘obtain’ (from Levin 1993: 142).

- (13) a. Carmen bought a dress for Mary.
 b. Carmen bought Mary a dress.
 c. Carmen obtained a spare part for Mary.
 d. *Carmen obtained Mary a spare part.

The verb *dé* allows PPs with the preposition *yú* 于/於, the most general preposition expressing relation in Archaic Chinese. One of its basic functions is to introduce a locative phrase, but it also introduces an indirect object, the agent of a passive construction, and the *Y* element in a comparative structure. In the complement of *dé*, two basic functions are attested: a) in the transitive and telic construction, *yú* introduces a source; and b) in the intransitive/unaccusative, resultant state construction, *yú* introduces a locative complement. The benefactive (or rather malefactive) construction is almost exclusively confined to the combination *dé zuì* ‘acquire guilt against’ (in ex. (4d)). In this construction, the PP is possibly also locative ‘in front of’, or simply relational ‘in relation to’. In contrast to the English GET and OBTAIN verbs, no alternations within VP seem to be attested; a few late examples from Early Middle Chinese show an alternation between a double object construction and a prepositional construction ‘V NP2 *from* NP3’ and ‘V NP2 NP3’, i.e. the *source* is syntactically realized as a second internal argument as in example (14b) from the *Shiji*.⁹ No change of position of the source argument is involved. Thus, this construction differs from typical ditransitive verbs in LAC, which allow the dative alternation: NP1 V DO *to* IO ↔ NP1 V IO DO. This construction only seems to be attested with the internal argument *xìng* 幸. This shows that *dé* is clearly distinct syntactically from the corresponding English verbs and also from typical ditransitive verbs of the *give* or *take* type in LAC.

- (14) a. 聞臣之得幸於王也, (*zhànguó cè* 25.25.3) (LAC-EMC)
 Wén__chén__zhī__dé__xìng__yú__wáng__yě
 Hear__subject__GEN__get__favor__PREP__king__SFP
 if one hears that [someone like] me is gaining favor from the king, ...
 b. 得幸武帝, 生子一人, (*shiji* 49: 1985) (EMC)
 Dé__xìng__Wǔdì__shēng__zǐ__yī__rén

⁸ GET and RECEIVE verbs are briefly discussed in Dowty (1991: 581) as historically particularly interesting. The examples in the Oxford English Dictionary for both verbs imply that ‘active’ senses were as common as ‘passive’ (non-volitional) senses.

⁹ In the Early Middle Chinese period, the Chinese language underwent a number of structural changes which also involved the employment of PPs with *yú* in intransitive and other constructions.

Get__favor__Wu__emperor__give.birth__son__one__man
she gained favor from/with emperor Wu and bore one son.

On the other hand, *dé* apparently shows some features characteristic for middle constructions in transitivity alternations. According to Levin (Levin 1993: 26), middle constructions are characterized by “a lack of time reference and by an understood but unexpressed agent. More often than not, the middle construction includes an adverbial or a modal element.” (e.g. Alexiadou 2014). This distinguishes them from the causative/inchoative alternation.¹⁰ An example would be:

- (15) a. The butcher cuts the meat.
 b. The meat cuts easily.

The same kind of modification is also attested with *dé* in a similar meaning, modified by the adverb *yì* 易 ‘easily’. The Academia Sinica *shànggǔ* corpus (<http://hanji.sinica.edu.tw/> accessed September 25, 2018) shows 21 hits of *yì dé* 易得 ‘easily get’ in LAC and EMC texts, of those, only one instance is transitive. All other instances are intransitive (unaccusative) with a theme subject. Additionally, they are all generic; i.e. they display at least some of the features typical for middle constructions. The basis for the generic reading in the examples represented in (16) is the intransitive/unaccusative variant of *dé* and the combination with *yì* ‘easily’. Two analyses are possible for an intransitive *vP* with a theme subject in LAC, a passive analysis and an unaccusative analysis.¹¹ Although *dé* in LAC predominantly functions as a transitive verb, the intransitive constructions with a theme subject are evidently unaccusative and not passive. This analysis is supported by the fact that in none of the examples discussed above with a *yú*-PP, the PP introduces an agent, although the introduction of the agent is one of the regular functions of the *yú*-PP. According to Alexiadou and Schäfer (2013), the introduction of an agent by a PP (*by*-phrase in English) is licensed in passive constructions, but not in unaccusative constructions. Thus the examples with the PP *yú* clearly show that NP_{theme}+*dé* has to be analyzed as unaccusative and not as passive.¹² Despite the semantic similarities with the examples in (15), the middle analysis does not seem to account for *dé* in the examples (16), though. This is due to the transitivity constraint on verbs that can enter the middle construction discussed in Xiong (2017) referring to Marelj (2004) and Fagan (2009: 97). Marelj (Marelj 2004: 10f, cf. Xiong 2017: 110f) proposes that only verbs with Cause, Agent or Instrument roles can enter the middle construction. *Receive* is not acceptable in the middle construction, because it does not contain the CAUSE feature (see Xiong 2017: 112). Xiong (2017: 211f) analyses constructions with a resultative verb and with *rongyi/nan* ‘easy/difficult’ in Modern Chinese as instantiations of the *tough* construction and not as middles. Although *dé* is not a complex resultative verbal predicate like the predicates discussed in Xiong, the same analysis can account for both *dé* and for *yòng* 用 ‘use, employ’ in the examples in (16), modified by *yì*

¹⁰ An argument against the structure with *dé* as a middle construction is the fact that *dé* is an achievement verb, which makes an analysis as lexical middle unlikely (following Fagan (2009, cf. Xiong 2017: 29) on German, English and French middles). On the other hand, Lekakou (2009: 99, cf. Xiong 2017: 51) claims that, “an otherwise eventive verb becomes a derived state, and, more precisely, receives a generic interpretation.” Middle verbs and unaccusatives have in common that they do not assign case (see Xiong’s (2017: 34 discussion of Hale and Keyser’s (2002) analysis of middles).

¹¹ Although a number of verbs in Archaic Chinese could be marked morphologically for resultativity/telicity (see e.g. Jin 金理新 2006, Schuessler 2007, Meisterernst 2016, Aldridge and Meisterernst 2019), there was apparently never a morphological distinction between the passive and the unaccusative.

¹² A second test Alexiadou and Schäfer (2013) propose is Control: a passive agent can control a PRO of a rationale clause +, unaccusative -.

‘easy’ and *nán* 難 ‘difficult’ respectively.¹³ However, the unaccusative function and the semantic similarity with middle constructions may have contributed to the development of *dé* into a postverbal resultative marker, and into the middle construction with DE.

- (16) a. 「悲夫！士何其易得而難用也！」 (*zhànguó cè* 11.9.1) (LAC-EMC)

Bēi fū shì hé qí yì dé ér nán yòng yě
Sad_SFP_officer_why_MOD_easy_get_CON_difficult_employ_SFP
How sad! Why are officers to be found easily, but to be employed with difficulty?

- b. 惟余一人，有善易得而見也，有不善易得而誅也。」 (*lǚshì chūnqiū* 20.2.3) (LAC)

Wéi yú yī rén yǒu shàn yì dé ér jiàn yě
COP_I one_man_have_good_easy_get_CON_visible_SFP
Yǒu bù shàng yì dé ér zhū yě
Have_NEG_good_easy_get_CON_punish_SFP
For me alone, if they are good, they are found easily and made visible, if they are bad, they are found easily and punished.

2.3 The aspectual and modal structure of *dé*

Dé is a typical achievement verb in Archaic Chinese. Both, the transitive and the intransitive variant clearly refer to a final point of the situation, the BECOME feature. The analysis of the argument structure of *dé* in the event structure template in (11) demonstrates that *dé* functions as an achievement verb even in the transitive variant. No ACT or CAUSE sub-event is involved in the lexical structure of *dé*. The external argument may be involved in the BECOME <STATE> event, but is not linked to an ACT event by an acting or causing relation.

In the temporal structure provided for terminative, i.e. telic situations in Abraham and Leiss (2008: XIV), a predicate with *dé* either refers to t_m , the change of state point from a process (E_1) to a resultant state [E_2], or to the resultant state E_2 . In (17), the INVOLVE event includes the goal subject *Jin* and the process E_1 leading to the resultant state, starting with t_m which indicates that the theme ‘his people’ are won. In (18), only the t_m and the resultant state part E_2 are present in the structure.

- (17) a. 晉得其民， (*guóyǔ, zhōuyǔ zhōng*) (LAC)

Jìn dé qí mín
Jin_get_POSS_people
... *Jin wins his people* ...

- b. | >>>>>>>> ||
 t_1 E_1 t_m E_2 t_n
[x INVOLVE] [BECOME [y <STATE>]]
[*Jin* INVOLVE] [BECOME [*people* <WIN>]]

- (18) a. 信，禮之亡，欲免，得乎？」 (*zuǒzhuàn, chéng* 15) (LAC)

Xìn lǐ zhī wáng yù miǎn dé hū
Trustworthiness_propriety_GEN_demise_wish_avoid_succeed_SFP/Q

¹³ See Xiong (2017: 117) citing Bassac and Bouillon (2002)) ‘the verb *use* is treated as an activity verb ... and is therefore excluded from the middle construction. Modern Chinese (*shì*)*yong* ‘use’ is acceptable in the *qilai* middle construction (Xiong 2017: 120), though.

(i) Zhe_xie_chufang_yongju_yong_qilia_hen_fangbian
The_PL_kitchen_utensil_use_QILAI_very_convenient
It is convenient to use these kitchen utensils. (cf. Xiong 2017: 119)

‘When trustworthiness and propriety perish and one wishes to avoid it, will it be gained (= will one be successful?)’

- b. | >>>>>>>> ||
 t_1 E_1 t_m E_2 t_n
 [BECOME [_y <STATE>]]
 [BECOME [*pro*_{theme} <GAINED>]]

Achievement verbs can be modified by the perfective adverbs 既 *jì* ‘already’, 已 *yǐ* ‘already’, and by the aspectual negative marker 未 *wèi* ‘not yet’. These adverbs have been analyzed as attached to the Outer Aspect Phrase in (Meisterernst 2016); as perfective adverbs, they naturally combine with [+TELIC] verbs; with atelic verbs they signal completion. Telicity is hosted in the Inner Aspect Phrase within vP.¹⁴ The perfective adverbs frequently combine with the sentence final particle 矣 *yǐ*, which has been compared to the sentence final particle 了 *le* in Modern Mandarin (e.g. Pulleyblank 1995). *Yǐ* appears in the lowest layer of SFPs in Chinese, possibly as the head of the Outer Aspect Phrase; it marks finiteness. In contrast to another typical telic verb, the verb 治 *chí/zhì* ‘govern/governed >> in good order’, the verb *dé* occurs relatively frequently in combination with one of the aspectual adverbs *jì* and *yǐ*.¹⁵ The reason for this may be that *dé* belongs to the verbs of receiving which are excluded from the morphological changes typically associated with resultativity; thus, the resultative/perfective reading is more liable to be marked by an adverbial. The verb *chí/zhì* ‘govern/governed’ on the other hand shows one of the possible morphological alternations connected to meanings of telicity and resultativity. These are a) an alternative reading in the *qùshēng* resulting from a former *-s suffix (first proposed in Haudricourt 1954, also Downer 1959; Unger 1983; Sagart 1999; Jin 金理新 2006, Schuessler (2007 etc.)), or b) an alternation between voiced and voiceless initials (Karlsgren 1933; Mei 梅祖麟 1988; Baxter and Sagart 2014, etc.). In LAC, verbs which show morphological alternations tend to occur less frequently with the perfective adverbs *jì* and *yǐ* than verbs not showing these alternations (including verbs which only appear in the *qùshēng*) (Meisterernst 2015b, Aldridge and Meisterernst 2018 and references therein). The two different readings have been recorded for *zhì* already in the *Jīngdiǎn shìwén* (6th c. CE) by Lu 陸德明 (550-630), based on earlier phonological commentaries. They have been reconstructed as (**r-de*, **r-de-s*) in Jin 金理新 (2006). Different functions have been attributed to the reconstructed *-s, connected to perfectivity, passive readings, and most recently to resultativity and telicity (Meisterernst 2015b, 2016, 2019a, Aldridge and Meisterernst 2018, and reference therein). The examples in (19) show *dé* modified by *jì* (19a), by *yǐ* (19b), and by *wèi* and *jì* (19c).

- (19) a. 卞人將畔，臣討之，既得之矣。(guóyǔ, lǚyǔ xià) (LAC)
 Biàn_rén_jiāng_pàn_chén_tǎo_zhī_jì_dé_zhī_yǐ
 Bian_people_rebel_subject_punish_OBJ_PERF_get_OBJ_SFP
 Someone in Bian wanted to rebel, and I punished him, and I have already gotten it.
 b. 今已得地而求不止者(zhànguó cè 10.1.9) (LAC-EMC)
 jīn_yǐ_dé_dì_ér_qiú_bù_zhǐ_zhě
 now_PERF_get_land_CONJ_request_NEG_stop_NOM
 Now she has already got the land, but her demands do not stop ...

¹⁴ For a discussion see Meisterernst (2016) and the references therein.

¹⁵ A search of the sequence *jì/yǐ dé* and *jì/yǐ zhì* in the Shanggu corpus of Academia Sinica (<http://hanji.sinica.edu.tw/> accessed September 25, 2018) displays the following hits: *jì dé*: 70, *jì zhì*: 3; *yǐ dé*: 65, *yǐ zhì*: 17. The increase of marking by *yǐ* with *zhì* is expected, because *yǐ* is later than *jì* and appears at a time when the number of aspectual adverbs generally increases; this is supposedly caused by the loss of transparency of the former morphology (see Meisterernst 2017, 2019a).

- c. 其未得之也，患得之；既得之，患失之。(lúnyǔ 17.15) (LAC)

Qí_wèi_dé_zhī_yě_huàn_dé_zhī_jì_dé_zhī_huàn_shī_zhī

His_NEG_{asp}_get_OBJ_SFP_worry_get_OBJ_PERF_get_OBJ_worry_loose_OBJ

As long as he has not got it yet, he worries about getting it; when he already got it, he worries about losing it.

A characteristic feature *dé* has in common with other auxiliary verbs is the employment of the first person pronoun 吾 *wú* in subject position. *Wú* is more frequent than the other common 1P pronoun 我 *wǒ* (12 ⇔ 7 in *Zuǒzhuàn*) in combination with *dé* as both lexical and auxiliary verb. This has already been stated in Gabelentz in 1881 (1960: § 1092f). Whereas *wǒ* can stand for a nominative subject and for any kind of object, Gabelentz analyzes *wú* as mostly, but not exclusively genitive. He states that when *wú* appears as the subject in combination with an adverb or an auxiliary word, the subject has genitive case. All the can-wish verbs of LAC, i.e. all the early auxiliary verbs appear more frequently with *wú* than with *wǒ*. This is also true for volitional verbs and verbs of participant internal ability. This may be accounted for by the irrealis mood of modal verbs, which imposes different constraints on the subject (Aldridge p.c.).¹⁶ In most of the instances with *wǒ*, the pronoun seems to be in contrastive focus or has plural reference (Aldridge, p.c.); *wǒ* is historically the default pronoun to express the plural of the 1st person. In (20a), the first person pronoun *wú* appears in a non-contrastive context, referring to a goal and not to an agent; in (20b), *wǒ* appears in contrast to the term of address *zǐ* 子 in the first clause.

- (20) a. 「吾得罪於君，悔而無及也。(zuǒzhuàn, xiāng 20)」 LAC

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.

- b. 子得其國寶，我亦得地，(zuǒzhuàn, chéng 2) (LAC)

zǐ_dé_qí_guó_bǎo_wǒ_yì_dé_dǐ

You_receive_its_country_treasure_I_also_receive_land

You will get the treasures of the country, and we will also get the land ...

2.4 Concluding remarks on the lexical verb *dé*

The discussion above demonstrates that the lexical verb *dé* is unambiguously an achievement verb; it is first slightly more frequently attested in intransitive, unaccusative constructions with a theme subject (8 instances vs. 6 unambiguous transitive instances in the *Shijing*). According to proposals made on the morphosyntax of Chinese e.g. in Jin 金理新 (2006), it belongs to the class of verbs of *receiving* (得到 *dédào*), which are characterized by the fact that they never appear in the *qùshēng* alternation. This implies that they do not belong to the class of verbs, for which the resultant state can be marked morphologically by an *-s- suffix. Consequently, they are more frequently modified by perfective adverbs in LAC, which mark them as telic, referring to a resultant state. During the LAC period, the employment of *dé* increases, and it is predominantly employed as a transitive verb with a goal subject. Also in its transitive use, no ACT/CAUSE feature seems to be involved in the event template of *dé*; this argues for the existence of genuine transitive achievement verbs in LAC (see Meisterernst 2015a, 2016). The lexical semantics and the argument structure of *dé* have some features in common with for instance the

¹⁶ According to Dowty (1991: 578), goals are obliques in many cases; this may also account for the employment of *wú*, which supposedly has a non-nominative case (Aldridge 2015). As an achievement verb, and as an implicative verb, *dé* frequently expresses realis mood rather than irrealis mood.

English GET and OBTAIN verbs. Similar to the English verbs of this category, the expression of a source, corresponding to a *from* phrase and a restricted set of benefactive *for* phrases are licensed in the argument structure of *dé*. But in contrast to the English verbs, no alternations, such as dative or locative alternations within VP seem to be attested. Constructions with the adverb *yì* 易, which have a generic reading and resemble middle alternations, also permitted for some of the English GET/OBTAIN verbs, rather have to be analyzed as tough constructions than as middle constructions.

3 The diachronic development of *dé*

3.1 An introduction to the modal marker *dé* and its different functions

The grammaticalization of GET verbs into auxiliaries is well attested in the literature (Heine and Kuteva 2019); Chinese is one of the exemplary cases. Heine and Kuteva (2019) show that GET verbs can grammaticalize into past tense markers (e.g. in Khmer), into markers of possibility (Chinese, Burmese, English, Lahu, Vietnamese), or permission (Chinese, English). The precondition for the grammaticalization of a lexical verb into a modal auxiliary verb is the licensing of a VP complement in the argument structure of the pre-modal verb. Complements which are ambiguous between an NP and a VP analysis open the path for a reanalysis of *dé* as an auxiliary verb. One of the triggers for the extension of the system of modal auxiliaries in EMC was possibly the loss of transparency of the former derivational aspectual morphology of the verb, briefly discussed in section 2.3, as one of a number of structural changes in Chinese at that time (Aldridge, e.g. 2013, Feng 2014, Aldridge and Meisterernst 2018, Meisterernst 2019a, 2020a). Due to this change, morphological distinctions between nouns and verbs ceased to be productive. The examples in (21) demonstrate how ambiguities between a VP and an NP analysis arise. 成 *chéng* in (21a), ‘complete, accomplish’, ‘achievement’ is a typical transitive verb, but in the example it appears without an internal argument. An unaccusative or passive analysis of *chéng* in the complement of *dé* is not possible, since the subject of *chéng* cannot be analyzed as its internal argument. This argues for the NP analysis of *chéng* ‘achievement’. 進 *jìn* ‘advance, move forth; enter, present’ in (21b) on the other hand can appear as an intransitive (unergative) verb, and 死 *sǐ* ‘die’ in (21c) is a typical unaccusative verb; the internal argument appears in subject position. Since *jìn* can appear as an intransitive unergative verb and *sǐ* is intransitive in its basic argument structure, their analyses as VPs are not problematic; no violation of their argument structure is involved as it would be in the VP analysis of *chéng* in (21a). Consequently, the analysis of *dé* in (21b) and (21c) as a modal auxiliary verb is more likely than in (21a). (21d) shows the analysis of the process of grammaticalization of (21b) from lexical verb with NP complement to modal verb with VP complement. The examples in (22) all show transitive complements with overt internal arguments following the complement verb. In these cases, the complements of *dé* are not ambiguous anymore between an NP and a VP analysis.

- (21) a. 楚得成，則君無敗矣。 | (zhànguó cè 10.1.5) (LAC-EMC)
 Chǔ__dé__chéng__zé__jūn__wú__bài__yǐ
 Chu__DE__complete/achievement__then__prince__not.have__defeat__SFP
 If Chu gains this achievement, then our prince will not suffer defeat.
- b. 父兄莫得進矣。 (zuǒzhuàn, xiāng 27) (LAC)
 Fù__xiōng__mò__dé__jìn__yǐ
 Father__older.brother__none__DE__enter/entrance
 None of our elders gains access / can enter.
- c. 得死為幸。 | (zuǒzhuàn, xī 19) (LAC)
 dé__sǐ__wéi__xìng

DE__die/death__be__fortunate

To gain [a natural] death/ to be able to die, will become fortunate.

- d. [VP DE ‘GET/GAIN’ [NP *jìn* ‘access’]] → [vP [VP/ModP DE ‘can’] [VP *jìn* ‘access’]]

- (22) a. 且子懼不孝，無懼弗得立。(zuǒzhuàn, mǐn 2) (LAC)

qiě__zǐ__jù__bù__xiào__wú__jù__fú__dé__lì

furthermore__you__fear__NEG__filial__NEG_{mod}__fear__NEG_{tr}__DE__enthrone
Furthermore fear, not to be filial, don’t fear that they will not enthrone you.

- b. 僑焉得恥之？(zuǒzhuàn, zhāo 16) (LAC)

qiáo__yān__dé__chǐ__zhī

Qiao__how__DE__ashamed__3Obj

How could I, Qiao, be ashamed of it?

- c. 寡君知不得事君矣(zuǒzhuàn, zhāo 13) (LAC)

guǎ__jūn__zhī__bù__dé__shì__jūn__yǐ

Lonely__prince__know__NEG__DE__serve__ruler__SFP

My prince knows that he cannot serve you, my prince.

Dé as a modal auxiliary verb is less frequent than the lexical verb *dé* in *Zuǒzhuàn*; as an auxiliary verb, it is infrequent in *Guóyǔ*, and it is also not very frequent in *Lúnyǔ*, *Mòzǐ*, *Mèngzǐ*, *Xúnzǐ*, *Zhuāngzǐ*. Liu 刘利 (2000: 156) presents the following figures: 18 instances of *dé* as auxiliary verb in *Lúnyǔ* (33.5% of its occurrence), 21 instances in *Guóyǔ* (14.5%), 74 instances in *Zuǒzhuàn* (45.6%), 162 in *Zhànguó cè* (40.6%). However, a closer look at the unambiguous instances of *dé* as a modal auxiliary in the *Lúnyǔ* results in a lower number of instances. Unambiguous instances exclude those with a complement which allows both the NP and the VP analysis and instances with the connector *ér* 而 appearing between *dé* and VP.¹⁷ The entirely unambiguous instances in the *Lúnyǔ* amount to only seven out of 48 (14.6%). Liu 刘利 (2000) in his comprehensive study of modal auxiliary verbs in LAC particularly focuses on the different modal readings of *dé* in rhetorical questions and in combination with negation; these are the environments, in which deontic modal readings are supposed to appear first (see also Li 李明 2001, Meisterernst 2020a, 2020b). This is not the main issue of this study. Instead, the focus lies on the aspectual and argument structure of *dé* in order to show the triggers for the multiple functions of *dé*, including its function as a post verbal marker.

The dependence of the modal reading of *dé* on the lexical aspect and the temporal structure of the embedded verb has been generally acknowledged. According to Dobson (1959: 53, note 19), *dé* basically has an aspectual meaning. Dobson seems to assume that modal predicates with event verbs, e.g. verbs with resultative aspect, receive a deontic reading, while those with atelic verbs receive a possibility reading.¹⁸ A close relation between the reading of *dé* and the aspect

¹⁷ Liu 刘利 (2000: 58f) analyses *dé* in the construction *dé* 而 *ér* VP as auxiliary verb. One of his arguments for this is that *dé* and the verb following *ér* share the same object. However, object sharing of two VPs is not a characteristic feature of an auxiliary verb and its complement. Additionally, the construction V1 *ér* V2 is also attested with other verbs. The example below is an instantiation of a subordinated VP preceding *ér* and sharing the same object with the following verb. If the object is the pronoun *zhī*, it is only expressed once following the second V (Unger 1988: 65).

(i) 棄而違之。(lúnyǔ 5.19.3) (LAC)

Qì__ér__wéi__zhī__

Abandon__ER__turn.against__OBJ

Abandoning him he turned against him.

For a discussion of this structure (including the structure *dé* *ér* VP) and for more examples see also Mei 梅廣 2015: 200f).

¹⁸ Dobson (1959: 53, note 19): “得 thus operates in two forms in the verbal syntagma: 得與 “ought to give”, 得受 “should receive” but 得見 “succeed in seeing”.”

of the verb in the complement of *dé* has also been assumed in Li 李明 (2001). He proposes that if the verb selected by *dé* has a perfective/resultative reading, the meaning of *dé* is ‘reach’; if the verb has an imperfective/incomplete reading, *dé* expresses possibility. The reading can be marked by an aspectual (perfective) adverb, such as *jì* 既 ‘already’, preceding *dé* (Li 李明 2001: 16f). This adverb does not appear in the complement of *dé*. The adverb is adjoined to the Outer aspect phrase (Meisterernst 2016) and is accordingly located outside *vP*. It denotes that the entire predicate is located in the past and that the event expressed by the matrix verb is complete (see also the examples in (19), discussed above). In the examples in (23) the entire modal predicate is marked for aspect; in (23a), for perfective aspect by the adverb *jì*. In (23b), it is marked by a combination of the aspectual negative marker *wèi* and the adverb 嘗 *cháng*: *wèi cháng* ‘never in the past’, referring to a past non-event. In both examples, *dé* has an implicative reading; this is the default reading of *dé* in past test contexts. The different readings of the modal auxiliary *dé* are discussed in the following sections.

- (23) a. 『舜往于田，則吾既得聞命矣； (*mèngzǐ* 5.1.1) (LAC)

Shùn__wǎng__yú__tián__zé__wú__jì__dé__wén__mìng__yǐ

Shun__wander__PREP__field__then__I__JI__DE__hear__mandate__SFP

That Shun wandered around in the fields, I already managed to understand its meaning, ...

- b. 未嘗得聞社稷之長計。 (*zhànguó cè* 19) (LAC-EMC)

Wèi__cháng__dé__wén__shèjí__zhī__cháng__jì

NEG_{asp}__PAST__DE__hear__state__long__plan

I never before managed to/could hear about long-range plans for the state.

Semantically, the modal auxiliary *dé* in Pre-Tang Chinese is associated with different possibility meanings similar to the English modal ‘can’ and the semi-modal ‘to be able to’. The English modal *can* involves meanings of ‘ability, opportunity’, but also ‘capacity, skill’, “and even ‘right’” (Austin 1970: 320, note 17). Most of these meanings can also be associated with *dé* in Pre-Tang Chinese, similar to *kě(yǐ)*, the earliest modal auxiliary of possibility attested in Archaic Chinese. The modal auxiliary *néng*, also attested early in Chinese, predominantly expresses ability and is a participant-internal modal according to van der Auwera and Plungian’s (1998) classification. By contrast, *kě* and *dé* are basically participant external modals, i.e. they express possibilities induced by external factors (for an analysis of *kě* as predominantly a circumstantial root modal see Meisterernst 2008a).¹⁹ For postverbal *de* in Modern Mandarin three different readings have been proposed in Xie (2012: 393): a) an ability reading; b) an opportunity reading; and c) a disposition reading. As already mentioned these readings all “have to do with the potential to cause or undergo “change of state” that is attributable to properties of the subject and/or of the utterance contexts (Hackl 1998; Bhatt 1999).” Thus, they fit well the telicity features of both the modal *dé* and its default complement; the basic meaning of the lexical verb *dé* always includes the change of state of ‘not having’ to ‘having received/gotten/obtained’.

As an event verb, *dé* is a typical change of state verb. It can be distinguished from the other possibility modals by its syntacto-semantic features as a transitive achievement verb with a goal subject and as an intransitive achievement verb with a theme subject. Additionally, its functions as a semi-modal implicative verb, similar to ‘manage to’ in English, are not modal in the strict sense; this is discussed below. The latter, and the feature of *dé* as an achievement verb expressing a result, may account for its particular diachronic development into the postverbal

¹⁹ According e.g. to Huang et al. (2009), both *néng* and *kě(yǐ)* are control modals in Modern Mandarin (2009: 110). A qualification of *néng* as a possible control modal in LAC is still pending, but *kě(yǐ)* is most certainly a raising modal in LAC.

element DE introducing manner and result. Cheng and Sybesma's discussion on potential DAK in Cantonese, the correspondence to DE in Modern Mandarin, accounts for the result reading of DAK by proposing that it is located in a resultative small clause. They discuss two different readings of DAK, 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: for the deontic reading, 'can' is inserted in the matrix clause, and for the potential reading it is inserted in the resultative small clause. They present the following examples for the different readings of DAK.

- (24) 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.

More research on the topic is required, but Cheng and Sybesma's analysis points to the possibility that the functions of postverbal *dé* actually derive from the semi-modal lexical verb *dé* 'get, obtain', and not from the auxiliary verb *dé*, which emerged during the LAC period, although the semantics of postverbal *dé* and of the auxiliary verb *dé* show a considerable overlap. This will be briefly discussed in section 4 (see also Meisterernst 2019b).

Similar to the verb of possibility *kě/kěyǐ*, which regularly expresses deontic modality in polarity contexts, i.e. rhetorical questions and negation, *dé* also functions as a deontic modal marker. An opportunity reading, i.e. a circumstantial possibility reading, is common to all examples with the auxiliary verb *dé* whether in the present, future, or past tense. It is also the meaning underlying the derived deontic readings. As already mentioned, Dobson (1959: 53) relates the deontic reading of *dé* to the aspectual features of the complement verb, i.e. to a complement verb showing resultative aspect. What Dobson refers to is rather the fact that *dé* by default has event complements, i.e. telic verbs, which are compatible with the perfective aspect. Perfective aspect is not marked by perfective adverbs, though; the default complement of the auxiliary verb *dé* does not have any temporal or aspectual marking. Additionally, a telic verb does not necessarily trigger a deontic reading of the modal predicate.

In the following sections, the possibility, i.e. circumstantial, and the deontic readings of *dé* in LAC and EMC are introduced briefly. According to Tsai's (2015) cartographic approach, circumstantial readings are located in the lexical layer, i.e. in *vP*, deontic modals are located in the TP layer. Following the terminology proposed in Xie's analysis of postverbal DE and Bhatt's (1999) studies on Ability modals, we propose that the basic meaning of *dé* is to express participant-external circumstantial or opportunity modality. Depending on the temporality of the predicate, *dé* either expresses *possibility* (see also Li 李明 2001) or has an *implicative* meaning. The two other meanings of *dé* proposed in Xie (2012), *ability* and *disposition* are extremely infrequent in the Late Archaic and Early Medieval literature.

3.2 Ability and disposition readings of the auxiliary verb *dé*

Ability and opportunity modalities differ by the fact that the first is stative, referring to "stable properties of an individual", i.e. ability modals behave like individual level predicates. By contrast, opportunity modals behave like stage level predicates, involving a change of state, a temporal element (Xie 2012: 391). Although ability is stative, referring to a special type of potential of the agent, it is also dynamic "when it comes to the agent's actualization of his internal ability in a world." (Xie 2012: 403) Xie (2012) claims that the ability reading requires an agentive subject. As the examples demonstrate, according to this constraint true ability readings are very infrequent with *dé*. This is not surprising considering the fact that the basis

for the modal auxiliary verb, the lexical verb *dé* usually has a goal and not an agent subject. In (25a), *dé* appears parallel to the ability modal *néng*. The difference between *néng* 能 and *dé* is: 1) participant-internal ability with *néng*, 2) participant-external circumstantial possibility with *dé*. In the coordinated clauses in (25a) both subjects are agentive, thus an ability reading seems possible; the reading in (25a) is generic. In (25b), the subject of the complement verb 見 *jiàn* ‘see’ is an experiencer; thus, it is non-agentive. According to the circumstances of being a woman, a nun does not have the disposition allowing her to see the Buddha first. In the first clause of (25c), the subject, the robbers, have the ability or capacity to change; the sentence has a generic reading; *dé* clearly adds the semantic reading of possibility to the proposition. The subject has to be analyzed as a theme and not as an agent in both clauses. The reading in (25d) is generic, too; the subject is [+HUMAN], but as the subject of a psych verb, it is rather an experiencer than an agent. In example (25e), the subject of *dé* is contrasted to the subject in the first clause, Jin and Chǔ, therefore the 1st person pronoun *wǒ* appears; the complement verb is the existential verb 有 *yǒu* followed by 信 *xìn* ‘belief’. Since the predicate is a psych predicate, the subject is non-agentive. The example in (25d), can also be generic under certain conditions. All examples imply that circumstances enable or prevent the obtainment of the predicated situation.

- (25) a. 至人之所不得逮，賢人之所不能及， (*zhuāngzǐ* 29.3.6) (LAC)
 zhì_rén_zhī_suǒ_bù_dé_dài_
 utmost_man_GEN_REL_NEG_DE_achieve_
 xián_rén_zhī_suǒ_bù_néng_jí
 virtuous_man_GEN_REL_NEG_able.to_arrive
This is what a perfect man cannot achieve, what a virtuous man cannot arrive at.
- b. 我是女人。何由得先見佛。 (*taishō* 51, n. 2085, p. 859c) (late EMC)
 Wǒ_shì_nǚrén_hé_yóu_dé_xiān_jiàn_fó
 I_COP_woman_how_from_DE_first_see_Buddha
I am a woman, how could I see the Buddha first?
- c. 盜賊得變，此不得變也。 (*xúnzǐ* 5/10/4) (LAC)
 Dào_zé_dé_bìan_cǐ_bù_dé_bìan_yě
 Robber_thieve_DE_change_this_NEG_DE_change_SFP
Although robbers and thieves can change, these could not be changed.
- d. 對曰：「非小人之所得知也。」 (*zuǒzhuàn*, *chéng* 9.9.1) (LAC)
 Duì_yuē:_fēi_xiǎo_rén_zhī_suǒ_dé_zhī_yě
 Answer_say_is.not_small_man_SUB_SUO_DE_know_SFP
He answered, ‘This is not something a small man can know.’
- e. 晉、楚無信，我焉得有信？」 (*zuǒzhuàn*, *xuān* 11) (LAC)
 Jìn_Chǔ_wú_xìn_wǒ_yān_dé_yǒu_xìn
 Jin_Chū_not.have_faith_I_how_DE_have_faith
Jin and Chu do not have faith, how can we manage/ be able to have faith.

Most of the examples presented in (25) are more liable to a disposition than to an ability reading. Both readings are not very frequent in LAC and EMC. In contrast to ability modality, which is characterised by the requirement of an agentive subject, the disposition modal does not have an agentive subject.²⁰ Ability and disposition modals both seem to display the same temporal constraints, i.e. they are usually not compatible with past-denoting temporal phrases; in past denoting contexts, an implicative reading is involved. (Xie 2012: 402). The same

²⁰ See Xie (2012: 392, 402): “The disposition reading is different from the ability reading merely in regard to whether the subject is agentive or not.”

constraints, Xie proposes for postverbal DE in Modern Mandarin, also seem to account for the modal auxiliary verb *dé* in LAC and EMC. The examples demonstrate that the ability/disposition readings have a strong tendency to be generic, and they are excluded from past contexts. This is an argument in favour of the status of *dé* as a typical implicative verb, which shows different readings according to temporal constraints.

3.3 Opportunity reading of the auxiliary verb *dé*

As mentioned already, opportunity modals involve a change of state, a temporal element (Xie 2012: 391); they are stage level predicates. As a typical change of state verb, *dé* is particularly liable for readings of this kind. According to Xie's study, the expression of opportunity modality can include past-denoting temporal phrases. The opportunity modal reading of the auxiliary verb *dé* may be captured best by the English semi-modal 'able to', and *dé* actually seems to function in a manner very similar to 'able to' in English. According to Bhatt (1999: 184), ABLE is a non-stative implicative verb similar to 'manage to' (which involves an actuality entailment in the past tense and the perfective).²¹ (Bhatt 1999: 188) "There seems to be a class of verbs which behave like implicative verbs in the perfective and attribute ability in the presence of genericity." In the case of *dé* in LAC, it rather seems to be disposition which is attributed to *dé* than ability, according to the agentivity constraint proposed in Bhatt. The implicative reading of *dé* is discussed under 3.4.

Opportunity implies that barriers are temporarily released and allow the agent of the complement verb to perform the situation; usually without any temporal restrictions with regard to past-tense contexts. (Xie 2012: 391). Opportunity belongs to the category of circumstantial possibility and it designates, "a property of an individual or entity anchored to the context in which the individual/entity is." (Xie 2012: 391)²² With *dé*, the enabling conditions are frequently mentioned. In the examples in (26), the enabling conditions are not directly expressed; however, *dé* clearly displays an opportunity reading. In all instances, *dé* can be rendered by 'have/had the opportunity to'. In the first clause of (26a), the enabling conditions, in this case a participant-internal ability expressed by *néng*, are revealed. The enabling conditions in (26b) and (26c) are provided in the preceding context. (26c) and (26d) show that the opportunity to perform *x* can function as the condition for subsequent events.

- (26) a. 「... 然不自意能先入關破秦，得復見將軍於此。」 (shǐjì: 7,312) (EMC)
 rán_bù_zì_yì_néng_xiān_rù_guān_pò_Qín_
 but_NEG_self_think_able.to_before_enter_pass_destroy_Qin_
 dé_fù_jiàn_jiàngjūn_yú_cǐ
 DE_again_see_general_at_this
 ... but I do not think myself that I am able to enter the gate and destroy Qin, and to be able to see the general again here.
- b. 僕得聞此，不忘於心。願君之亦勿忘也。」 (zhànguó cè 20) (LAC-EMC)
 Pú_dé_wén_cǐ_bù_wàng_yú_xīn_yuàn_jūn_zhī_yì_wù_wàng_yě
 Servant_DE_hear_this_NEG_forget_PREP_heart_Wish_prince_SUB_
 also_NEGmod_forget_SFP
 After I could hear this, I will not forget it in my heart. I wished that you would also not forget it.

²¹ Bhatt (1999: 187): "Sentences like 'John was able to lift the truck' are ambiguous between a 'managed to' implicative verb-like reading which asserts that John actually lifted the truck and says nothing about John's abilities and a 'had the ability to' reading which asserts that John has the ability to lift the truck." Thus, "The implicative verb reading is only available in non-generic (perfective) environments, while the 'had the ability to' reading is only available in generic (imperfective) environments."

²² This reading goes back to Austin 1970 (Xie 2012: 391).

- c. 若寡人得沒于地，天其以禮悔禍于許，無寧茲許公復奉其社稷，
 Ruò_guǎ_rén_dé_mù_yú_dì_tiān_qí_yǐ_lǐ_huǐ_huò_yú_Xǔ_
 If_lonely_man_DE_die_PREP_soil_heaven_MOD_YI_rites_regret_m
 isfortune_PREP_Xu
 wúnìng_zī_Xǔ_gōng_fù_fèng_qí_shèjì
 rather_this_Xu_duke_again_present_his_gods.of.earth.and.grain
*If I am able to die in the land, and if Heaven would according to the rites regret the
 misfortunes inflicted on Xu, would then the duke Xu not rather present offerings again
 to his gods of earth and grain? (zuǒzhuàn, yǐn 11) (LAC)*
- d. 我等每自思惟：『設得受記，不亦快乎。』」 (taishō 9, n. 262, p.29b) (late
 EMC)
 Wǒ_děng_měi_zì_sīwéi_shè_dé_shòu_jì_bù_yì_kuài_hū
 I_PL_each_self_think_if_DE_receive_promise_NEG_MOD_delightful
 _SFP
*Whenever we think by ourselves, if we could receive the promise to attain nirvana,
 would that not be delightful!*

In (27) the enabling conditions are referred to by the demonstrative pronoun *cǐ* 此 ‘this’ or by the phrase *rú/ruò cǐ* 如/若此 ‘like this, thus’. In (27a, b), they are revealed in the preceding narrative. In (27c), they are mentioned in the first clause. In (27a), the complement verb is a verb of perception; this implies a low degree of agentivity; in (27b) and (27c), the subject is clearly agentive. In (27d), it is [-HUMAN] and non-agentive.

- (27) a. 此臣之日夜切齒腐心也，乃今得聞教！」 (shǐjì: 86,2533) (EMC)
 Cǐ_chén_zhī_rì_yè_qiè_chǐ_fǔ_xīn_yě_nǎi_jīn_dé_wén_jiào
 This_subject_SUB_day_night_champ_tooth_spoil_heart_SFP_then_
 now_DE_hear_teaching
*Therefore, I champ my teeth and grieve in my heart day and night, and thereupon I
 am now able to hear the instructions.*
- b. 此幸臣之所以得欺主成私者也。 (hán fēizǐ 14/1/5) (LAC)
 Cǐ_xìng_chén_zhī_suǒ_yǐ_dé_qī_zhǔ_chéng_sī_zhě_yě
 This_favour_subject_GEN_REL_YI_DE_cheat_ruler_achieve_
 personal.advantage_REL_SFP
*This is how favoured subjects manage to cheat their rulers and achieve their own
 personal advantages.*
- c. 如此則太后心安，君等幸得脫禍矣。」 (shǐjì: 9;399) (EMC)
 Rú_cǐ_zé_tàihòu_xīn_ān_jūn_děng_xìng_dé_tuō_huò_yǐ
 Like_this_then_Queen.dowager_heart_secure_prince_group_luck_DE_
 remove_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.*
- d. 若此則能順其天，意氣得游乎寂寞之宇矣，形性得安乎自然之所矣。
 Ruò_cǐ_zé_néng_shùn_qí_tiān_yì_qì_dé_yóu_hū_jí_
 mó_zhī_yǔ_yǐ
 If_this_then_can_follow_POSS_heaven_mind_energy_DE_float_PREP
 _quiet_calm_SUB_world_SFP
 _xíng_xìng_dé_ān_hū_zìrán_zhī-suǒ_yǐ
 _form_emotion_DE_peaceful_PREP_natural_GEN_place_SFP

Being like this, he is then able to follow his heaven[ly destiny], his mind and energy are able to float in a world of calm and silence, his shape and emotions are able to dwell in peace in a place of naturalness. (lǚshì chūnqiū 17/1/4/8) (LAC)

3.4 Implicative reading of the auxiliary verb *dé*

In past tense and perfective contexts, *dé* has an implicative reading; an actuality entailment is implied in a conventional implicature somewhat similar to ‘manage to’. Many of the requirements for implicative verbs are met by *dé*. These are, 1) Implicatives take VP complements, 2) The subject of the implicative verb and of the verbal complement must be identical, 3) Adverbial modification must have the same effect on the complex VP as on the complement VP, 4) Implicative applies to active verbs and with stative verbs they have a marked meaning, 5) Implicatives are tense and aspect dependent (perfective aspect). A further argument for the analysis of *dé* as an implicative verb comes from the fact that the auxiliary verb *dé* ‘manage to, able to’ has developed from a verb with the meaning ‘obtain, get’; both the verbs ‘get’ and ‘manage to’ appear in the list of implicative verbs in Karttunen (1971: 341, 350). The opportunity meaning of ‘get’ is captured by Karttunen’s paraphrase of the meaning of ‘get’ (1971: 351) “get to do depends on the chance to get to do.” The implicative reading establishes a sub-group of the opportunity – or ability – reading of *dé*. In the following examples, the possible situation expressed by the modal predicate has been actualized. In the examples (28a) and (28b), temporal sequence is marked in the second clause by the temporal conjunctions 遂 *sui* ‘then, thereupon’ and 乃 *nǎi* ‘then, thereupon’. But this does not necessarily imply that the situation is located in the past. In (28c), temporal sequence from past to speech time is marked by the predicate *zhì jīn* ‘arrive at the present point in time’. Additionally, the past setting of the respective events in (28a–d) is induced by the context the examples appear in. In (28e) and (28f) (repeated from example (23) above), the past situation is explicitly marked by past denoting or perfective adverbs.

- (28) a. 克舍之，丑父遂得亡歸齊。 (*shǐjì*: 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 thereupon to) could thereupon flee and return to Qi.

- b. 楚軍大亂，壞散，而漢王乃得與數十騎遁去， (*shǐjì*: 7,322) (EMC)

Chǔ jūn dà luàn huài sàn ér Hàn wáng
Chu army great chaos break.apart scatter CON Han king
nǎi dé yǔ shù shí qí dùn qù
then DE with several ten horseman flee go.away
The army of Chu was in great chaos, broke apart and was scattered, and so the King of Han could / managed to flee with thirty or forty horsemen, ...

- c. 足下所以得須臾至今者，以項王尚存也。 (*shǐjì*: 92,2622) (EMC)

Zúxià suǒyǐ dé xūyú zhì jīn zhě yǐ Xiàng wáng shàng cún yě
Sir therefore DE temporarily arrive today REL because Xiang King
still exist SFP
Sir, the reason why you were able to / have managed to get to the present point for the time being is because King Xiang is still there.

- d. 行十七日計可千五百里。得至鄴鄴國。 (*taishō* 51, n. 2085, p.857a) (EMC)

Xíng shí qī rì jì kě qiān wǔ bǎi lǐ dé zhì Shànshàn guó
Travel ten seven day calculate POSS thousand five hundred mile
DE arrive 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.

- e. 『舜往于田，則吾既得聞命矣； (mèngzǐ 5.1.1) (LAC)

Shùn__wǎng__yú__tián__zé__wú__jì__dé__wén__mìng__yǐ

Shun__wander__PREP__field__then__I__JI__DE__hear__mandate__SFP

That Shun wandered around in the fields, I already managed to understand its meaning, ...

- f. 未嘗得聞社稷之長計。 (zhànguó cè 19) (LAC-EMC)

Wèi__cháng__dé__wén__shèjí__zhī__cháng__jì

NEG_{asp}__PAST__DE__hear__state__long__plan

I never before managed to/could hear about long-range plans for the state.

3.5 Deontic DE

Deontic readings with the possibility modal *dé* first emerge in LAC and EMC in polarity contexts, i.e. in rhetorical questions and negated contexts (Liu 刘利 2000, Li 李明 2001). The deontic reading is logically implied, because NEG MOD_{poss} ‘not possible that $p \rightarrow \neg p$ ’ is equivalent with ‘necessary that not $p \rightarrow p$ ’ in terms of necessity (Meisterernst 2020b). *Dé* allows both a possibility and a deontic (necessity) reading. Meisterernst (2020b) 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 and 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.²³ In (29a), *dé* evidently has a possibility reading, the negator scopes over the modal; in (29b) and (29c), the negator is in the scope of the modal, which thus receives a deontic interpretation.

- (29) a. 我等梵天所化。是以無常。不得久住。 (agama, T01, 1, p. 69b) (late EMC)

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 Brahmā 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。 (hán fēizǐ 48/8/3) (LAC)

Míng__zhǔ__zhī__dào__chén__bù__dé__yǐ__xíng__yì__chéng__róng

Enlighten__ruler__GEN__way__minister__NEG__DE__YI__carry.out

righteousness__achieve__glory

bù__dé__yǐ__jiā__lì__wéi__gōng

NEG__DE__YI__house__advantage__make__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， (Xianyujing T4, 202, p. 375c) (late EMC)

Shí__yōupóyí__wén__fó__shìzūn

Time__upāsika__ask__Buddha__World-Honoured-One,

²³ Due to the lack of space, this development is not related in detail in this discussion; the focus is rather on the semantics of DE as a condition for its development as a postverbal modal. The reader is referred to Meisterernst (2020b).

zhèng_yóu_wǒ_gù_zhì_zhū_bǐqiū_bù_dé_shí_ròu
 correct_from_I_reason_determine_PL_bhiksū_NEG_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]

3.6 Concluding remarks on the modal auxiliary verb *dé*

The examples in this section demonstrated that the auxiliary verb *dé* can have ability, disposition, and opportunity readings. In past tense contexts *dé* has an implicative reading, thus it shows semantic similarities to *able to*, and *manage to* in English. The implicative reading can be derived from the semantics of *dé* as a lexical verb with the meaning 'get, obtain'. The ability and the disposition readings are the least frequent readings of *dé* in the periods under consideration; they show a strong tendency to have a generic reading. The opportunity reading is the predominant reading of the modal auxiliary verb *dé*; it underlies all other readings; the subject of the modal predicate can be agentive or non-agentive. Deontic readings are present, but require particular syntactic constraints related to polarity. Both the possibility (potential) reading and the deontic (permissive) reading proposed for postverbal Cantonese DAK in Cheng and Sybesma (2004) are attested for the preverbal modal *dé* in EMC, suggesting that the paths of grammaticalization of pre- and postverbal DE were to a certain extent similar semantically. In a modal predicate with *dé*, the thematic features of the subject depend on the argument structure and the syntax of the complement verb and not on *dé*. Beside its function as a modal auxiliary verb, *dé* prevails as a lexical verb throughout the LAC and EMC periods. Similar to many other modals in Chinese, it is subject to a lexical split into a lexical and a functional category. This is the typical scenario for Chinese modals.

4 The development of postverbal DE

In Late Archaic and Early Middle Chinese, the complement of the modal verb *dé* can be either a tenseless, non-finite *vP* as in example (30a) and the examples above, or it can be a CP. In the latter case, *dé* still has full lexical status. An argument for the CP analysis of the complement of *dé* is the fact that deontic negative markers can appear in its complement as in (30b, c). Deontic negative markers are necessity operators, which have been proposed to appear in the CP/TP layer above possibility modals (Meisterernst 2020b, based on Cinque 1999, Tsai 2015).²⁴ In any case, as deontic modals, they have to be analyzed as appearing above *vP*. If *dé* were analyzed as a modal auxiliary verb expressing possibility in (30b) and (30c), this would lead to the irregular order *possibility necessity* (Meisterernst 2020a, b, see also below). In (30a), the epistemic adverb *bì* 必 and the future marker *dāng* 當 precede *dé*; the complement is a simple VP. (30b) and (30c) represent the two modal negative markers *wú* 無 and *wú* 毋 in the complement of *dé*, which argue for the CP status of the complement of *dé*.²⁵

(30) a. 我等亦如是，必當得作佛。 (*taishō* 9, n.262, p.12a) (late EMC)

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.

b. 此彈丸之地，猶不予也，令秦來年復攻王，得無割其內而媾乎？」

Cǐ_dànwán_zhī_dì_yóu_bù_yǔ_yě_líng_Qín_lái_nián_fù_gōng_wáng

²⁴ Li (2015: 163) proposes that these negative markers have imperative force and are probably generated in the CP layer.

²⁵ Djamouri (1991) proposes an epistemic reading for *wú* 毋.

This_bullet_SUB_land_yet_NEG_give_SFP_cause_Qin_come_year_a
gain_attack_king__

dé_wú_gē_qí_nèi_ér_gòu_hū

DE_NEG_{mod}cede_POSS_inner_CON_conclude.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? (zhànguó cè 20/10/11) (LAC-EMC)

- c. 賴大臣爭之，及留侯策，太子得毋廢。(shǐjì: 9;395) (EMC)

Lài_dà_chén_zhēng_zhī_jí_liú_hóu_cè_tàizǐ_dé_wú_fèi

Profit_great_minister_fight_OBJ_arrive.at_Liu_lord_scheme_heir_DE_
NEG_{mod}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.

The complement of *dé* can also be a full (probably finite) clause; the subject has nominative case as in example (31). In LAC, embedded non-finite clauses usually have genitive subjects; the embedded clause is nominalized. In middle Chinese, the case distinction has disappeared (Aldridge 2013) and embedded clauses are not nominalized anymore.

- (31) 婆羅門作是說。言。此我不得名斷滅。(taishō 1, n.1, p.93a) (late EMC)

Póluómén_zuò_shì_shuō_yán_cǐ_wǒ_bù_dé_míng_duànmiè

Brāhman_make_this_speech_say_this_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 behavior of *dé* in the examples discussed in this section argues for two different instantiations 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 (modal) verb with a semi-modal meaning which allows a CP complement to follow. It is this syntactic ambiguity, which allows two different developments of modal *dé* as a preverbal deontic modal verb and as a postverbal resultative marker.

According to Wang 王力 (2004: 350), the basis of postverbal DE, i.e. *dé* as a V₂ first appears during the Han period, in the Early Middle Chinese period. During this period, it still clearly functions as a verb in its lexical meaning ‘gain, obtain, achieve’, referring to the successful achievement of the event expressed by the preceding verb. This is not different from other resultative verb constructions that make their appearance during this period. This is shown in the two examples in (32a, b); in both examples *dé* is not followed by a vP or CP complement. (31c) is one of the earliest examples, in which V₁+DE is followed by a vP or CP, and where DE has to be analyzed as a functional category introducing a result (Wu 吳福祥 2004: 153) and not as a resultative verb anymore. In this example, DE had lost its semantic content and its argument structure and it is reduced to the expression of the resultative. Examples like this demonstrate that DE first had to lose its argument structure before it could grammaticalize into a postverbal functional category (see also Wu 吳福祥 (2004: 150f).

- (32) a. 民採得，日重五銖之金，一色正黃。(lùnhéng 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 obtain, 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， (*bàopǔzǐ, nèipiān duìsú* 3) (EMC)
 Ruò_dào_shù_bǔ_kě_xué_dé_zé_bìanyì_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 ...
- c. 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.

Structures like those in the examples (32a) and (32b) pave the way for constructions with an intransitive resultative V_2 , in which the two verbs do not constitute an object sharing construction anymore; they are still extremely infrequent in EMC. These structures are allegedly the basis for the development of postverbal DE, when a ν P or a CP introducing a result attaches to them. Even in Middle Chinese there are hardly any examples, in which V_1 +DE is followed by a CP or ν P, and which allow an analysis of DE as a postverbal modal marker. The example in (32c) from the vernacular *Dunhuang bianwen* literature (cf. Wu 吳福祥 2004: 153) is one of the earliest unambiguous instances. The number of instances only increases after the Middle Chinese period, and in the 13th c. in Early Mandarin postverbal DE is well attested (Feng 馮春田 1992). The analysis of this development and a syntactic analysis of the grammaticalization of postverbal DE go beyond the scope of the present analysis; they are the topic of a separate study (Meisterernst 2019b (ms.)).²⁶

5 Conclusion

The analysis of the lexical semantics and the argument structure of *dé* shows that it is a typical achievement verb in its intransitive, but also in its transitive use. In the transitive construction, it by default has a [+HUMAN] goal subject, no ACT or CAUSE event are included in the event template of *dé*: [BECOME [y < STATE = GET/OBTAIN(ED)>]].

The basic function of *dé* as a modal auxiliary verb is to express opportunity readings. From this reading, the infrequent ability and disposition readings, but also the deontic readings *dé* can receive in particular syntactic environments can be derived. The sensitivity of *dé* to perfective marking together with its semantics as an achievement verb qualify it as typical implicative verb; it shows implicative readings in past and perfective contexts similar to the implicative verb *manage to* in English. Most of the functions proposed for postverbal DE in Xie (2012) are already present in the modal auxiliary verb *dé*. However, postverbal DE has probably developed from the semi-lexical achievement verb *dé*, expressing a result, and not from the modal auxiliary verb *dé*.

²⁶ I am very grateful to one of the anonymous reviewers for pointing out the significance of statistical studies in order to provide evidence for different stages of grammaticalization. However, this method has not been applied in this study for mainly two reasons. The most relevant reason is that the topic of the paper is the analysis of the lexical semantics and particularly the argument structure of *dé* in history as a basis for further studies of the development of the two instantiations of DE, the preverbal and the postverbal one, in Modern Sinitic languages. We tried to show to which extent the semantics of both pre-, and post-verbal DE were already present in LAC. We also proposed that the early grammaticalization into a deontic marker concerned preverbal DE in polarity contexts and that the basis of the emergence of postverbal DE was the split of preverbal DE from the lexical verb GET, OBTAIN. Preverbal DE followed the common path of grammaticalization of all modals in Chinese, whereas the lexical verb *dé* increasingly developed into a resultative marker, over time allowing a CP complement in its argument structure. The second reason for not applying the statistical method is that instances showing this development were very infrequent throughout the Middle Chinese period and only became more frequent from the 10th c. on. This period is not subject of the present study.

The paper tentatively proposes that, syntactically, the two different functions of modal DE in Modern Mandarin, i.e. the function as a deontic modal auxiliary verb *děi*, and the function as a postverbal modal marker of manner and result, derive from two different instantiations of *dé* in EMC. The deontic marker *děi* derives from the modal auxiliary verb *dé*, which is characterized by a non-finite *vP* complement. The postverbal modal marker DE derives from the semi-modal lexical verb *dé*, which has a (finite) CP complement. The particular syntactic constraints of the achievement verb *dé*, which contrast it to the other modal verbs of possibility in LAC, triggers the split between auxiliary *dé* and postverbal DE and its grammaticalization into a marker of the resultative and of manner. However, more research has to be conducted on the diachronic development of *dé* to confirm this hypothesis.

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