‘Good’ Is ‘Possible’: A Case Study of the Modal Uses of ‘Good’ in Shaoxing

Shanshan Lü 1,* and Xiao Huang 2

1 Institute of Corpus Studies and Applications, Shanghai International Studies University, Shanghai 201613, China
2 Institute of Linguistics, Shanghai International Studies University, Shanghai 201613, China; huangxiao_cn@outlook.com
* Correspondence: lv_shanshan@live.cn

Abstract: This paper sets out to investigate the modal uses of the lexeme ㄏoa3 ‘good’ in the Jidong Shaoxing variety of Wu and to reconstruct its grammaticalization pathway. Modal meanings of ㄏoa3 include circumstantial possibility, deontic possibility and necessity, and epistemic possibility. These meanings can be summarized as ‘can’, ‘may’, and ‘should’, respectively. The modal meanings of ㄏoa3 are derived from its meaning of ‘fit to’ rather than ‘good’. We propose here that ㄏoa3 first extended to express circumstantial possibility, and then further extended to denote deontic modality and participant‑internal possibility in two separate directions: (i) circumstantial possibility > deontic modality, and (ii) circumstantial possibility > participant‑internal possibility. The epistemic use of ㄏoa3 is proposed as the final stage of the lexeme’s modal extension.

Keywords: goon; circumstantial possibility; deontic; epistemic; Shaoxing Wu; grammaticalization; extension

1. Introduction

Modality is a semantic domain concerning how languages code possibility and necessity. Languages may adopt different strategies to express modality, such as auxiliary verbs, morphological devices of mood, modal affixes, lexical means, modal adverbs and adjectives, modal tags, modal particles, and modal case (de Hann 2006). While Sinitic languages are well known for lacking morphological mood, modality is expressed by auxiliary verbs, adverbs, and potential constructions, as well as particles. Among these devices, auxiliary verbs are the most common means of expressing possibility and necessity in Sinitic languages (Chappell and Peyraube 2016).

Modal auxiliaries in Standard Mandarin can be divided into necessity and possibility modal verbs. Possibility modal verbs include ㄏui⁴ ‘can < know, comprehend’, ㄑi³ ㄧyi³ ‘can < fit so as to’, and ㄣeng⁵ ‘can < capable’, while necessity modal verbs include ㄉe³ ‘must < obtain’, ㄍai³ 该 ‘should < owe’, and ㄧya⁴ ㄑo ‘need, must’. According to a survey by Fan (2014, pp. 15–187), these are common modal verbs in Sinitic languages. Different Sinitic languages or dialects have developed various lexical sources into modal auxiliaries, for example, ㄑuɑn⁴管 ‘can < manage, supply’ in Fangcheng Central Plains Mandarin (L. Wang 2013), �a⁵² ㄌo ‘can < have methods’ and ㄨa⁵ ‘can < say’ in Liujiang Jinde Hakka (Y. Wang 2019), ㄊe³ ㄊe³ ‘can < eat’ in Shaoxing Wu (Sheng 2021, p. 416), and ㄏao ㄌ ‘can < good’ in Jieyang Min (Xu 2007, pp. 234–37) and Hakka (Huang 1995, p. 116; Yeh 2012; Zhuang and Huang 2014, pp. 223–24). In fact, ㄏao ‘good’ has been adapted as a modal auxiliary in a contiguous area around the Yangtze River Delta. This phenomenon might be considered as a micro‑areal phenomenon.

This paper will offer a case study on the modal uses of ㄏoa3 ‘good’ in the Jidong variety of Shaoxing Wu. First, a detailed synchronic description of the modal uses of ㄏoa3 ‘good’...
in Jidong Shaoxing is given. This is followed by a diachronic reconstruction of the pathway of grammaticalization from ‘good’ to ‘can, may, should’ of hо3. Observation of hо3’s distribution indicates that its modal uses are derived from the auxiliary use of its meaning ‘fit to’ rather than directly from its meaning ‘good’. We find that in a grammatical sentence containing hо3, the situation expressed by the matrix VP is often enabled by an external or an internal condition. It is from this circumstantial possibility that the participant-internal possibility of hо3 is derived. Our finding contributes some new evidence in support of Narrog’s (2012, pp. 187–90, 202–9) findings that circumstantial possibility may develop into participant-internal possibility and deontic possibility may extend to deontic necessity. The bidirectional developments ‘circumstantial ↔ participant-internal’ and ‘deontic possibility ↔ deontic necessity’ hold (Narrog 2012, pp. 185–221). We also propose that the epistemic use of hо3 is derived from the uses of both circumstantial and participant-internal possibility. The semantic connection between the deontic and epistemic uses of hо3 is not obvious in Jidong Shaoxing, unlike the well-known deontic–epistemic polysemy of English must (Traugott and Dasher 2001, pp. 120–21).

Section 2 discusses the modality types distinguished in this paper. Section 3 presents background information and basic linguistic features of the target language. Section 4 introduces the polysemy of the lexeme hо3. Section 5 sets out to illustrate the modal uses of hо3. Section 6 aims to reconstruct the grammaticalization pathway of hо3 and offers a comparison with the diachrony of hao3 ‘good’ in the history of Chinese. Section 7 is a general conclusion.

2. Modality Types and Terminology

The domain of modality can be organized in several ways. Deontic, dynamic, and epistemic are the most broadly accepted concepts. Coates (1983, p. 10) contrasts root modality, which comprises both dynamic and deontic, and epistemic modality. van der Auwera and Plungian (1998) oppose epistemic and non-epistemic (later revised as situational (van der Auwera and Ammann 2013a)), with the latter subdivided into participant-internal and participant-external. Palmer (2001) proposes an opposition of event modality (deontic and dynamic) and propositional modality (epistemic and evidential). Narrog (2012, p. 46) suggests volitive modal categories opposed to non-volitive modal categories. Given that a reorganization of our understandings of modality is not an aim of the current paper, here we adopt subcategories of modality solely on the basis of their relevance in describing the polysemy of hо3. Relevant modal concepts include:

Circumstantial possibility
Circumstantial possibility refers to a proposition enabled by certain external circumstances (Narrog 2012, p. 10). It can also be interpreted as a possibility allowed by external conditions, as in (1).

(1) You can get to University City by taking subway line 9.

Permission and weak obligation
Both permission and obligation belong to deontic modality, also known as deontic possibility and necessity. Deontic modality refers to possibility or necessity determined by certain social norms, expectations, or a speaker’s desire or command (see Palmer 2001, p. 10; van der Auwera and Plungian 1998, p. 81). Permission denotes that a participant is allowed to complete an action (Bybee et al. 1994, p. 320), as in (2), while weak obligation means that a participant was advised to complete an action (Bybee et al. 1994, p. 320). In English, weak obligation is usually expressed by should and ought, as in (3).

(2) You may leave now.
(3) You should leave now.

Participant-internal possibility
Participant-internal possibility refers to “a kind of possibility [. . . ] internal to a participant engaged in the state of affairs” and it covers dynamic possibility, ability, and capacity (van der Auwera and Plungian 1998, pp. 80, 82), as in (4).
She can lift that heavy stone.

Epistemic possibility

Epistemic possibility refers to a speaker’s degree of certainty about a proposition (van der Auwera and Ammann 2013b); see (5). Epistemic modality is generally relevant to knowledge, belief, and related notions.

The bus may be late (due to the snow).

3. Jidong Shaoxing and Some Basic Features

3.1. Variety under Investigation

Shaoxing is a Northern Wu dialect of Sinitic belonging to the Linshao subdivision of the Taihu division (Wang and Cao 2012, p. 104). The variety under investigation, Jidong稽东, is spoken in Jidong Town in the southern suburb of Shaoxing Prefecture and is classified as belonging to the Southern Suburb variety of Shaoxing (Tao et al. 2014).

The data presented in this paper were collected with four native speakers from 2022 to 2023. Our consultants represented three generations within the same family. They were Mr. Huang Tangfu (born in 1955), Mrs. Huang Xingqin (born in 1957), Mr. Huang Yongjiang (born in 1977), and the second author Mr. Huang Xiao (born in 2002). Mr. Huang Yongjiang speaks an innovative variety of Jidong Shaoxing, while the other three speak a conservative variety.

Our corpus included both spontaneous and elicited data. Spontaneous data illustrated in this paper were either extracted from a corpus of six hours of audio material or taken from unrecorded daily conversations which were not part of the corpus. Elicited data comprised about 130 sentences. Elicited data presented in this paper will be indicated as ‘elicitation’, while the data with unmarked sources were either from our corpus or the un-recorded daily conversations. It is worth mentioning that when performing elicitation we did not simply ask for translations from Standard Mandarin to Jidong Shaoxing. Instead, taking semantic nuances of modals into consideration, we provided different contexts as stimuli for our consultants.

3.2. Basic Features

Shaoxing possesses eight tones: Tone 1/33/, Tone 2/13/, Tone 3/435/, Tone 4/213/, Tone 5/52/, Tone 6/231/, Tone 7/4/, and Tone 8/23/. Tones 7 and 8 are two checked tones. Any syllable bearing Tone 7 or 8 ends with a glottal stop/ʔ/. We will hereafter refer to the tones with a superscript of the number by which the tone is named. Note that tone sandhi is not represented in our transcription. Shaoxing is basically a VO language, especially in dependent clauses and when an object appears with a complex modifier, as shown in (6). Wu languages are characterized by topic prominence (Liu 2001) and constructions with topicalized objects are commonly observed in Shaoxing, as in (7). A topicalized object can occupy either a sentence initial position (7) or can follow the subject and precede the verb. As an analytic language, Shaoxing grammatical relations are realized by prepositions or word order. See example (6) for an example of a dative argument marked by the dative preposition pa7 ‘to’.

(6) 我拨依讲口前头做生活种事体。

ŋo⁴ pa7⁴ noŋ⁴ kʊŋ³ŋʊ⁵ ŋa⁴ ʑɪʔ⁵ sa² tso³ saŋ¹³ tʃi²⁴ tʃi³.

SG DAT 2SG tell.DLM 1PL beforetime do life CLF thing

‘I’ll tell you something about how (I) made a living before.’

(7) 榔子摘落来要囥得好。

fi³⁴ li³¹ tʃa²⁴ la²⁸ le² ʔjo⁵ kʊŋ³‑tʃ‑hʊ⁵.

Torreya pick-fell.come need store-VCOSM-good

‘After picking the Torreya nuts, (they) must be well stored.’
Sheng (2021) provides a detailed description of the Shaoxing grammatical system, though it focuses on the Keqiao 柯桥 variety, i.e., the Western Suburb variety, which is slightly different from the variety under investigation here.

### 3.3. Modal Auxiliaries and Potential Constructions

We summarize the distributional features of auxiliary verbs in Jidong Shaoxing following Heine (1993, pp. 20–24) and Zhu (1982, p. 122). In Jidong Shaoxing, auxiliary verbs form a closed class of words. They are free elements taking verbal or clausal complements in the form of [AUX VP] which feature reduced verbal behaviors. Auxiliary verbs in Jidong Shaoxing cannot take any aspectual marking as verbs do.

In an auxiliary construction, the strategy V (NEG) V is applied to the auxiliary verb to form a polar question. An auxiliary verb can stand alone to answer a polar question. See the example below for a polar question formed with the auxiliary ɦwᴇ⁶ ‘can’ and a positive response.

**(8)** 侬游水会会游 {个□}? 会 {个□}。

\[
\begin{array}{llllllllll}
\text{non}^4 & \text{lp}^2\text{sw}^3 & \text{fiwe}^8 & \text{fiwe}^6 & \text{lp}^2 & \text{go}^8 & \text{fiwe}^6 & \text{go}^8.
\end{array}
\]

‘Can you swim? (Yes, I) can.’ (Elicitation)

Some common Sinitic auxiliary verbs are used in Jidong Shaoxing. ɦwᴇ⁶ ‘can < know’ is used to express possibility, as in (8); ʔjɒ⁵ 要 ‘must, should < need’ is used to code necessity; and ɕjaŋ³ 想 ‘want’ and kʰiŋ³ 肯 ‘be willing’ are used to express willingness. While ɲeng² and ke³yi³ are used to denote possibility and permission in Standard Mandarin, these meanings are expressed by potential constructions and ɦɒ³ ‘can < good’ in Jidong Shaoxing. For this, see Table 1 and also Sheng (2021, pp. 413–31).

<table>
<thead>
<tr>
<th>Possibility</th>
<th>Necessity</th>
<th>Willingness</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɦn³ 好 ‘can &lt; good’</td>
<td>ɦn³ 好 ‘should &lt; good’</td>
<td>ɕjaŋ³ 想 ‘want’</td>
</tr>
<tr>
<td>fiwe⁶ 会 ‘can &lt; know’</td>
<td>ʔjɒ² 要 ‘must, should &lt; need’</td>
<td>kʰiŋ³ 肯 ‘be willing’</td>
</tr>
</tbody>
</table>

(9a) 逃不动
\[
\begin{array}{llllllllll}
\text{dɒ²-vo₆-don}^4 & \text{run-NEG-move}
\end{array}
\]
‘cannot run’ (Elicitation)

(9b) 逃不来
\[
\begin{array}{llllllllll}
\text{dɒ²-vo₆-} & \text{run-NEG-come}
\end{array}\]
‘cannot run’ (Elicitation)

See Section 5 for more details.

### 4. Polysemy of ɦn³ in Jidong Shaoxing

In Jidong Shaoxing, the lexeme ɦn³ 好 is a polysemous and multi-functional word. ɦn³ can serve as an adjective/adjectival verb ‘good, fitting, ready, done, ok’, as an auxiliary verb ‘fit to, easy to, can, may, should’, as a resultative verb complement denoting a completed action, as an adverb ‘quite’, and as a complementizer introducing a purposive clause.
The mentioned uses of *hp* in Jidong Shaoxing are also attested in Standard Mandarin (Lü [1980] 1999, pp. 256–58), except that *hp* in Jidong Shaoxing possesses more modal uses than *hp* does in Standard Mandarin.

As an adjective, the basic meaning of *hp* is ‘good’. Adjectives in Jidong Shaoxing function like intransitive verbs in a way, a common feature for East and Southeast Asian languages. No copula is needed when forming an adjectival predicate, and some adjectives can bear aspectual marking as intransitives do. The two features that distinguish adjectives from intransitive verbs are that (i) adjectives can modify nouns directly and (ii) adverbs can be derived from them. Examples (10) and (11) illustrate the attributive and the predicative uses of *hp* ‘good’, respectively. Example (12) shows its derivational use as an adverb, achieved via reduplication and the use of the adverbalizer *tejp*.

(10) 破剪刀勸用哉，用个把 好剪刀。

(11) 个香榧是好

(12) ‘The rice was fine there. How come you messed it up?’

The meaning ‘good’ can imply the meaning ‘suitable’. In (13), *hp* denotes ‘suitable’ or ‘better’.

(13) ‘She has a big face and long hair suits her.’

In (14), marked by the currently relevant state marker *dze*, *hp* denotes ‘ready, done’. *hp* in (15) serves as a resultative complement turning the verb *te^a* ‘eat’ into a telic verb phrase expressing a completed action.

As an auxiliary, *hp* takes verbal or clausal complements and can denote ‘fit to, be easy to, can, may, should’. *hp* in (16) denotes ‘be easy to’, while (17) is ambiguous and can be interpreted as either ‘fit to’ or as ‘can’. See Section 5 for more examples of the modal uses of *hp*.
In Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.

(17) 在 Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.

In terms of syntactic position, the auxiliary ʰɒ³ might sometimes be considered as an adverb. This is especially true in an example like (16) where the meaning 'be easy to' could be interpreted as 'easily' modifying the verb ʰʦʰ³ 'do'. However, auxiliaries and adverbs are characterized by different syntactic behaviors. As mentioned in Section 3.3, when transforming a declarative sentence with an auxiliary into a polar question, the strategy V (NEG) V is applied to the auxiliary instead of to the main verb, as in (18).

(18) 在 Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.

Compare (19) with (16) and (18). The adverb ʰŋ² 'very' in (19a) occupies the same preverbal position as ʰɒ³ does in (16). To transform (19a) into a polar question, one must apply the strategy V (NEG) V to the predicative adjective ʰŋ² 'difficult', as in (19b). Yet, this strategy can never be used with an adverb. The form ʰŋ² (ʰvaʰ³) ʰŋ² 'lit: very not very' in (19c) is ungrammatical.

(19) 在 Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.

Beyond its uses as an auxiliary, ʰɒ³ also has more grammaticalized uses. Namely, ʰɒ³ is used as a complementizer to introduce a purposive clause equivalent to the English counterpart 'so as to'. This function may be closely related to the auxiliary use of ʰɒ³. In the example below, the first clause 'take away the quilt' is uttered in a context in which this action will allow the speaker to put a sheet on the bed. The two clauses are linked by ʰɒ³.

(20) 在 Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.

Finally, like Standard Mandarin, ʰɒ³ in Jidong Shaoxing can serve as an adverb meaning 'quite', i.e., a degree intensifier. This use of ʰɒ³ is quite limited. The most common case is that ʰɒ³ modifies the adjective ˡjʒ⁴ 'several', as in the following example.

(21) 在 Jidong Shaoxing, the lexeme ʰɒ³ in can serve as an auxiliary, and can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ʰɒ³.
We have mentioned above that hɒ3 cannot be used to express mental or learned skills. Both (28a) and (28b) can be produced after the clause ‘the shop is contaminated with the coronavirus’.

Thus, the clause (23ii) ‘I can speak French’ does not express the ability of speaking French. This use can be easily observed in narratives involving production or treatment processes.

Adverbs can be derived from them. Examples (10) and (11) illustrate the adverbial use denoting ‘only then’ and corresponding to the adverb ‘(I) finished (my) meal.’

As can be observed from the examples given above, the modal uses of hɒ3 ‘good’ account for a number of its auxiliary uses. The nuances of its modal meanings will be elaborated in the next section.

5. Modal Uses of hɒ3

Like English can and may or Standard Mandarin neng³ ‘can’ and ke³ yi³ ‘may’, the modal meaning of hɒ3 in Jidong Shaoxing is largely dependent on context. This section presents the different types of modality that hɒ3 can express. In a nutshell, hɒ3 can denote circumstantial and physical possibility, permission, weak obligation, and epistemic possibility, but cannot denote mental ability or learned skills.

5.1. Circumstantial Possibility

Circumstantial possibility is the most common modal use of hɒ3 in Jidong Shaoxing and denotes that an action is enabled under certain conditions external to the participant. This use can be easily observed in narratives involving production or treatment processes. Example (22) is one such case. This example concerns how to process Torreya nuts. The procedure of cleaning, expressed with the modal hɒ3 in (22i), can only be carried out after the peels of the Torreya nuts completely rot off, i.e., the peel’s rotting off is the enabling condition for cleaning. Cleaning is, in turn, the enabling condition for the drying process (22ii), which is also realized with the modal hɒ3. Both hɒ3 in (22) denote circumstantial possibility and can be interpreted as ‘can’. Note that hwe⁶ in (22), used along with hɒ3, is an adverbial use denoting ‘only then’ and corresponding to the adverb ca⁵ t ‘only then’ in Standard Mandarin. This adverbial use of hwe⁶ differs from its auxiliary use in (24). See also (29) for another instance of the adverbial use.

(22) 烏□过去日会好屁，皮过会 好洗。
(i) la⁶ doŋ ku⁵ za⁸ hwe⁶ hɒ³ dзу³, rot dur pass ten day only.then good wash
(ii) ᵃjǔ-ku⁵ hwe⁶ hɒ³ sa³. wash-pass only.then good dry.in.the.sun

‘(Let the peels of the Torreya nuts) rot for ten days and only then (you) can wash (the Torreya nuts). Only after washing (them), can (you) dry them in the sun.’

We have mentioned above that hɒ3 cannot be used to express mental or learned ability. Thus, the clause (23ii) ‘I can speak French’ does not express the ability of speaking French but denotes that it is possible to speak French under circumstances in which speaking English is unnecessary. To express mental ability or learned skills, one must use the modal verb hwe⁶ ‘can’, as in Standard Mandarin. See examples (24) and (8).

(23) 我听不懂英语有啥要紧，我 好话法语□。
(i) fja⁴ tʰi⁴ n̥-vɒ³-ton⁵ ʔiŋ⁴ ny⁴ fja⁴ so⁵ ʔiŋ⁴ tʃi⁵ na⁶, 3pl. listen-Neg-understand English have what importance prt
(ii) n̥⁴ hɒ³ hwe⁶ fən⁴ ny⁴ ga⁸ jæ. 1sg good speak French aff prt

‘It doesn’t matter if they can’t understand English. I can speak French.’

(24) 我会话法语□。
n̥⁴ hwe⁶ hwe⁶ fən⁴ ny⁴ ga⁸ jæ. 1sg can speak French aff prt

‘I can speak French.’ (Elicitation)

In (25), a circumstantial condition is not overtly mentioned, but the sentence implies that there are several ways to get to University City. Taking Line 9 is one possible option.
Example (26) is a topic-comment construction. The sentence-initial noun  \( ka\h^2 \) 'turtle shell' is not the agent of the VP  \( hu^3 \) tso\(^{3}\) fi\(ja^t\) 'can make medicine' but the material. Therefore, even though the possibility expressed in (26) is related to the intrinsic property of turtle shells, we still consider this case to be one of circumstantial possibility, as it is the medicinal value of turtle shells that allows them to be made into medicine.

(26)  贽鱼背好做药个口。

\[
ka\h^2 \quad pe^8 \quad hu^3 \quad tso^3 \quad fija^t \quad ga^8 \quad jae.
\]

'Turtle shells can be made into (Chinese traditional) medicine.'

Interestingly, the HAVE-construction, [fi\(ja^t\)\(\text{HAVE} + \text{NP}\) + hu\(^3\)\(\text{GOOD} + \text{VP} + \text{COMPL}\)] is often used to express possibility.\(^2\) In this construction, the VP should be a transitive verb with an absent object. The absent object is co-referential with the NP following the verb fi\(ja^t\) 'have'. See also (30a-ii) and (38) for the same construction denoting permission and dynamic possibility, respectively. The example below is semantically analogous to example (26). The quantity of raw rice determines how much steamed rice one can have.

(27)  三升米有五碗好吃。

\[
sa^1 \quad so\(n)^1 \quad mi^4 \quad fija^t \quad \eta^4 \quad ?wo^3 \quad hu^3 \quad so^1.
\]

'Three cups of raw rice can be made into five bowls of steamed rice.'

It should be noted that hu\(^3\) demonstrates asymmetrical semantic extension in Jidong Shaoxing. The negated hu\(^3\) does not denote impossibility or prohibition but denotes 'not suitable' (see (31)-(33) and further discussion in Section 6). Rather, the opposite of a modal proposition formed by hu\(^3\) has to be expressed by a negated potential construction [V-NEG-COMP] in which le\(^2\) 'come' is the most frequent lexeme occupying the complement position, as mentioned in Section 3.3. Compare the two clauses in (28). Both (28a) and (28b) can be produced after the clause 'the shop is contaminated with the coronavirus', with (28a) as a clause of contrast and (28b) as a clause of consequence. The impossibility of using the shared bicycles in (28b) cannot be realized by simply negating the modal hu\(^3\), but must be expressed by the negated potential construction \( dzi^2-va^8-le^2 \) 'cannot ride'.

(28)  后头丼店个个毛病惹公口。

\[
f\(o\)\(\text{cl}^2 \quad ba^6 \quad tji^5 \quad g\(a^9\) \quad g\(a^9\) \quad \text{mn}^2\text{bin}^9 \quad nja^t\text{-}le^2 \quad \lambda s^9, \\
\text{back cl} \text{ shop s\_prox cl} \text{ ill} \text{ness attract-tight pr} \text{t}
\]

a.  前头个共享单车话道照样好用口。

\[
zi\(j^2\text{cl}^2 \quad g\(a^9\) \quad g\(o\)\(n^9\)\(c\)\(ja\)\(^{9}\) \quad te^1te^j\text{jo}^1 \quad \text{fno}\(\text{cl}^2 \quad tso^5\text{fi}ja^t \quad hu^3 \quad fi\(ja^t\) la.
\]

'Even though the shop is contaminated with the coronavirus, the shared bicycles in front of it are still available for use.'

b.  前头个共享单车也骑不来成。

\[
zi\(j^2\text{cl}^2 \quad g\(a^9\) \quad g\(o\)\(n^9\)\(c\)\(ja\)\(^{9}\) \quad te^1te^j\text{jo}^1 \quad fi\(a^t\) \quad d\(z\)\(^2\text{cl}^2 \text{-}va^9\text{-}le^2 \quad dze.
\]

'The shop is contaminated with the coronavirus, (so) the shared bicycles in front of (the shop) aren’t available for use any more.' (Elicitation)

5.2. Permission and Weak Obligation

In Jidong Shaoxing, hu\(^3\) can express both permission and weak obligation, both of which belong to deontic modality. Semantically, these modal types correspond to 'may' and 'should, ought to', respectively. Like circumstantial possibility (van der Auwera and Plungian 1998), the enabling conditions of these two modality types are also participant-
external except that permission and weak obligation are determined by speakers or social or ethical norms.

5.2.1. Permission

Example (29) demonstrates $hɒ^3$ used to express legal marriage ages in China. (30q) is a polar question asking for one’s permission in which the reduplicated form $hɒ^3$ $hɒ^n$ is the contracted form of V (NEG) V when forming a polar question (see also (8) and (19)). A positive answer to (30q) is given in (30a-i). In (30a-ii), the possessive construction is used to denote permission. $tɛja^3$ is the contraction of the adverb $tsa^7$ ‘only’ and the possessive verb $ɦjə^4$ ‘have’.³

(29) 男个要廿二岁, 女个廿岁会好结婚□.

---

As mentioned in Sections 3.3 and 5.1, the negated $hɒ^3$ may not be used to denote ‘cannot, may not, should not’. To express prohibition, one must adopt the negated potential construction [V-NEG-le$^2$] ‘cannot, may not’. Compare (31) with (29).

(30) q- 个颗糖我好想吃？

(31) 男个年龄不到廿二岁, 婚结不来□.

Similarly, to deny the request in (30q), the negated potential construction $tɛhɒ^3$-$vəhɒ^3$-$le^2$ ‘may not eat’ is used, as shown in (32).

(32) 男个 娶不得个□, 看牙齿烂光.

The semantic asymmetry between $hɒ^3$ ‘can’ and $fəhɒ^n$ ‘not good, not suitable’ makes Jidong Shaoxing stand out among other Wu dialects in which $nɔ$ $hɒ$ is observed to be interpreted as either ‘can’t’ or ‘be able to’. Such Shanghainese (B. Huang 1996, p. 295; Qian 1997, p. 132) and Xianju Wu 仙居话4. Compare the two sentences from Jidong Shaoxing and Xianju given in (33). To express ‘one may not smoke indoors’, the negated potential construction $tɛhɒ^3$-$vəhɒ^3$-$le^2$ ‘cannot eat’ is used in Jidong Shaoxing, while $fəhɒ^3$ ‘cannot’, which is the fusion of the negator $fə$ and $hɒ$ ‘can < good’, is used in Xianju.
5.2.2. Weak Obligation

We have seen permission granted (either by a social norm or a speaker) with the modal \( hp^3 \) ‘good’ in previous examples. When expressing weak obligation with \( hp^3 \), it is often the case that a speaker offers his or her advice or imposes his or her desire in a delicate way on the participant. Example (34) is a case of giving advice or a command. In this sentence, the topicalized object ‘clutch’ precedes the verb and follows the subject.

(34) 侬只离合背好偷搭起来哉，再闹落去部车都要拨侬闹破哉。
\[
\text{non}^1 \text{ tsa}^7 \text{ li}^2 \text{fa}^9 \text{tc}^3 \text{i}^3 \text{le}^2 \text{ dz}^3 \text{ dz}^3 \text{ bu}^5 \text{ tc}^5 \text{jo}^3 \\
2g \text{ clf} \text{ clutch good lift-rise.come crs still do-fall.down clf car} \\
tu^1 \text{ ?jo}^5 \text{ pa}^7 \text{ no}^5 \text{ nn}^4 \text{p}^9 \text{a}^3 \text{ dzr}. \\
\text{all prosp pass} \text{ 2g do-break crs} \\
\text{‘You should get go of the clutch. Otherwise, you’ll wreck the car.’}
\]

By way of contrast, the following two examples are more optative. However, if example (35) is a combination of the speaker’s advice and wish, the case of (36) certainly only involves the speaker’s wish, for a meteorological phenomenon is not an intervenable event.

(35) 侬头发好剪剪哉。
\[
\text{no}^1 \text{ da}^2 \text{fa}^7 \text{ hu}^3 \text{ tej}^5 \text{tej}^3 \text{ dzr}. \\
2g \text{ hair good cut.dlm crs} \\
\text{‘You should get a haircut.’}
\]

(36) 雨落口介许多日天哉。好停停哉□。
\[
\text{hy}^4 \text{ lo}^6 \text{ le}^8 \text{ ka}^3 \text{ sy}^5 \text{to}^1 \text{ nja}^6 \text{su}^5 \text{ dzr}, \text{ hu}^3 \text{ di}^5 \text{di}^5 \text{ dzr \ ja}^6. \\
\text{rain fall prf so many day crs good stop.dlm crs prf} \\
\text{‘It has been raining for so many days. It should stop.’}
\]

5.3. Participant-Internal Possibility

Participant-internal possibilities expressed by \( hp^3 \) are basically restricted to dynamic abilities or possibilities. We reiterate that the domain of mental ability or learned skills excludes the use of \( hp^3 \). Unlike the uses of \( hp^3 \) illustrated in Sections 5.1 and 5.2, the possibilities expressed by \( hp^3 \) in (37) and (38) are not enabled by external or circumstantial factors but are determined by participants’ inherent physical strength.
4. Polysemy of ɦɒ³ in Jidong Shaoxing

In Jidong Shaoxing, the lexeme ɦɒ³ can be interpreted as either 'fit to' or as 'can'. See Section 5 for more examples of the modal uses of ɦɒ³.

Example (39) shows the have-construction used to express physical ability.

(39) 侬做苦力，介几十斤石头，背牢好两十里路好 走 𠰮.

Nevertheless, we do observe some marginal examples beyond the domain of physical ability. In (40), the participants ‘leaves’ are also the subject and are inanimate and cannot initiate an action, but ‘floating on the surface (of the water)’ is relevant to their inherent physical property of being light.

(40) 叶叶个个浮漂个个，水高起 好浮个个.

Note that Sheng (2021, p. 416) claims that ɦʊ³ is only used in the modal have-construction to express dynamic possibility in Keqiao Shaoxing.

5.4. Epistemic Possibility

Finally, ɦʊ³ can also be used to express presumption in Jidong Shaoxing. Presumption also falls under epistemic possibility since a speaker often makes a presumption based on previous knowledge. As shown in (41), a proposition is made with the knowledge that cherry blossoms usually bloom in late March and early April.

(41) 枝山植物园个樱花 好开个个。

The proposition below in (42) can be produced in several contexts, such as a context based on daily routine or one’s experiential estimation. Certainly, this sentence possesses a deontic interpretation in certain contexts, such as if the speaker were giving an instruction or order.

(42) 侬好开个个。

Note that Sheng (2021, p. 416) claims that ɦʊ³ is only used in the modal have-construction to express dynamic possibility in Keqiao Shaoxing.
Example (43) is based on known information which is mentioned in the if-clause. The NP ɦ�³ (sa³ su³ ‘have (some) numbers’ in this sentence is metaphorically used to denote ‘be sure about something’ or ‘know something exactly’.

(43) 話下卯再碰着介種事體, □個對付依也好有些數\[个□\].

In sum, the lexeme ɦ�³ in Jidong Shaoxing has lost its lexical meaning of ‘good’ when used as a modal auxiliary, as can be seen in all the examples illustrated in Section 5. It can denote circumstantial possibility, deontic modality (permission and weak obligation), dynamic physical ability, and epistemic possibility. Like many modal auxiliaries across languages of the world (see Kuteva et al. 2019 for the entries ‘C-POSSIBILITY’, ‘D-POSSIBILITY’, ‘D-NECESITY’, PI-POSSIBILITY, and ‘E-POSSIBILITY’), ɦ�³ can be interpreted as ‘can’, ‘may’, or ‘should’ in different contexts. Despite its polysemy as a modal auxiliary, we do observe cases where ɦ�³ cannot be used even within the modality types ɦ�³ denotes. The restrictions on ɦ�³ might be related to its source meaning ‘fit to’ and its circumstantial uses, which will be elaborated in the next section.

6. Reconstruction

We have shown in Section 4 the polysemy of the lexeme ɦ�³ in Jidong Shaoxing, but from which meaning is the modal ɦ�³ derived? We propose that the modal meaning of ɦ�³ is basically derived from the meaning ‘fit to’ but not from the primary meaning ‘good’. To be exact, the ɦ�³ of ‘fit to’ has extended to denote first circumstantial and then deontic possibility and necessity. It is from circumstantial possibility that ɦ�³ has extended to express participant-internal possibility. Finally, ɦ�³ has extended to denote epistemic possibility. For this, see Figure 1.

![Figure 1. Extension pathways of ɦ�³ in Jidong Shaoxing.](image-url)

We propose that the extension of ɦ�³ from a non-modal auxiliary to a modal auxiliary is motivated by contextual reanalysis and is a result of grammaticalization. Even though the ‘fit’ ɦ�³ and the modal ɦ�³ are both auxiliaries, the modal ɦ�³ is more desemanticized than the ‘fit’ ɦ�³, with desemanticization being one of the four parameters for identifying grammaticalization (Heine and Narrog 2010, p. 405).

The following subsections will explain the semantic extension of ɦ�³ stage by stage.
6.1. ‘Fit to’ > Circumstantial Possibility > Deontic Modality

We identify the auxiliary use of Ḣao³ ‘fit to’ as the source meaning of its modal uses, since the auxiliary uses of Ḣao³ provide the primary syntactic context for its further extension, or grammaticalization, to modal auxiliaries, that is, [AUX VP]. Note that the meaning ‘fit to’ derives from the meaning ‘good’, as ‘good’ can imply the meaning ‘suitable, fit to’. See example (13).

Ambiguity between the meaning ‘fit to’ and the modal meaning ‘can, may, should’ can be easily observed in Jidong Shaoxing. This kind of ambiguous context is labelled “bridging context” by Heine (2002) and “critical context” by Diewald (2002). We adopt Heine’s (2002) context-induced grammaticalization model to illustrate the process from ‘fit to’ to ‘can, may, should’ for Ḣao³ in Jidong Shaoxing. Ambiguous contexts play an important role in the process of semantic change and grammaticalization “giving rise to an inference in favor of a new meaning” (Heine 2002, p. 86). They are the environments where the mechanism of reanalysis takes effect. That is to say, a bridging context of ‘fit to’–‘can’ provides a breeding environment where the modal meaning of Ḣao³ can be inferred. A complete process for the emergence of a new meaning is proposed to comprise four stages: (i) initial stage, (ii) bridging context, (iii) switch context, and (iv) conventionalization (Heine 2002).

In the initial stage, ‘fit to’ is the only reading of Ḣao³. Although in most cases Ḣao³ ‘fit to’ can also be interpreted as ‘can, may, should’, especially in positive sentences, the exclusive meaning of ‘fit to’ is well preserved in the negated form of Ḣao³, i.e., [NEG Ḣao³ VP]. As illustrated in (44), the VP fa³ da Ḣao³ ts³ʒ⁵ can only be interpreted as ‘not suitable to wear’. While a Mandarin native speaker or a speaker of other Wu dialects would probably not be convinced by our claim that the negated Ḣao³ cannot be interpreted as ‘cannot, may not’, as we have mentioned above, the negated Ḣao³ has not yet developed any modal meaning in Jidong Shaoxing. See (31)–(33) above. The meaning of ‘cannot, may not, should not’ can only be expressed by a negated potential construction.

Initial Stage

(44)  是话下卯十二月里哉，依个双鞋介薄慢不大好穿哉。

The asymmetrical semantic extension of Ḣao³ ‘can’ and fa³ Ḣao³ ‘not suitable’ in Jidong Shaoxing helps us to locate the lexical source of the modal Ḣao³. The asymmetry can be explained by the principle of persistence (Hopper 1991), which refers to lexical traces being retained in a grammaticalized form in the process of grammaticalization.

In a bridging context, Ḣao³ is ambiguous and can be interpreted either as ‘fit to’ or as ‘can’. It is in such contexts that the lexeme Ḣao³ ‘fit to’ is reanalyzed as ‘can’. This reanalysis can be seen in example (45), where the clause ‘he’s not here’ provides a suitable condition for the speaker to say something, and for Ḣao³ to be reanalyzed as ‘can’.

Bridging Context

(45) 架人(无有口，我有两句说话好话哉。

In a switch context, the new modal meaning of Ḣao³ is the only interpretation. However, as pointed out by Heine (2002, p. 85), in this stage the target meaning still needs to be supported by a context. In (46), in the context that Ḣao³ tso³ ga³ tu³ tso³-Ḥa³ dze⁶ ‘(I) finish all that should be done’, the Ḣao³ in the following clause liŋ⁶jia⁶ zǐ⁴ŋ³ lığı³ so⁵ Ḣao³ tso³ ga³
can only be interpreted as a modal verb and the clause denotes ‘there’s nothing else that (I) can do’. Without this context, the clause  \( liŋηŋa \) \( zvŋi \) \( nja \) \( so \) \( hu \) \( tso \) \( go \) can also be interpreted as ‘there’s nothing else that fits (me) to do’. Undoubtedly, it is the specific context that helps to rule out the source meaning ‘fit to’.

Switch Context
(46)  \( ?nja \) \( tso \) \( ga \) \( tu \) \( tso-hu \) \( dz \) \( liŋηŋa \) \( zvŋi \) need do NMLZ all do-good CRS other thing

‘(I) finish all that should be done, there’s nothing else that (I) can do.’

At the stage of conventionalization, the modal meaning of \( hu \) becomes independent of the source meaning ‘fit to’ which means that its modal meaning does not need to be supported by a specific context. In (47), the ‘can’ meaning of \( hu \) is the only interpretation.

Conventionalization
(47)  \( ?na \) \( da-tu-nm \) \( hu \) \( tsa \) \( liŋηŋa \) \( da \) \( lu \) \( ga \) \( jə \) \( 1pl \) just.now good walk other CLF road AFF PRT

‘We could take the other road just now.’

We must admit that, as a modal verb, \( hu \) has attained a certain degree of conventionalization, as demonstrated in (47). However, there are still constraints and restrictions closely related to the source uses of \( hu \) which can be explained by the principles of persistence and layering (Hopper 1991). Ambiguity between ‘fit to’ and ‘can’ emerges when \( hu \) denotes circumstantial possibility. In addition to contextual information, the syntactic units and semantic components of a sentence are also important in interpreting the meaning of \( hu \). Compare examples (48) and (49) of circumstantial possibility below. Each component of the sentence adds to its interpretation. In (48), the verb \( ti-tsa \) ‘pay a debt in kind’ implies that the items used to pay a debt are of a certain value, thereby implying that items of a certain value ‘fit to’ and ‘can’ be used to pay a debt. In contrast, (49) is a simple statement that lettuce, a common vegetable, can be served after a simple preparation. The meaning ‘fit to’ is not compatible with this particular sentence.

(48)  \( dz \) \( doŋ \) \( ci \) \( ti \) \( hu \) \( tsi \) \( ga \) \( jə \) \( worth money REL thing good repay AFF PRT

‘Anything of value can be used to repay the debt.’

‘Anything of value can (be used to) repay my debt.’

(49)  \( saŋ \) \( ts \) \( st \) \( li \) \( ti \) \( zj \) \( hu \) \( tc \) \( dz \) \( lettuce water inside blanch one VCLF then good eat CRS

‘Just blanch in boiling water, and the lettuce can be eaten then.’

Unlike in cases of circumstantial possibility, when denoting deontic permission, weak obligation, participant-internal possibility, and epistemic possibility, \( hu \) can hardly be interpreted as ‘fit to’. One more example of permission (deontic possibility) is given below. Interpreting \( hu \) as ‘fit to’ in (50) is impossible. See (55) and (58) for examples of participant-internal possibility and epistemic possibility, respectively.

(50)  \( ci^p-hu \) ?na \( ga \) \( ho \) \( fo \) \( ton \) \( li \) \( nij \) \( child how good NEG know politeness PRT

‘How could it be that children do not know about being polite?’

The ambiguity between ‘fit to’ and circumstantial ‘can’ is the major reason we have proposed in Figure 1 that, within the participant-external modality expressed by \( hu \), it is from circumstantial possibility that \( hu \) extends to express deontic modality. Our hypoth-
esis conforms to general principles of grammaticalization. The fact that ʰɒ³ exhibits a high frequency of ambiguity when denoting circumstantial possibility suggests the ʰɒ³ of circumstantial possibility is less desemanticized and thus less grammaticalized. Cross-linguistically, it is also attested that circumstantial possibility can extend to express deontic possibility, such as ‘get to’ in English (Kuteva et al. 2019, p. 191) and Chinese de2/der3 得 ‘obtain’ (Narrog 2012, pp. 215–20). See also hao³ ‘good’ in the history of Chinese, as discussed in Section 6.5.

Like circumstantial possibility, permission is a kind of possibility determined by external conditions. The example below gives a case that can be understood either as circumstantial possibility or as permission. On the one hand, kids are usually thought to have fewer obligations and more leisure time than adults do. Under such circumstances, kids can have fun and hang out as they wish. On the other hand, (51) can also be read as giving permission, in that kids may play at will since they are free from many social obligations.

(51) □大姑娘 好随便搞[个tso³], □大人随便搞不来个□。
na⁴ do⁹ku¹jan² ʰɒ³ dzɛ⁷bjar⁶ kp³ go⁸, ʰa⁴ do⁹ni⁴
2PL girl good at.will play AFF.PRT 1PL adult
dzɛ⁷bjar⁶ kp³-va⁶-le² go⁸ jaː.
at.will play-NEG-come AFF.PRT
‘You little girls can/may hang out and have fun as you wish, but as adults we can’t play at will.’ (Elicitation)

The stage of permission is probably an intermediate stage in hɑ³’s extension from circumstantial possibility to weak obligation (see van der Auweria and Plungian 1998, p. 99 for English must and German müssen) since we do not observe any ambiguous contexts of circumstantial possibility and weak obligation. Yet, ambiguity between permission and weak obligation is readily attested. Example (52) can be interpreted in two ways. If doing chores is the agreed daily routine prior to homework, ʰɑ³ denotes permission. However, if doing chores is the choice of the participant and there is still homework to do, ʰɑ³ is interpretable as weak obligation.

(52) 是介[无有]事体裁，依好做作业去哉。
zɿ³ka³ ʰa³ ẑt⁴ hi³ dzɛ, ʰo⁴ ʰɑ³ tso⁵
apart.from.this NEG.have thing CRS 2SG. good do
tso³-ja⁸ te³⁻d dzɛ.
home work go CRS
‘Apart from this, there are no chores. You may/should do your homework.’
(Elicitation)

In the example below, a father impatiently urges his child to do homework. The permission meaning of the clause ʰɑ³ tso⁵ tso³-ja⁸ is ruled out by the context and can only be understood as ‘(you) should do your homework’.

(53) 有系r激□□？ 好做作业哉□！
al³ le ʰo³ tso⁵ tso³-ja⁸ dzɛ ja⁸!
have have play-enough PRT PRT good do homework CRS PRT
‘Are you done with (the games)? (You) should do your homework.’

6.2. Circumstantial Possibility > Participant-Internal Possibility

Under the framework of context-induced grammaticalization, we propose that it is from circumstantial possibility that participant-internal possibility is derived. As claimed by Narrog (2012, p. 10), “circumstantial possibility with animate agents usually presupposes ability”. As in (54), the action of crossing the ditch is enabled by two conditions. One is the width of the ditch, and the other is the physical ability of the participant. The former is the enabling circumstantial condition, while the latter is a determining inherent ability.
Adverbs can be derived from them. Examples (10) and (11) illustrate the adjectives from intransitive verbs are that (i) adjectives can modify nouns directly and (ii) adjectives can bear aspectual marking as intransitives do. The two features that distinguish languages. No copula is needed when forming an adjectival predicate, and some adjectives from intransitive verbs are.

Example (55) is a HAVE-construction to express possibility. The possibility of earning money is enabled by the condition that the participant, my father, does woodworking. In fact, the HAVE-construction tsəŋ⁵ hɪa⁴ ljaŋ⁴ kʰwɛ⁵ hu³ tsʰəŋ⁵ can denote circumstantial possibility even if the context is not considered. Namely, ‘there’s always some money that one can earn’. Given that it is the same referent who does woodworking and earns money, the meaning of circumstantial possibility can be ruled out. Example (56) offers a case where participant-internal possibility is the only interpretation.

When denoting participant-internal possibility, there exist restrictions for hu³ that may be related to both circumstantial possibility and its lexical meaning. In Jidong Shaoxing, potential constructions are commonly used to express participant-internal possibility (see also Sheng 2021, p. 415). In this domain, the distribution of potential constructions and ha³ partially overlap. hu³ can be replaced by a potential construction in most cases, except for modal HAVE-constructions, which exclusively use hu³. For example, the second clause of (56), reproduced below, can also be realized by a potential construction.

When denoting participant-internal possibility, potential constructions are more generalized and neutral, while ha³ is most often observed in one of two specific contexts. The first often involves an enabling condition, external or internal, as in (54). In the second, ha³ expresses a possible option. This is the case in (56), a sentence produced in the context of a concert. Here, the ability to hear provides an option for enjoying a concert, even though one’s eyesight is not good. These two types of contexts contain traces of ha³’s use denoting circumstantial possibility, i.e., possibility enabled by external circumstances. The example below shows a case where ha³ cannot be used to express inherent ability. To answer the question ‘Can you hear (me)?’, only the potential construction can be used, as in (58a). ha³ can neither be used to form the question ‘Can you hear (me)?’ nor be used to answer the question, as in (58a).
(68) # an adverb, achieved via reduplication and the use of the adverbializer
(59) a. 渠近視，要戴眼鏡會 ( * 好) 看得見。
fit⁴ dazhēng⁴ tā⁵ nja⁵ tɕʰ i⁵ tɕʰæ⁴ tɕʰ tàn⁵ fwe³ (*hu³) kʰa³-tɕʰ-i⁵ tɕʰ i⁵ tɕʰ tɕʰ. 3sg short‑sighted need wear glasses only.then good look‑pot‑see 'He's short‑sighted. (He) must wear glasses and only then he can see clearly.'
(Elicitation)
b. 渠近視个□，要戴眼鏡□。 好看个□。
fit⁴ dazhēng⁴ ɕʰ i⁵ tɕʰ æ⁴ ɕʰ jæ⁴ tɕʰ tàn⁵ nja⁵ tɕʰ i⁵ tɕʰ tɕʰ go³. 3sg short‑sighted AFF PRT need wear glasses PRT
hu³ kʰa³ go³ ɕʰ æ⁴. good look AFF PRT 'He's short‑sighted and he can see only if he wears glasses.'

This restriction might be related to the source meaning of hu³, ‘fit to’. As the meaning ‘fit to’ implies possibility, a possible explanation is that hu³ does not co‑occur with a potential construction to avoid semantic redundancy. An analogy would be an awkward and redundant English construction, ‘fit to be able to’. This trace persists when hu³ is used as a modal auxiliary.⁶

The development of circumstantial possibility into participant‑internal possibility was neglected in the early literature on modality, with the reverse pathway, participant‑internal possibility > circumstantial possibility, generally being accepted by scholars (Bybee et al. 1994, chp. 6; Traugott and Dasher 2001, chap. 3; van der Auwera and Plungian 1998). With the addition of linguistic evidence from Southeast Asian languages, the proposed diachronic development from participant‑internal possibility to circumstantial possibility was then revised (van der Auwera et al. 2009, sect. 5). Narroq (2012, pp. 205–8) further confirms the pathway from circumstantial possibility to participant‑internal possibility with the development of the Thai verb dāy ‘emerge’ and the Japanese idek‑ ‘appear’. A view of bidirectional development between participant‑internal and circumstantial possibility has now become mainstream (Kuteva et al. 2019, p. 344).

6.3. Circumstantial and Participant‑Internal Possibility > Epistemic Possibility

We propose that in Jidong Shaoxing, the epistemic use of hu³ is the extension of both circumstantial and participant‑internal possibility, contexts for both of which can be observed separately. Example (60) is understood as a case of epistemic possibility when the speaker makes a guess before fetching the clothes laid out in the sun. hu³ in this sentence can be interpreted as circumstantial ‘can’ if being in the sun long enough is considered as an enabling condition for drying the clothes.
Circumstantial–Epistemic

(60) _memcpy two件衣服 mxin² 捡起 mouth.

sa³-tɕʰ₁³  daŋ  liəŋ⁴  dzr³  ?i²ʑiŋ⁰²  hʊ³  sa³  daŋ  dze.

dry in the sun inc dur several clf clothes good dry prf crs

‘The clothes in the sun may have dried.’

Example (61) is a case of participant-internal–epistemic polysemy. Example (62) gives an ambiguous case of circumstantial, participant-internal, as well as epistemic interpretations.

Participant-internal–Epistemic

(61)  拿一百斤都挑得来□，八十斤咸腌也 好挑个□。

fi³  ?ja³-pa²  tɕiŋ¹  tu¹  tʰjɪp¹-ta²-ɪl²  le  pa³-zə³  tɕiŋ¹

three hundred one hundred a half kilo all carry-por-come prf eighty a half kilo

certainly also good carry aff prf

‘(Since) he can lift 50 kilos, he can/may certainly lift 40 kilos.’

Circumstantial–Participant-internal–Epistemic

(62)  毕业做个说话， 该 好做个老师[个□]。

pja³  nja³  dzr  gə²ɕjo²nwo³,  fi³  hʊ³  tso⁵  gə³  la³sə³¹  go⁴.

graduation crs if 3sg good do clf teacher aff prf

‘He may/may be a teacher after graduation.’

Cross-linguistically, deontic–epistemic polysemy is well attested and studied. English must is a well-known example (Traugott and Dasher 2001, pp. 120–21). Even though hʊ³ can be used to express both deontic and epistemic meanings, we do not posit an evolutionary relation between the two meanings in Jidong Shaoxing, as polygrammaticalization (Craig 1991) may also be possible. The main reason for this conclusion is that a bridging context of deontic–epistemic polysemy is rarely observed among conservative speakers. The three conservative speakers in this study considered the sentence in (63) to suggest permission or weak obligation, while only the innovative speaker involved in this study claimed that the sentence can express both deontic and epistemic meanings.

(63)  五点钟我，要好去哉。

ŋ¹  tʃi³-ʨiŋ¹  dzr,  fi³  hʊ³  tɕʰi³  dzr.

t h five o’clock crs 3sg good go prf

‘It’s five o’clock (and time to get off). He may/should leave.’

‘It’s five o’clock (and time to get off). #He may probably be gone.’

For this study, we also tested quite a few deontic expressions formed by hʊ³ in epistemic contexts. The tests turned out to be failures with the three conservative speakers. One of the examples is given below. The clause hʊ³ tɕjə¹-hwəŋ¹ dze ja³ ‘(he) should get married’ expressed by hʊ³ in (64ii) is a speaker’s advice. Using it to answer the question ‘Is he married?’ in (65q) to express one’s presumption was ungrammatical for our conservative speakers but caused no problems for the innovative speaker, as shown in (65a). Instead, the conservative speakers used ?iŋ¹-ke³ ‘should’ to form a presumption as an answer to the question, as in (65b).
In Jidong Shaoxing, the lexeme *ha³ can bear aspectual marking as intransitives do. The two features that distinguish the predicative uses of *ha³ may include: (i) when denoting epistemic possibility, it is in the process of functional extension from the meaning ‘good’, as in (70). Since asking for agreement presupposes *ha³ adverbs can be derived from them. Examples (10) and (11) illustrate the aspectual marking of epistemic possibility realized with *ha³, whose surface meaning corresponds to ‘may’ but whose underlying meaning is ‘it is the right or proper moment for’. Example (66) is one such grammatical example where *ha³ is used to express a presumption based on the speaker’s judgement and knowledge. Here, the sentence was produced during the airtime of a frequently watched television program. Similarly, example (60) can also be read ‘it’s the right time for the clothes to have dried’.

Ex. (66) 介光折电视好开始□哉。  
\[ \begin{array}{cccccccc} \text{ka³} & \text{wén} & \text{tso⁵} & \text{dji⁶} & \text{tzi⁶} & \text{ha³} & \text{k³} & \text{sh} & \text{t}\text{dze}. \\
\text{now} & \text{clf} & \text{TV} & \text{good} & \text{begin} & \text{prf} & \text{crs} & \text{dze} & \text{dze}. 
\end{array} \]  
‘The TV show may have been on.’

In comparison, although (67) is similarly an expression of probability based on one’s judgement, the use of *ha³ would be ungrammatical. As mentioned above, *ha³’s epistemic use is still restricted by its source uses. Looking awful is neither an enabling condition for falling ill, nor reflective of the moment for falling ill. Rather, it is a sign of being ill.

Ex. (67) 渠人介难看.*好生毛病□哉。  
\[ \begin{array}{cccccccc} \text{hi⁴} & \text{nin} & \text{ka} & \text{na} & \text{tzi⁶} & \text{bi⁶} & \text{bu} & \text{dze}\text{dze}. \\
\text{3sg} & \text{person} & \text{so} & \text{out.of.sorts} & \text{good} & \text{have} & \text{sickness} & \text{prf} & \text{crs} & \text{prf} & \text{crs} & \text{dze} & \text{dze}. 
\end{array} \]  
‘He looks awful and may be sick.’ (Elicitation)

Second, different speakers show different degrees of tolerance for using *ha³ to express epistemic possibility. The cases of (63) and (65) have already provided a glimpse into this situation. Examples (68) and (69a) were only accepted by our innovative consultant. Sometimes it is difficult to determine whether or not the epistemic meaning of *ha³ can be accepted. We reproduce example (42) in (69b) to highlight cases of arbitrariness. The only difference between (69a) and (69b) is the subject. Our conservative consultants could only accept (69b), and when replacing the subject ‘car’ with the third person pronoun the sentence turns out to be ungrammatical.

\[ \begin{array}{cccccccc} \text{hi⁴} & \text{nin} & \text{ka} & \text{na} & \text{tzi⁶} & \text{san} & \text{mér} & \text{bu} & \text{dze}\text{dze}. \\
\text{3sg} & \text{person} & \text{so} & \text{out.of.sorts} & \text{good} & \text{have} & \text{sickness} & \text{prf} & \text{crs} & \text{prf} & \text{crs} & \text{dze} & \text{dze}. 
\end{array} \]  
‘He’s not young. (He) should get married.’
Languages 2023, 8, x FOR PEER REVIEW 5 of 32

4. Polysemy of ɒ3 in Jidong Shaoxing
In Jidong Shaoxing, the lexeme ɒ3 serves as a resultative complement denoting a completed action. In (15) it serves as a resultative complement turning the verb to be, can, may, should’. As an auxiliary verb, ɒ3 takes verbal or clausal complements and can denote ‘fit to’, easy to, can, may, should’, as a resultative verb complement denoting a completed action. The mentioned uses of ɒ3 in Standard Mandarin. Does in Standard Mandarin. Still, all of this information suggests that the epistemic use of ɒ3 is its latest layer of extension.

6.4. Accelerating Factors
We have identified the auxiliary ɒ3 ‘fit to’ as the source of its modal meanings including ‘can’, ‘may’, and ‘should’. Other factors may also accelerate or generalize the extension of ɒ3.

First, ɒ3 itself can be used independently to ask for agreement, which is probably an extension from the meaning ‘good’, as in (70). Since asking for agreement presupposes permission, this use of ɒ3 can definitely promote extension to permission.

(70) 介我前拨依换个，好？
ka’ŋ ɣuŋ¹ zjī² pa⁷ nʊŋ⁴ hù⁵ ɣu⁸
so 1SG first BEN 2SG change CLF GOOD
‘I’ll change it for another one for you, OK?’

Second, though rare, we do observe some contexts of ‘easy’-‘can’ polysemy, which means that ‘be easy to’ is also a possible source for ‘can’. Example (71) is a case where ɒ3 can either be interpreted as ‘be easy to’ or as the ‘can’ of circumstantial possibility, that is, either the thin and watery texture of corn porridge makes it easy to swallow, or one could drink the porridge (like drinking water). In addition, example (40) showed a case of ‘fit’-‘easy’-‘can’ polysemy, which can be interpreted as ‘(leaves) easily float on the surface of the water’.

(71) erson光六谷糊煞煞薄个囧，□□□□□□□
han⁹ zjŋʰkwŋ¹ lo³kw’o³ hù⁵ sa’sa’bo⁸ ɣo, do⁶do⁶ ɒ3 ha³
DIST moment corn porridge thin AFF.PRT ONO GOOD drink ɣa⁸ la.
AFF PRT
‘The corn porridge (we used to eat before) was very thin.

a. [ɒ3 ha³]: It was easy to drink (like drinking water). ‘Elicitation
b. [ɒ³ ha³]: (One) could drink (instead of chewing it, like drinking water).’

The reason the meaning ‘be easy to’ is not identified as the source for the modal ɒ3 is that contexts suggesting ‘easy’-‘can’ polysemy are less frequent than those suggesting ‘fit’-‘can’ polysemy. Moreover, the sandhi patterns of ɒ3 are different when denoting these two different meanings. As given in the translations of (71), ɒ3 ha³ denotes ‘easy to drink’, a sandhi pattern of forming a compound word, while ɒ³ ha³ signifies ‘can drink’.

Undoubtedly, these factors illustrated above contribute to the generalization of the modal uses of ɒ3. It is true that grammaticalization is unpredictable to a certain degree, but frequency of use still plays a role in expanding the possibilities a given form has for grammaticalization (Hopper and Traugott 2003, pp. 106, 126–30).
6.5. Hao³ 好 ‘Good’ in the History of Chinese

We have reconstructed the functional extension of *hp3 in Jidong Shaoxing in Sections 6.1–6.3 by adopting the model of context-induced grammaticalization proposed by Heine (2002). Although our reconstruction of *hp3 cannot be directly supported due to a lack of diachronic records of Jidong Shaoxing, it conforms to the evolution of hao³ 好 ‘good’ (the etymon of *hp3) in the history of Chinese. Based on Li’s work (2017), and diachronic analyses proposed by J. Li (2005) and Jiang and Cui (2017), the evolution of hao³ in the history of Chinese is reorganized and adapted in Table 2.

<table>
<thead>
<tr>
<th>Periodization</th>
<th>C-pos/‘Fit to’</th>
<th>D-nec</th>
<th>P-t-pos</th>
<th>‘Easy to’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Medieval</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3rd–6th century)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Medieval</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6th century–1250)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Modern</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1250–1400)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modern</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(15th–18th century)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contemporary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(19th cent.-present)</td>
<td>zh3 hao³ ‘can only’</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The periodization of Chinese we follow in this paper is that proposed by Peyrabe (1988).

According to J. Li (2005), M. Li (2017, p. 69), and Jiang and Cui (2017), modal uses of hao³ can be first observed in Early Medieval Chinese (3rd century–6th century). During this time, it was used to express circumstantial possibility and could be interpreted as ‘fit to’ or ‘can’, as shown in (72). Compare this example with the Jidong Shaoxing example (26), reproduced here in (73).

(72) 羔有死者, 皮好作裘褥, 肉好做干腊, 及作肉酱, 味又甚美。

(73) Jidong Shaoxing

甲鱼背 好作药厘。

The ‘fit’-‘can’ polysemy of hao³ persisted until its circumstantial possibility use began to decline in Modern Chinese, specifically during the Qing Dynasty. In contemporary Standard Mandarin, only the fossilized zh3 hao³ 只好 ‘can only’ is used to denote circumstantial possibility. As shown in (74), the deletion of the adverb zh3 只好 ‘only’ is ungrammatical in Standard Mandarin.

(74) Standard Mandarin

他腿断了, * (只) 好在家休息。

His leg is broken and he can only take a rest at home.
As indicated in Table 2, towards the end period of Late Medieval Chinese, which corresponds to the Song Dynasty (960–1279), a significant new meaning of *hǎo* emerged—the deontic meaning ‘should’. However, this use only lasted to Pre-Modern Chinese. See (75).

(75) 似这般汉，正好蓦头蓦面唾。

sì³ zhe² bān¹ hàn¹, zhèng⁴ hǎo³ mo³ tōu² mo³ mian² tuò².

resemble so man just good in.the.face spit

‘A person like this, (one) should spit on him in the face.’

Bi Yunn Liu · 78 Ze 碧岩录·78则 (1125) [Blue Cliff Record · Verse 78]

(Cited from M. Li (2017, p. 132) and glossed and translated by S. Lü)

A bit later than the deontic use of *hǎo*³, the interpretation of participant-internal possibility appeared in Pre-Modern Chinese during the Yuan and Ming Dynasties (1271–1644), as shown below. Note that M. Li (2017, p. 153) does not single out the meaning of participant-internal possibility for *hǎo*³.

(76) 您兄弟量窄，只 好陪哥哥一小钟。

nín² xiōng³ di¹ liáng⁴ zhái³,

2sg.HON sibling capacity narrow

zhī³ hǎo³ pei² gě¹ yì⁴ xiǎo³ zhōng¹,

only good accompany brother one small cup

‘I’m not good at drinking (alcohol) and I can only drink a small cup to accompany you.’

Yuan Qu Xuan · Zhishà Dan 元曲选·朱砂担 (1616) [Selected Yuan Theatre Plays · A Picul of Cinnabar]

(Cited from M. Li (2017, p. 153) and glossed and translated by S. Lü)

Like the deontic use, the participant-internal possibility use of *hǎo*³ did not last long and was not further generalized.

As for the meaning ‘be easy to’, the ‘easy’–‘can’ polysemy can also be observed for *hǎo*³, as in (77).

(77) 婆婆，你如今真个不好 过日子，不如跟着我一同回去住罢。

sǎo³ sǎo ni³ ruò² jīn¹ zhèn¹ gě⁴ hú² hǎo³ guò⁴ rì³ zi

sister-in-law 2sg now indeed NEG good live life

bú² ruò² gēn¹ zhe wù³ yì³ tōng² hú² qu¹ zhú⁴ ba.

inferior follow-our 1sg together return-go live PRT

‘Sister, you [aren’t easy to] can’t make a living now. It would be better to come to live with me.’

Yuan Qu Xuan · Ren Fengzi 元曲选·任风子 (1616) [Selected Yuan Theatre Plays · Ren Fengzi]

(Cited from M. Li (2017, p. 153) and glossed and translated by S. Lü)

Nevertheless, as can be seen in Table 2, *hǎo*³’s meaning ‘be easy to’, considered as an evaluative meaning by M. Li (2017, p. 104), emerged later than the meaning ‘fit to/can’, sometime between the Tang and the Five Dynasties (618–960AD) (see also J. Li 2005; Jiang and Cui 2017). This suggests that ‘be easy to’ is not the direct source for the modal uses of *hǎo*³. The meaning ‘be easy to’ for *hǎo*³ maintains an active status in Standard Mandarin.

The evolution of *hǎo*³ in the history of Chinese parallels the extension of *hū*³ in Jidong Shaoxing and supports our reconstruction of *hū*³. The fact that *hǎo*³ ‘good’ is used to denote weak obligation and participant-internal possibility in the history of Chinese sheds some light on the evolution of *hū*³ ‘good’ in Jidong Shaoxing. Both of these uses appeared much later than the circumstantial possibility use, suggesting that the chain ‘circumstantial possibility > participant-internal possibility’ for *hū*³ in Jidong Shaoxing is plausible. Furthermore, the emergence and generalization of *hǎo*³’s meaning ‘be easy to’ can also be mapped onto Jidong Shaoxing *hū*³. That ‘be easy to’ emerged later than the meaning of circumstantial possibility suggests the implausibility of identifying ‘be easy to’ as the source meaning for circumstantial ‘can’.
7. Conclusions

This paper has provided a case study on the modal uses of the lexeme ʰɒ³ ‘good’ in Jidong Shaoxing. The lexeme ʰɒ³ is a polysemous and multi-functional word. ʰɒ³ can serve as an adjective/adjectival verb ‘good, fitting, ready, done, ok’. Its modal uses include circumstantial ‘can’, participant-internal ‘can’, permission ‘may’, weak obligation ‘should’, and epistemic ‘can’. ʰɒ³ shows asymmetrical semantic extension in Jidong Shaoxing. While the positive form of ʰɒ³ possesses modal functions, the negated form fa’ ʰɒ³ only denotes ‘not good’ or ‘not suitable’.

We have proposed that it is from the meaning ‘fit to’ but not directly from the lexical meaning ‘good’ that the modal meanings of ʰɒ³ are derived. This pathway is different from the ‘good > deontic permission route found in some other languages (Kuteva et al. 2019, pp. 219–20). Adopting the context-induced grammaticalization model, we have reconstructed the process of extension of ʰɒ³ in Jidong Shaoxing, proposing that the ʰɒ³ of ‘fit to’ has followed a multidirectional or polygrammaticalization pattern. This pattern contains an intermediate stage of circumstantial possibility in the development of both its deontic and participant-internal uses:

Chain 1: ‘fit to’ > circumstantial ‘can’ > deontic ‘may, should’.
Chain 2: ‘fit to’ > circumstantial ‘can’ > participant-internal ‘can’.

Within deontic modality, the ʰɒ³ of permission is reconstructed as the source for the ʰɒ³ of weak obligation, i.e., circumstantial ‘can’ > permission ‘may’ > weak obligation ‘should’.

Although the chain of circumstantial possibility > participant-internal possibility is cross-linguistically less common than the reverse, our proposition is based on linguistic facts in Jidong Shaoxing and conforms to the evolution of the etymon hao³ ‘good’ of ʰɒ³ in the history of Chinese. A similar pathway can be found in Chinese: ke³ 可 ‘suitable’ > root possibility > ability (Meisnerst 2008a, 2008b; see also Kuteva et al. 2019, p. 415). Our findings contribute some new evidence for two proposed bidirectional developments in the modal domain: circumstantial ↔ participant-internal and deontic permission ↔ deontic necessity (Narrog 2012, pp. 185–221).

The epistemic use of ʰɒ³ is proposed as the latest stage of extension in the current Jidong Shaoxing. It is from both circumstantial and participant-internal ‘can’ that the epistemic ‘can’ is developed:

Chain 3: circumstantial-participant-internal ‘can’ > epistemic ‘can, may’.

The epistemic use of ʰɒ³ is often restricted by the source meaning of circumstantial ‘can’ or ‘fit to’. Additionally, the degree of generalization of epistemic ʰɒ³ varies between different speakers.

The use of the lexeme hao ‘good’ as a modal verb can be considered a regional phenomenon. According to a preliminary cross-linguistic survey, this phenomenon is found across Shanghai, Jiangsu, and Zhejiang Provinces, an area usually known as the Yangtze River Delta, which covers the entire Wu speaking area and some Jianghuai Mandarin speaking areas. For Wu dialects, hao ‘good’ as a modal verb is reported in Chongming (Zhang 1993, p. 103), Shanghainese (B. Huang 1996, p. 295), Suzhou (Ye 1993, p. 60), Hangzhou (Bao 1998, p. 110), Shaoxing, Yuyao 余姚 (Zhou 2019, pp. 23–46), Ningbo (Tang et al. 1997, p. 92), Xianju, Wenzhou 温州 (You and Yang 1998, p. 179), and Jinhua 金华 (Cao 1996, p. 141). For Jianghuai Mandarin, the phenomenon is attested in Nantong 南通 (Tao 2007, p. 154), Yangzhou 扬州 (J. Huang 1996, p. 165), and Nanjing 南京 (Liu 1995, p. 150). In addition, hao as a modal auxiliary is also attested in some discontinuous areas in Guangdong and Taiwan, that is, in Jieyang Southern Min and Hakka, as mentioned at the beginning of the paper. Certainly, the modal uses of hao vary in different languages and dialects. More work needs to be carried out to figure out how the modal functions of hao extend and to what extent its modal uses can be generalized in individual languages.
Notes

1 A rare source for can modals observed in Jidong Shaoxing is the potential construction ʨʰja⁴-tɕʰ-la⁸ 吃得落 ‘can < eat‑ror‑fall’. This construction can function like an auxiliary denoting possibility in the form of [ʨʰja⁴‑tɕʰ‑la⁸ VP]. We do not identify ʨʰja⁴‑tɕʰ‑la⁸ as an auxiliary verb because it is subject to a different negation strategy from that of negating an auxiliary. Instead of negating the whole potential construction in the form of [NEG ʨʰja⁴‑tɕʰ‑la⁸ VP], it is the complement la⁸ that is negated, i.e., [ʨʰja⁴‑və³‑la⁸ VP] 吃不落 VP ‘eat‑NEG‑fall’ to signify ‘cannot VP’. See also Sheng (2021, pp. 415–16).

2 The have-construction might be considered to be a type of “modal possessive construction” (Narrog 2012, p. 269) derived from a possessive‑existential construction. However, unlike the constructions which are claimed to contain no overt modal elements by Narrog (2012, p. 269), the overt modal verb la³ must be used in the modal have‑construction in Jidong Shaoxing. Such a modal have‑construction is absent in Narrog’s findings. See also Note 3.

3 The construction with ɦiːta³ ‘have’ in (30a‑ii) is probably a bridging context (or an ambiguous context) between the possessive construction and the modal construction with ɦiːta³ ‘have’. If the context of (30) is not taken into consideration, (30a‑ii) can be interpreted either as ‘you have only one (candy) that you can eat’ or as ‘you can only eat one candy’. The covert subject ‘you’ of (30a‑ii) can still be treated as the possessor of the candy, which is quite different from the case of (27). In (27), ‘three cups of rice’ is neither the possessor of ‘five bowls of (rice)’ nor the real subject of the sentence, but a topic whose semantic role is the material for ‘five bowls of (rice)’. From the perspective of semantic bleaching, example (27) is more generalized than (30a‑ii). Since the development of possessive construction into a modal construction is not a focus of this paper, its grammaticalization pathway is not addressed.

4 Shanghainese belongs to the Shanghai subdivision 上海小片 of the Taihu division, while Xianju Wu belongs to the Taizhou division 台州片 (Wang and Cao 2012, p. 104).

5 This term can be traced back to Evans and Wilkins (2000).

6 One should note that this is not a general restriction of the lexeme ‘good’ in all the Wu dialects. For example, according to our analysis of one hour of video material, the modal use of la³ ‘good’ in Shanghainese is more generalized and can co‑occur with a potential construction in a sentence.

7 Historical documents compiled by missionaries concerning early Wu languages can be dated back to the mid‑19th century, including Shanghainese, Ningbo, Wenzhou, Taizhou, Suzhou, and Jinhua (You 2021).
8. Jiang and Cui (2017) propose that the meaning ‘fit to, easy to’ is derived from the meaning ‘love, like’ of hao⁴ rather than the meaning ‘good’. We do not address this proposition here because hao in Jingdong Shaoxing does not possess the meaning ‘love’.

References

Evans, Nicholas, and David Wilkins. 2000. In the mind’s ear: The semantic extensions of perception verbs in Australian languages. Language 76: 546–92. [CrossRef]
Meisterernst, Barbara. 2008a. Modal verbs in Han period Chinese Part I: The syntax and semantics of ke 可 and keyi 可以. Cahiers de Linguistique Asie Orientale 37: 85–120. [CrossRef]
Meisterernst, Barbara. 2008b. Modal verbs in Han period Chinese Part II: Negative markers in combination with the modal auxiliary verbs ke 可 and keyi 可以. Cahiers de Linguistique Asie Orientale 37: 197–222. [CrossRef]


Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.