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The emergence of disjunction: A history of constructionalization in Chinese

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Abstract: This study investigates the diachronic development of Chinese disjunction, drawing implications both for principles of diachronic Construction Grammar, and for the linguistic typology of disjunction. Close examinations of data from historical corpora revealed non-linear, gradual constructional changes based on complex yet principled interactions of conceptual origin, constructional patterning, discourse pragmatics, and an isolating typology in the development of Chinese disjunction. Specifically, the results (1) show that construction is the source, unit and product of change, (2) demonstrate the pivotal role of syntactic and semantic reanalysis in the micro changes leading to the constructionalization of disjunction, (3) reveal a conceptual and diachronic continuity between epistemic uncertainty and disjunction, (4) highlight frequency of use as a driving force in the conventionalization and entrenchment of constructional schema, and (5) confirm the role played by an isolating typology in syntactic and categorial reassignment as a key step in grammatical constructionalization.

Keywords: Chinese, disjunction, diachronic Construction Grammar, constructionalization, corpus

1 Introduction

Coordination is common in languages (Mithun 1988). It refers to “syntactic constructions in which two or more units of the same type are combined into a larger unit and still have the same semantic relations with other surrounding elements” (Haspelmath 2007: 1). A distinctive feature of coordination is structural symmetry between the two combined units known as “coordinands.” Disjunction or disjunctive coordination is a semantic subtype of coordination (Dik 1968; Haspelmath 2004, 2007). The relationship between the two coordinands of a disjunction is one between alternatives, e. g., the or-coordination in

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English and its semantic equivalents in other languages (Dik 1968; Longacre 1985; Haspelmath 2004, 2007). Linguistic studies of disjunction are few and far apart. One insight that has emerged from the scarce research pertains to a difference between formal logic and natural language. Specifically, in formal logic, there is a distinction between “inclusive” and “exclusive” disjunctions. The former implies an and/or relationship while the latter refers to an either/or relationship. This distinction, however, is considered irrelevant to natural language where the interpretation of a disjunction is more a matter of pragmatics than one of truth-condition (Dik 1968; McCawley 1993; Haspelmath 2007). A more useful distinction made in descriptive linguistics is between “standard disjunction” and “interrogative disjunction,” which are lexically distinct in languages such as Mandarin Chinese (Li and Thompson 1981: 532; Shi 2006: 127–129) and Somali (Saeed 1993). Interrogative disjunction occurs in an alternative question that requires the listener to give a specific answer by choosing one of the two coordinands. Standard disjunction, on the other hand, does not insist on such a requirement.

In a recent study examining disjunction from a typological perspective, Mauri (2008) points out that a wide range of morphosyntactic structures is used across languages to express disjunction. Languages without a lexical equivalent of or as disjunctive coordinator employ irrealis markers to encode disjunction. While Mauri seems to favor a clear formal distinction of dedicated disjunctive coordinators from irrealis markers, Pederson (2013) argues against it. He suggests that dedicated disjunctive coordinators are cross-linguistically less common than irrealis constructions in expressing alternatives, and that disjunction is best analyzed as a specialized case of irrealis constructions.

To better understand the relationship between disjunction and irrealis in particular and the typology of disjunction in general, a diachronic perspective is necessary. As Mithun (1988: 331) observes, languages vary strikingly not only in what structures are used to mark coordination, but also in “the degree to which coordination is grammaticized at all.” Haspelmath (2007: 49–50), too, points out “the degree of grammaticalization” as relevant to questions about the typology of coordination. The lack of dedicated coordination constructions in some languages may be seen as a “low degree of grammaticalization” rather than a complete absence of coordination. For Mithun, the development of coordination markers does not seem to follow a universal pathway. Rather, the sudden emergence of grammaticized conjunctions is best explained by language contact (1988: 351). Haspelmath, on the other hand, argues that regardless of the relative degree of grammaticalization of coordination markers in individual languages, there is high cross-linguistic similarity and consistency in the source and trajectory of their grammaticalization. Viewed in a
typological context, the development of Chinese disjunction points to a cross-linguistic similarity in terms of the conceptual source of change, which corresponds to a synchronic connection between disjunction and constructions related to epistemic uncertainty or irrealis in general.

This paper investigates the historical development of standard disjunction in Chinese. We draw on insights from usage-based Construction Grammar, which views grammar in its entirety as consisting of form-meaning pairings (constructions) that emerge from generalizations over usage events (Croft 2001; Goldberg 1995, 2006). Thus, instead of examining the development of the Chinese disjunctive coordinator *huò* as a single morpheme, we investigate the constructional context in which change takes place. In contemporary research on grammaticalization, the idea that the source of grammaticalization is not a single morpheme, but a whole grammatical construction is not new. Lehmann (1995: 406) suggests that grammaticalization involves “the whole construction formed by the syntagmatic relations of the elements in question.” Bybee, Perkins, and Pagliuca (1994: 11) argue that “it is the entire construction, and not simply the lexical meaning of the stem, which is the precursor, and hence the source of the grammatical meaning.” More recently, Construction Grammar has gained ground in many subfields of linguistics including historical linguistics. Constructionist approaches to grammaticalization have taken off on an unprecedented scale, spurring systematic studies of constructions in relation to language change (Bisang, Himmelmann, and Wiemer 2004; Bergs and Diewald 2008; Hoffmann and Trousdale 2011). Hopper and Traugott (2003) provide an updated definition of grammaticalization by including constructions as the unit of change in addition to lexical items. Traugott (2003: 626–627) considers grammaticalization as “centrally concerned with the development of lexemes in context-specific constructions (not merely lexemes and constructions).” Himmelmann (2004: 31) challenges what he calls the “element-based view of grammaticalization” and argues that “the unit to which grammaticalization properly applies are constructions, not isolated lexical items,” emphasizing that the “syntactic context determines the outcome at least as much as the grammaticizing element itself.” Wiemer and Bisang (2004: 7) argue that morpheme-based and category-based approaches to grammaticalization fail to differentiate grammaticalization from lexicalization as a distinct phenomenon without taking into consideration formal and distributional criteria as “they are manifested within constructions.”

Constructionist approaches to grammaticalization have inspired the notion of “diachronic Construction Grammar” (Noël 2007; Trousdale 2012) and given rise to recent discussions of constructionalization and constructional changes. Fried (2013: 424) conceptualizes grammaticalization processes as “instances of
constructionalization,” which she defines as the emergence of a new grammatical construction from “previously independent material,” or as the development of “increasingly more opaque meaning” in an existing construction through reorganization. For her, the thrust of the constructionist approach is its focus on the holistic dimension of change. Traugott and Trousdale (2013: 22) consider the explication of change along the internal dimensions of a construction a prerequisite for the explanation of the holistic dimension of change. In an earlier article, they (Traugott and Trousdale 2010: 7) define grammaticalization as “a constructional (form-meaning) change that occurs in micro-steps.” Later on, they (Traugott and Trousdale 2013) make an explicit distinction between constructionalization and constructional changes, defining the former as the creation of a new form-meaning pairing based on a “succession of micro-steps.” They refer to these micro-steps as “constructional changes.” Thus, while constructionalization is the end product of a multifaceted process, a constructional change affects “one internal dimension of a construction” but does not involve “the creation of a new node” in the grammar as a cognitive network (p. 26). Hilpert (2014: 194) regards constructional change as multidimensional and capable of affecting an existing construction “in terms of its form, its function, any aspect of its frequency, its distribution in the linguistic community, or any combination of these.” This view implies that a constructional change may or may not give rise to the creation of a new construction, depending on what changes occur and how they combine. As we will show in this study, the development of Chinese disjunction exemplifies grammatical constructionalization – the conventionalization of a form-meaning pairing in the grammatical system – resulting from gradual constructional changes. It takes the theoretical integration of a holistic and a process-based perspective to account for the development.

Just as constructions are language-specific (Croft 2001), so are the conditions of constructional change a function of the typological particularities of a language (Heine and Reh 1984; Heine et al. 1991). Bisang (2010: 246) points out that constructions drive grammaticalization in Chinese especially in view of two typological features prominent in Archaic Chinese, an isolating language. One of these features is “precategoriality” in the sense that one and the same lexical item can be readily assigned different grammatical functions. This is consistent with Norman’s (1988: 87) observation that words are “extremely resistant to any formal word class analysis,” and that “most words may function as other parts of speech depending on their place in the sentence.” The other typological feature discussed by Bisang is “hidden complexity,” understood as the tendency that one and the same surface structure is open to multiple syntactic analyses. The present study provides further evidence that constructional patterning
provides the primary context for reanalysis, and that both typological features suggested by Bisang are at work in the gradual constructionalization of standard disjunction in Chinese.

We will argue that standard disjunction in Chinese developed stepwise in constructional contexts involving the Archaic Chinese full verb *gʷˤək {*[g]ʷˤək} (Medieval Chinese hwok, modern Chinese huò), a mental state verb describing the experience of doubt or uncertainty. Its grammaticalization occurred with the syntactic reanalysis of the constructional frame [huò VP] in given pragmatic contexts. The syntactic reanalysis drove categorial change of huò, e.g., from a mental state verb to a semantic network consisting of existential quantification ‘some,’ pronominal quantification ‘someone,’ and epistemic modality ‘possibly, maybe.’ The propagation of these conceptually related uses led to frequent juxtapositions of [huò X] and [huò Y] where X and Y are semantic opposites serving as parallel predicates. Diachronic frequency data suggest that the increased productivity of the juxtaposed structures associated with predictable semantics gave rise to reduced compositionality of [huò X huò Y], which conventionalized into the disjunctive construction [X huò Y], linking constituents of a wider range of categories.

This paper is organized as follows. Section 2 addresses the data sources and methods. Section 3 discusses uses of huò (hwok < *gʷˤək {*[g]ʷˤək}) as a marker of standard disjunction and other more marginal uses in modern Chinese. Section 4 examines corpus data and traces changes in constructional contexts and the layering of conceptually related meanings, identifying crucial processes such as reanalysis and categorical expansion central to the conventionalization of Chinese disjunction. Section 5 concludes by drawing implications for the typology of disjunction, as well as for principles of diachronic Construction Grammar.

2 Data and methods

Corpus data were employed for this study. The description of modern Chinese standard disjunction constructions was based on data retrieved from the Peking

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1 The reconstructed forms are adopted from Baxter and Sagart (2014). In this paper the term “Archaic Chinese” is used interchangeably with Baxter and Sagart’s term “Old Chinese,” and “Medieval Chinese” with their “Middle Chinese.” See Section 2 on the periodization of Chinese.

2 Conceptually, these uses are more closely related than they seem to be at first glimpse. In fact, following Leibniz, possibility is considered a logical equivalent to existential quantification. That is, possibility is the existence of truth in some (but not all) worlds (Lyons 1977; Fitch 1979).
University CCL Modern Chinese Corpus. The diachronic analysis was based on the Peking University CCL Pre-modern Chinese Corpus as well as the CCL Modern Chinese Corpus. Vast in size and historical depth, the CCL Pre-modern Corpus consists of texts dating from the Zhou dynasty (eleventh century B.C.E.) to the early years of the Republican era after the fall of imperial China. The corpora are not tokenized and required tedious post-query manual annotations. Given the long textual history of Chinese, periodization is methodologically relevant to the analysis of diachronic data in terms of determining the larger trend of development across wide spans of temporal spaces. We followed Chen (1999: 2) in his general model of Chinese language periodization. However, we used the term Early Mandarin instead of Pre-Modern Chinese to avoid confusion resulting from the view of Pre-Modern as anything prior to Modern Chinese, a view apparently underlying the CCL corpus system. We also divided Chen’s “Modern Chinese” into Early Modern Chinese and Modern Chinese. This is due to the fact that language materials that fall under Chen’s “Modern Chinese” are technically split between the CCL Pre-modern Corpus, which ends with materials of the 1920s, and the CCL Modern Corpus, which consists of materials from 1940s to the present. To support our analysis on a balanced database that maximally covers Chinese linguistic history, we adopted both the CCL Pre-modern Corpus and the CCL Modern Corpus. We divided the materials in the two corpora into five periods, as I-V below.

I. Archaic Chinese (1100 BCE–25 CE)
II. Medieval Chinese (25 CE–907 CE)
III. Early Mandarin (907 CE–1644 CE)
IV. Early Modern Chinese (1644 CE–1920s)
V. Modern Chinese (1940s–present)

The subcorpora differ in size, and therefore we used relative frequencies in analyzing the diachronic distributions of the relevant constructions involved in

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3 北京大学汉语语料库 http://ccl.pku.edu.cn:8080/ccl_corpus/, data retrieved on January 2, 2014. The CCL Pre-modern corpus counts 208, 617, 433 characters and the CCL Modern Chinese corpus is 364,454,631 characters in size. While the former is best described as containing both literary and vernacular materials, the latter consists primarily of written texts from press media, literary translations, texts of procedural discourse, and some novels and dramas. Only a small portion (129,753 characters) of the modern corpus is in the spoken register. Based on different original sources, the CCL Pre-modern corpus includes both traditional and simplified scripts. The script in our examples is consistent with that which is found in the corpus. All periodized data in this corpus were included in the analysis. Non-periodized texts with author information or other indirect clues to their periodization were included, others excluded, which has no methodological impact because relative frequencies were used for the analysis.
the grammaticalization of the standard disjunction. To calculate relative frequencies of the constructions involving Interop, we followed a three-step procedure. First, we generated from each subcorpus a randomized sample of 1,000 concordances of Interop as the keyword, and counted the raw frequencies and percentages of the constructional patterns in each subcorpus by manual annotations. Both authors independently coded each of the four subcorpora. The respective Scott’s Pi (Scott 1955) values for inter-coder reliability with the four subcorpora were: 0.87 for Archaic Chinese, 0.85 for Medieval Chinese, 0.92 for Early Mandarin, 0.88 for Early Modern Chinese, and 0.98 for Modern Chinese. Disagreements were resolved afterwards based on reexaminations of the relevant items as well as consultations of available secondary commentaries and annotations. Second, we retrieved all the tokens of Interop in each subcorpus, and based on known total token counts of each subcorpus, we calculated the relative frequency of Interop in each subcorpus. Third, we computed the relative frequencies of each constructional pattern (per one million) in each subcorpus by multiplying its percentage in the 1,000-token sample and the relative frequency of Interop in each subcorpus.

In addition to the historical primary texts in the CCL Corpus, we also examined secondary literature in Chinese literary history, including annotations and commentaries on the Pre-modern primary texts, relevant commentaries on earlier commentaries, as well as the Kangxi Zidian (1980), a Qing dynasty imperial dictionary based on rhyme books and annotations from earlier dynasties. In addition to the secondary literature and dictionaries, works on the historical reconstruction of Old Chinese phonology, as well as English translations of the original texts were also consulted where available. As scholars of manuscript cultures well know, ancient manuscripts do not have the same textual stability taken for granted in the age of printed books (Tian 2005). Although the inclusion of the secondary literature cannot help us identify the “original” master copy of a text, which in many cases is illusory in Chinese literary history, it is useful in triangulating the textual data. Furthermore, the peculiarities of the Chinese script as well as historical orthographic standardization efforts may mask linguistic changes. In this study, we try to disentangle our analysis from confusions related to orthography.

4 However, as Baxter and Sagart (2014: 3) note, the focus of historical reconstruction of the ancestor of later varieties of Chinese “has been phonetic reconstruction, with relatively little attention to morphology or to the syntactic and semantic properties of the reconstructed forms.” For this reason, we took caution in drawing syntactic or semantic implications from phonetic reconstruction.

5 In the case of Interop, its linguistic development may have been enshrouded in and obscured by two orthographic processes. An early rebus, 或, misleadingly ties it to an unrelated homophonous morpheme, *gʷark (*[gʷ]ark), meaning ‘territory.’ A later orthographic differentiation
Despite our best intention to be cautious, we recognize that the use of historical textual data as evidence of change always presents challenge due to the indirect and accidental nature of the written documents that have survived (Traugott and Trousdale 2013: Section 1.7). The arcane nature of the earliest texts no doubt adds to the tentativeness of the research. For this reason, the analysis is presented in the hope that it can be tested, debated, and revised in light of additional data and future discoveries.

3 Standard disjunction in Modern Chinese

The earliest description of Chinese disjunction is found in the first Chinese grammar – Ma’s Grammar (Ma 1954 [1898]). Ma considers huò a “linking word,” which serves to connect alternative units being enumerated. In more recent linguistic scholarship, disjunction has received only sporadic attention. Chao (1968: 265) distinguishes standard disjunction and interrogative disjunction. According to his observation, the former can be marked with a zero disjunctive coordinator, with huožhe, huoshi, or their weaker forms hezhe and heshi; the latter is marked with haishi. Li and Thompson (1981: 653) identified three “adverbial backward-linking elements”, huošhi, huožhe and huožheshi in modern Mandarin Chinese. Yao (2012) traces the grammaticalization of huò and sees the indefinite pronoun use of the morpheme as the origin of the disjunctive function. However, due to the lack of frequency data and because of the rigid lexeme-based interpretive approach, the result is inconclusive. Lü (1980) remains by far the most comprehensive account of Chinese disjunction, noting the disjunctive, existential, and epistemic senses of huò, and treating huò and huožhe as stylistic variants. We focus in this study on the development of disjunction involving huò, whose early decategorization laid the ground for the

observes its historical lexical continuity by assigning a new graph 惑 to the source morpheme meaning ‘to doubt,’ the way dass was created in German spelling to distinguish the more recent complementizer function from the earlier demonstrative das (which is also the neuter definite article), although the two shared the same orthographic representation until the sixteenth century (Drosdowski 1997: 116; Haspelmath et al. 2001: 986). The Kangxi Zidian (1980) clarifies the orthographic history by noting that the newer creation of 惑 with the added heart radical represents the original meaning of doubt as a mental state. This new graphic coinage obscures the fact that or previously represented this meaning by rebus.

With the exception of the morpheme huò, we forego tone marking in all pinyin representations of Chinese in this study.

Lü’s intuition is borne out by a chi square test ($\chi^2 = 151.47$, df = 2, $p < 0.000$) on the relative frequencies of huò, huožhe, and huoshi by register (written vs. spoken) based on the CCL Modern Chinese Corpus. Specifically, there are significantly more instances of huò than both huožhe and
developments of *huozhe* and *huoshi*. Evolving from the same conceptual source as *huò*, these disyllabic items, which resulted from lexicalization in the larger context of disyllabification in Medieval Chinese, became part of the disjunction system by way of analogy to the grammatical constructionalization of disjunction involving *huò* (Jing-Schmidt 2015).

It has been observed that disjunction markers are often polyfunctional (Haspelmath 2004). This is true of Chinese, although the different senses differ in frequency, distribution, and in diachronic recency. The most frequently used and most widely distributed is the disjunctive coordinator usage in the monosyndetic construction [X *huò* Y], which is also the most recent development of *huò*, as in (1)–(6) from the CCL Modern Corpus.

(1) 频繁买进或卖出合同 (79305)
*pinfan mai-jin huo mai-chu hetong*
‘frequently buy in or sell out contracts’

(2) 许多美国家庭就在庭院或车库里 (135534)
*xueduo meiguo jiating jiu zai tingyuan huo cheku li*
‘Many American families put things they don’t use in the yard or garage, and sell them cheap.’

(3) 个人或群体都不是孤立存在的 (121555)
*geren huo qunti dou bu shi guli cunzai de*
‘Individuals and collectives do not exist in isolation.’

(4) 福利待遇被直接或变相取消 (72481)
*fuli-daiyu bei zhijie huo bianxiang quxiao*
‘The benefits are directly or indirectly cancelled.’

*huoshi* in the written texts, while the opposite is true of the spoken materials. This result may also explain the fact that *huò* is not discussed in Chao (1968) on spoken Chinese. However, due to the extreme size difference between the written and the spoken materials in the corpus, the result remains inconclusive and requires future testing.
These study-abroad students almost all received Master’s or PhD degrees.

Some are dressed formally, posing as lecturers or professors of a certain medical school.

The biographies of Zhao and Bai might still suffer from a want of mental force and sublimity.

In the above examples, 《connects in (1) verbal phrases as part of the predicate, in (2) noun phrases as locatives, in (3) noun phrases as subjects, in (4) adverbs as modifiers of a verb phrase, in (5) noun phrases as modifiers of a head noun, and in (6) nouns as objects. Following Lü (1980: 283), 《can also be used as a modal adverb of possibility. However, this is an archaic feature and is limited to formal writings, as in (7).
There are over a hundred reporters already, some go out as a group, some conduct interviews individually, some make private visits.

Here, the subject refers to a collective whose members fall into several groups engaging in different activities, which gives rise to a partitive rather than alternative interpretation, although the two overlap conceptually. Lü (1980: 284) rightly employs the existential quantifier you-de ‘some’ to render the sense of this usage. As will be shown in the next section, what appear to be synchronic variants or related senses of a polysemy in Modern Chinese are in fact different historical stages of the grammatical constructionalization of disjunction.

4 Gradual constructional changes and constructionalization

Based on the constructionist approach to grammaticalization, we identified in each of the subcorpora the constructional patterns in which reanalysis-induced micro-changes occurred and led to the constructionalization of the standard disjunction. As will be detailed in this section, seven constructional patterns, (9a–g), were involved in constructional changes that ultimately gave rise to the grammatical constructionalization of disjunction.

(9) a. [huò VP] where huò = V
b. [huò VP] where huò = modal adverb (ADV) or existential quantifier (EQ)
c. [huò S] where huò = ADV/EQ
d. [huò NP_pr] where NP serves as nominal predicate and huò = ADV/EQ
e. [huò X huò Y] where huò = ADV, EQ or DC
f. DiLex (dissyllabic lexicalization, e. g., huozhe, huoshi etc.)
g. [X huò Y] where huò = DC
Figure 1 demonstrates the change in relative frequency (per one million characters) of each construction from Archaic Chinese to Modern Chinese.

In general terms, the development of Chinese standard disjunction can be characterized as the early reanalysis of \([huò \, VP]\) \((huò = V)\) as \([huò \, VP]\) \((huò = ADV/EQ)\), presumably prior to Archaic Chinese where the former is already sporadic and the latter is abundantly attested. From Archaic to Medieval Chinese, the former further decreased as the latter gradually increased in frequency. This increase is accompanied by the emergence of \([huò \, S]\) \((huò = ADV/EQ)\) and \([huò \, NP_{pr}]\) \((NP = nominal \, predicate, \, huò = ADV/EQ)\), suggesting expansion into new syntactic contexts. At the same time, the construction \([huò \, X \, huò \, Y]\), which presumably already emerged in Archaic Chinese as a result of the productivity of \([huò \, VP]\) \((huò = ADV/EQ)\), remains productive, second only to \([huò \, VP]\) \((huò = ADV/EQ)\). This construction, which started out as the juxtaposition of two instances of \([huò \, VP]\) \((huò = ADV/EQ)\), was reanalyzed as a bisyndetic disjunctive construction, which during Medieval Chinese gave rise to the emergence of the monosyndetic disjunctive construction \([X \, huò \, Y]\). The former gradually decreased while the latter gradually increased over Early Mandarin and Early Modern Chinese. The demise of the former, along with that of \([huò \, S]\) and \([huò \, NP_{pr}]\), occurred in tandem with the drastic surge of the latter in Modern Chinese, marking the completion of the constructionalization of Chinese standard disjunction. A parallel development of disyllabic lexicalization can be observed in the gradual increase of DiLex from Archaic to Modern Chinese. In what follows we will detail the stepwise constructional changes
involving contextual reanalysis as the key mechanism of the grammatical constructionalization of Chinese standard disjunction.

### 4.1 The lexical verb *huò* in Archaic Chinese texts

Uses of *huò* as a fully-fledged lexical verb are attested in a variety of Archaic Chinese texts dating from the Western Zhou (1046 BCE–771 BCE) dynasty. Consider the examples in (10)–(15).

(10) 九四, 或躍在淵, 無咎

\[
\text{jiu si, huo yue zai yuan, wu jiu}
\]
nine four, feel:uncertain leap stay deep:pool, NEG blame

‘Nine in the fourth place means, feeling uncertain about whether to take a leap or to stay in the depths. No blame.’

(*Zhou Yi*, *Book of Changes*)

(11) 夜半而城上四面鼓噪, 敵人必或

\[
ye ban er cheng shang si mian gu-zao, diren
\]
night half then city:wall LOC four side drum-noise, enemy

\[
bi huo
\]
must feel:uncertain

‘At midnight let it be drum beats on all sides of the city wall, the enemy will be confused.’

(*Mozi*)

(12) 无或乎王之不智也

\[
wu huo hu wang zhi bu zhi ye
\]
NEG doubt COMPL king ASSOC NEG wise FP

‘No doubt that the king is unwise.’

(*Mencius*)

(13) 今大王與秦伐韓而益近秦, 臣甚或之

\[
jin da-wang yu Qin fa Han er yi jin
\]
now great-king join Qin attack Han and more be:close

\[
Qin, chen shen huo zhi
\]
Qin, 1P seriously doubt 3P

‘Now your Highness join Qin to attack Han and are on intimate terms with Qin, I am really unsure about it.’

(*Zhan Guo Ce*, *Strategies of the Warring States*)
(14) 迷於言，或於語
mi yu yan, huo yu yu
bewitch PASS speech, baffle PASS language
‘bewitched by speech, baffled by language’
(Zhan Guo Ce, ‘Strategies of the Warring States’)

(15) 擅创为令，迷或其君
shanchuang wei ling, mi-huo qi jun
usurp:authority make decree, unclear-uncertain 3P ruler
‘(He) usurps the authority to give decrees, and deceives his ruler’
(Guanzi)

A line statement (yao ci) in the Qian hexagram of the Zhou Yi (Book of Changes), example (10) is about uncertainty and caution in a situation of transition and ambiguity. Wang Bi (226–249 CE, 2012: 1) whose commentary became the “foundation for the orthodox commentarial tradition” of the Zhou Yi Zhengyi (Correct Meaning of the Zhou Changes) (Shaughnessy 2014: xvii) interprets this hexagram in terms of ‘doubt and hesitation.’ It indicates the ambiguity about the twofold possibility presented to the great man (the metaphorical dragon): to leap and ‘soar to the heights and play an important part in the world’ or to ‘withdraw into solitude and develop himself,’ to use the translations of Wilhelm and Baynes (1967 [1950]). Similarly, the medieval thinker and scholar Zhu Xi (1130–1200 CE; Zhu 2009: 31) identifies huò as an expression of ‘doubt and indeterminacy.’ Subsequent commentators concur

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8 In this study, we only include examples from the core text of Zhou Yi ‘Book of Changes’ (or ‘Zhou Changes’), which consists of sixty-four hexagrams, each of which has a name (gua ci) and six line statements (yao ci) (Shaughnessy 2014: xv). The core text originated in the performance of divination, and is therefore older and distinct from the commentaries subsequently added. According to Shaughnessy, the abstruse and “cryptic” quality of the Zhou Yi has been exaggerated by scholars. He maintains that the text is “understandable – so long as one is clear about the historical context within which it is to be understood” (p. xv). Furthermore, when scholars complain about the difficulty of the text, their primary focus is on the philosophical or divinatory perspective rather than the linguistic interpretation of the text. For this reason, we consider it appropriate to use examples from the core text of this book in investigating and explicating the linguistic change in question, especially with the help of crucial secondary literature. However, as previously noted, due to the limitations of historical textual data, the analysis remains explorative and awaits future updates.

9 The original commentary by Wang Bi is: “持疑犹豫，未敢决志” (‘Full of doubt and hesitation, one dare not make up one’s mind’).

10 The original commentary by Zhu Xi is: “或者，疑而未定之辭” (‘As for huò, it is an expression of doubt and indeterminacy’).
with this interpretation, which can be found in rhyme books of the Song, Yuan, and Ming dynasties, as well as in Kangxi Zidian (1980), the Qing imperial dictionary. Contemporary scholars Jin and Lü (2004: 9) contend that this line statement refers to a place of transformation where a choice between advance and retreat is uncertain. The word huò is a “word of uncertainty,” and captures the essence of the line. Yang and Zhang (2011: 5), too, interpret huò in terms of uncertainty between advance and retreat. William and Baynes’ translation, ‘Wavering flight over the depths’ faithfully renders the sense of ambiguity inherent in huò by the apt choice of ‘waving.’ Huang’s (1998: 24) translation, ‘probably leaping from an abyss,’ on the other hand, is inaccurate and misses the significance of ambiguity central to the meaning of this line.

In (11), the sense of ‘doubt and being uncertain’ is extended to ‘being confused.’ In (12), the lexical sense of ‘doubt’ remains stable. However, depending on the interpretation of wu in the collocation of wu huò, huò can be interpreted either as a noun or a verb. If we interpret wu as a negative existential verb, ‘there is not’, then huò is a noun meaning ‘doubt’; if we see wu as a negative adverb, ‘not’, then huò is a verb, ‘to doubt’. Because wu has both functions in Classical Chinese (Wang 2000), the part of speech of huò remains open to interpretation. In any case, the lexical content of huò in terms of ‘doubt’ is unambiguous. The scalar nature of noun-verb distinction is consistent with the observation that there is “overlapping” between the lexical categories of nouns and verbs (Chao 1968: 496–499; Norman 1988), which are often considered as occupying the two poles of a continuum (Rijkhoff 2002; Sasse 2001; Wang 2003; Zhang 1994). It is clear that huò is by default a verb, but it can play a nominal role in the particular syntactic context of a sentence. The use of huò in (13) is clearly not only verbal, but also transitive ‘to doubt, to be uncertain about something,’ as it is followed by the pronoun zhi ‘it, this,’ referring back to the event described in the first clause.

In (14), two near synonyms, mi ‘to be puzzled’ and huò ‘to be uncertain’, work as the respective verbs of two passive constructions that form a parallelism. In (15), the same synonyms mi and huò together form as a compound verb in the causative sense, e. g., ‘to make someone confused and uncertain’ or ‘to confuse and deceive someone.’

The above examples show that huò has the status of a full verb the semantics of which can be characterized as describing the mental experience of doubt and uncertainty. These early uses are crucial to identifying the lexical origin of huò. They are also essential to our understanding of the context in which reanalysis and subsequent categorical change are possible, to which we now turn.
4.2 Syntactic reanalysis in constructional context

In the last section, we saw that *huò* as a lexical verb is used in several constructional contexts. First, *huò* follows a modifying constituent, typically an adverb, as in (11), (12) and (13). Second, *huò* takes an NP as direct object, as in (12), (13), and (15). Thirdly, as in (10), it precedes a verb phrase, and indicates a state of ambiguity, doubt or uncertainty about the event described by the VP. The VP in this construction can be seen as a complement clause with a zero subject (represented as Ø) whose referent is contextually recoverable.\(^{11}\) Structurally, the three contexts can be represented as (16), (17), and (18), respectively:

(16) [ADV *huò*]

(17) [*huò* NP]\(^{0}\]

(18) [*huò* [Ø VP]]

Whereas the lexical status of *huò* remains transparent and stable in (16) and (17), it is less so in (18), where in the absence of total semantic transparency it is syntactically ambiguous. We will argue that it is in this constructional context that *huò* most likely came to undergo syntactic reanalysis and a change of its usage rule, thereby losing its status as a full lexical verb. Specifically, there are syntactic constraints on the role *huò* can play in the linear structure of [*huò* [Ø VP]]. Essentially, there are two possibilities that are semantically continuous from the verbal sense of *huò* in terms of ‘doubt’ and ‘feeling uncertain.’ On the one hand, when the zero subject Ø is identifiable, *huò* can be interpreted as semantically “lighter” than the VP that follows it, a constituent packed with lexical substance as well as informational significance. That is, it can be reanalyzed as an adverb (ADV) modifying the VP. There are two conceptually related ways in which the ADV can express uncertainty. One is in the sense of epistemic judgment ‘maybe, possibly’ (hence EPIST), the other is in the sense of indefinite temporality ‘sometimes’ (hence TEMP). On the other hand, *huò* can be interpreted as a subject nominal whose referent is unidentifiable, and therefore pragmatically an indefinite pronominal or existential quantifier, whereby the former is a special case of the latter. We therefore use the general notion of “existential quantifier” (hence EQ) to refer to the pronominal or existential

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\(^{11}\) Zero subject, as one type of zero anaphora, is typical of Classical Chinese discourse structure (Dawson 1984; Wang 2002).
quantifier interpretation, which most naturally obtains when the referent of the original zero subject Ø is not or cannot be identified. The two routes of reanalysis are presented in (19).

(19) 

\[
\begin{align*}
&[\text{huò} [\text{Ø} \text{ VP}]] \text{ Ø identifiable: } \text{huò} = \text{ADV} \text{ (EPIST/TEMP)} \\
&[\text{huò} [\text{Ø} \text{ VP}]] \text{ Ø unidentifiable: } \text{huò} = \text{EQ}
\end{align*}
\]

Both types of reanalysis obviously occurred in the history of huò. Given that both uses are abundantly attested in Archaic Chinese texts dating as early back as the Book of Changes and the Book of Songs, it is likely that the two developed in parallel as contextual variants. In fact, as we will see in the subsequent analysis, it is impossible to completely reject one interpretation in favor of the other in most contexts. From a discourse perspective, underspecification or indeterminacy is an important feature of natural language because of its discursive potentials in communication (Bisang 2010). Furthermore, as soon as we stop looking at huò in isolation and start considering the constructions in which it occurs, a distinction between ADV and EQ becomes unnecessary. For the meaning of a larger utterance remains the same despite the subtle interpretive differences in one of its components. Bearing this in mind, we emphasize that the two patterns are best seen as pragmatic inferences based on the mental state verb usage in specific constructional and pragmatic contexts. In other words, the construction in which huò is used is both the locus and the unit of change. For the purpose of analytic organization, however, we will discuss the two inferences separately, first focusing on huò as signaling ADV in Section 4.2.1, and then on the EQ use in Section 4.2.2. The order of discussion is not to imply the order of diachronic development.

4.2.1 From lexical verb to ADV in [huò VP]

Recall that in Section 4.1 we pointed out Huang’s inaccurate translation of line nine in the fourth place in the Book of Changes, where huò is mistakenly translated as ‘probably,’ an epistemic modal adverb. This error, however, is more systematic than arbitrary. Without the knowledge of the philosophical background behind the hexagrams of the Book of Changes, it is easy to misinterpret huo yue zai yuan as a simple clause with the lexical verb yue ‘to leap’ as the main verb and huò as its adverb. In this process of syntactic reanalysis, the lexical meaning of huò becomes bleached and pertains more generally to epistemic possibility, which is continuous from the original sense of ‘doubt’ and ‘uncertainty.’ Such systematic interpretation errors resulting from syntactic...
reanalysis must have contributed to the meaning change of *huò* in its earlier history. As Keller and Kirschbaum (2003: 9) point out, over time systematically occurring errors “lose their character as mistakes and become new regularities.” The reason why errors become new regularities lies in the “syntactic reanalysis” of the “surface structure” in Langacker’s (1977: 58) terms, which effectively changes the internal structural relationship and gives rise to a new, reanalyzed form-meaning pairing. As examples (20)–(22) illustrate, epistemic modality came to be a regular usage of *huò*, which has extended into situations beyond that which is described by the original constructional context.

(20) 道冲, 而用之或不盈

*Dao chong, er yong zhi huo bu ying*

Dao empty but use 3P HUO NEG fill

‘The Dao is empty, but its use can be endless.’

(*Laozi*)

(21) 湛兮似存。吾不知谁之子, 象帝之先

*zhan xi si huo cun. wu bu zhi shui*

Submerge P seem HUO endure. 1P NEG know who

*zhi zi, xiang di zhi xian*

ASSOC offspring, resemble god ASSOC ancestor

‘Invisible, (the Dao) seems to endure. I don’t know whose offspring it is, it resembles the ancestor of the gods.’

(*Laozi*)

(22) 训有之, 内作色荒, 外作禽荒, 甘酒嗜音, 峻宇雕墙, 有一于此, 未或不亡

*xun you zhi, nei zuo se-huang, wai zuo qin-huang, gan jiu shi yin, jun yu prey-indulgence enjoy alcohol be:addicted:to music, high building diao qiang, you yi yu ci, wei huo bu wang carve wall, EXST one PREP this, NEG HUO NEG perish*

‘As the teaching goes, indulging sex inside, indulging hunting outside, enjoying alcohol, being addicted to music, and constructing magnificent buildings (are excessive behaviors). If one of these exists [in a ruler], it is unlikely [that he] doesn’t perish.’/‘If one of these exists, there is not anyone who will not perish.’

(*Shang Shu, ‘Book of Documents’*)
In contrast to (10) in Section 4.1 where ambiguity and uncertainty pertain to the metaphorical dragon – the great man, examples (20)–(22) illustrate the uses of huò as what Palmer (2001: 7–8, 24) calls “propositional modality.” That is, the modality which is “concerned with the speaker’s judgment” or “attitude to the truth-value or factual status of the proposition” described by the VP it precedes. In (20) and (21) from Laozi, it expresses epistemic possibility, which is rendered ‘likely’ in Le Guin’s (1998: 7) translation. In (22) from the Book of Documents, it combines with double negations to express a strong prediction. It is worth noting that this use of huò often collocates with “non-assertive” expressions such as negation or other “speculative” expressions, such as the uncertain visual evidential in (21). As (20) illustrates, the uses of huò as ADV, now independent of the original constructional context, have been extended to sentences with an overt subject, suggesting the maturity of this usage. Furthermore, what distinguishes (22) from the other examples is the fact that all the clauses describing the excessive behaviors along with the two concluding clauses lack an overt subject. As pointed out earlier, if the zero subject Ø in [huò [Ø VP]] is not or cannot be identified, the constituent in the position where a subject would have occurred, i.e., huò in the preverbal slot, is likely reinterpreted as an indefinite NP, shifting the semantic uncertainty in the predicate to the subject referent in keeping with the overall sentential message. Thus, without significant overall meaning change at the sentential level in the sense that the general epistemic uncertainty remains, the functional contributions of the participating syntactic units are reassigned. Clearly, in the context of this example, both the EPIST and the EQ interpretations are felicitous. However, following from the above analysis, the direction of the syntactic reanalysis is a function of the identifiability of the zero subject Ø as a contextual constraint.

Unsurprisingly, as the ADV function becomes more common, its scope of use expanded. In the corpus data, we see instances of a new pattern [NP_{sbj} huò NP_{pr}] where there is an overt subject NP and the second NP serves as a nominal predicate, as in (23) and (24).

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12 There is neurophysiological evidence that listeners cross-linguistically show a consistent tendency to assign to a first NP in a clause the subject role in online processing (Bornkessel and Schlesewsky 2006, 2009). Bisang et al. (2013) found evidence of this tendency in Chinese at the initial stage of online processing.
Now outer counties probably span thousands of li’s, and rows of city walls are in the dozens.

(Shi Ji, ‘Records of the Grand Historian’)

This is probably one way.

(Mencius)

Although the use of this pattern is largely limited to nominal predicates denoting an estimated quantity, it illustrates a more distinct ADV function.

4.2.2 Huò as EQ in [huò VP]

As we have seen in 4.2.1, the changes of huò from lexical verb to ADV of epistemic uncertainty or of indefinite temporality, as well as to indefinite EQ occurred in the constructional frame [huò VP]. In the case of the former, syntactic reanalysis of huò is triggered when the discourse context favors a reassignment of huò to a lighter lexical category while maintaining the conceptual connection to the lexical meaning of ‘uncertainty.’ In the case of the latter, huò receives a nominal reading if the sentence lacks an overt subject, and the zero subject does not have an identifiable referent. We saw in 4.2.1 that both readings are possible. Thus, in general, both senses of huò likely derived from its original use as a dubitative verb describing the mental state of uncertainty in the specific constructional context of [huò VP]. In what follows, let us consider examples of the EQ usage that are less ambiguous, as in (25)–(26).

(25) 夫利，百物之所生也，天地之所载也，而或专之，其害多矣

fu li, bai wu zhi suo sheng ye, tian di zhi suo zai ye, er huo

TOP benefit, hundred creature ASSOC NML create FP, universe ASSOC NML hold FP, but HUO
‘Speaking of benefit, it is created by all things, it is contained in the universe, but if (somebody) monopolizes it, that is very harmful.’

(Guo Yu, ‘Discourses of the States’)

In (25) huò leads the protasis of a conditional sentence whose irrealis reading comes from the conditional construction that implies irrealis or uncertainty. However, the irrealis reading is easily attributed to the discourse context, where the first clause provides the condition and the second clause the consequence. Given this “hyperanalysis,” to use Croft’s (2000: 121) term, and given that the clause in which huò occurs has a zero subject with no identifiable referent, the preverbal huò may be reinterpreted as an indefinite/existential pronoun. Alongside uses like this in which the interpretation of huò heavily relies on contextualization cues, both constructional and discursive, we see more mature EQ uses, as illustrated in (26) from the Book of Songs, where huò is used in listing subsets of indefinite quantity within a given set.

(26) 或降于阿, 或饮于池, 或寝或讹

huo jiang yu e,  huo yin yu chi,  huo
HUO descend LOC foothill, HUO drink LOC pond, HUO
qin  huo e
sleep HUO move
‘Some are descending to the foothill, some are drinking from the pond, some are sleeping and some are stirring.’

(Shi Jing, ‘Book of Songs’)

These three clauses describe a bucolic scene involving a herd of cattle. Unlike examples dealing with irrealis propositions, the factuality of the descriptive discourse sanctions an unambiguous reading of EQ in all three instances of huò. The maturity of such uses further indicates that EQ had been established as a regular sense by the end of the Zhou dynasty at the latest. Subsequent dynasties saw the propagation of the EQ use especially from the Warring States through the Han dynasty where huò is routinely seen in the conventionalized quotative construction [huo yue] ‘somebody says.’ This usage leaves no ambiguity about the maturation of the EQ function of huò.

Notwithstanding the individual developments of the two innovative uses of ADV and EQ, their semantic connection is indisputable. Pulleyblank (1995: 134–135) comments on both uses by noting, on one hand, that huò is “used adverbially to define the subject as one out of a set.” He observes certain adverbial
uses of the existential you ‘there is,’ which shares this partitive implication, and suggests that in this sense you is “virtually equivalent to” huò. On the other hand, he notes the use of huò as “a modifier of the predicate with a similar meaning,” which is “often translated as ‘perhaps.’” Pulleyblank, notably, does not speculate whether one use precedes the other in time.

Apart from the common conceptual basis, there was one further shared step of construction-based development crucial to the eventual grammaticalization of huò toward a disjunctive coordinator. This is discussed below.

4.2.3 The grammatical constructionalization of alternation
in a new constructional pattern

As the examples in the foregoing sections indicate, huò as ADV and EQ occurs with one single proposition. That is, it is used to either express the speaker’s judgment of uncertainty in regard to a single proposition, or to refer to a certain unidentified subject. However, as the foregoing analysis has also shown, both uses of huò share the semantic element of uncertainty, be it epistemic or existential. It is this uncertainty, we shall argue, that gave rise to the pragmatic inference of other possible scenarios and propositions as potential alternatives. In other words, the constructional unit [huò VP] is likely to be repeated in enumeration of two or more possibilities about which the speaker passes epistemic or existential judgment. This discourse-driven inferential process apparently gave rise to the juxtaposition of two or more [huò VP] structures, as in (27).

(27) [[huò X] [huò Y]...]

In this kind of sentential context, the interpretation of alternative possibility and alternation in general would be inevitable, eventually giving rise to the grammaticalization of huò as a disjunctive coordinator. Consider (28) from the Book of Rites.

(28) 人之学也，或失则多，或失则寡，或失则易，或失则止
ren zhi xue ye, huo shi ze duo, huo shi ze gua, huo shi ze yi, huo shi ze zhi
human ASSOC learn FP, HUO fail if much, HUO fail if little HUO fail if easy, HUO fail if stop
‘As for human learning, some fail by overdoing it, some fail by minimizing it, some fail by slighting it, some fail by discontinuing.’
(Li Ji, ‘Book of Rites’)
This sentence addresses human learning, and discusses four possible failures that undermine learning. Each possibility is introduced by the morpheme huò in a separate clause. Commentators (e.g., Hu and Chen 2007: 122) translate the uses of huò in this sentence to you-de ‘some,’ which is an EQ. Given the conceptual connection of existential quantification to epistemic possibility (Lyons 1977; Fitch 1979), we can easily reword the translation of (28) as (29) by replacing ‘some’ with an epistemic modal without changing the larger sentential meaning.

(29) ‘As for human learning, [one] can fail by overdoing it, [one] can fail by minimizing it, [one] can fail by slighting it, and [one] can also fail by discontinuing.’

The difference between the two translations is one of perspective. While (29) focuses on the typology of behaviors that cause failure, (28) looks at the typology of learners who fail to learn. Notwithstanding the different perspectives, the truth-value behind the propositions remains the same. In either interpretation, what is important is the juxtaposition of the various scenarios as alternatives, which allows for the reanalysis of huò as a disjunctive coordinator. Similarly, in (30) from Book of Changes, both EQ and ADV are possible and the inference of alternation can obtain from either reading.

(30) 君子之道, 或出或处, 或默或语
junzi zhi dao, huo chu huo chu,
gentleman ASSOC way, HUO come.out HUO withdraw,
huo mo huo yu
HUO be.silent HUO speak
‘As for the way of the gentlemen, some become visible, some withdraw, some remain silent, and some speak up.’
‘As for the way of the gentlemen, they may/sometimes become visible, they may/sometimes withdraw, they may/sometimes remain silent, they may/sometimes speak up.’
(Zhou Yi, ‘Book of Changes’)

In (31) below, epistemic possibility (‘may’) can be interpreted in terms of indefinite temporality (‘sometimes’). Such an interpretation naturally follows from a view of possibility along the axis of time. Because of the juxtaposition of two situations occurring at two different temporal points, we have in this example what Haspelmath calls “temporal alternation.”
‘Speaking of an undertaking, [one] may/sometimes want[s] to help it, but ends up harming it by doing so, [one] may/sometimes want[s] to harm it, but ends up helping it by doing so.’

(Huainanzi)

When we look at the semantics of X and Y in the construction [huò X huò Y], we notice that X and Y typically communicate conceptual opposites, as in (30) and (31) above. This semantic contrast obtains from generalization over recurrent instances of the construction [huò X huò Y], and is characteristic of its schematic meaning. Consider (32)–(34) as further examples:

(32) 故曰，或劳心，或劳力。
Thus say, HUO labor heart, HUO labor bodily:strength
lao-xin-zhe zhi ren, lao-li-zhe zhi
labor-heart-NML govern people, labor-strength-NML govern
yu ren
PASS people
‘Hence, there is the saying, “Some labor with their minds, and some labor with their strength. Those who labor with their minds govern others; those who labor with their strength are governed by others.”’

(Mencius, translation by J. Legge [1899])

(33) 圣人之行不同也，或远或近，或去或不去，归洁其身而已矣
The actions of the sages have been different. Some have kept remote from court, and some have drawn near to it; some have left their offices, and some have not done so; that to which those different courses all agree is simply the keeping of their persons pure.’

(Mencius, translation by J. Legge [1899])
(34) 皇天隆物, 以施下民, 或厚或薄, 常不齐均

Heaven bestows a grand object on common people, richly to some and meagerly to others, usually unevenly.’

(Xunzi)

The semantic contrast between the syntagmatically juxtaposed concepts in the X and Y slots, e.g., ‘mind’ vs. ‘(bodily) strength’ in (32), ‘far’ vs. ‘near’, ‘leave’ vs. ‘not leave’ in (33), and ‘thick’ vs. ‘thin’ in (34), easily creates a conceptual space of alternatives where semantic opposition becomes schematic in the meaning of the structural juxtaposition of [huò X] and [huò Y]. In other words, being semantic opposites in a syntagmatic relation, X and Y are naturally seen as “units of the same type” with one being an alternative to the other. The juxtaposition of [huò X] and [huò Y] with opposite meanings in the larger frame [[huò X] [huò Y]], assisted by reduced compositionality resulting from increased frequency of use, acquires a novel schematic meaning – that of ALTERNATION, regardless of the individual grammatical status of huò in this construction. This construction meaning is above and beyond the semantic sum of the components [huò X] and [huò Y]. Evidently, this constructional change is what Fried (2013: 428) calls a “shift from a compositional to a non-compositional meaning of superficially identical-looking strings of words.” Within the conceptual framework of the new alternative construction, the reanalysis of huò as a disjunctive coordinator (henceforth DC) becomes inevitable: that which connects two alternatives is naturally a disjunctive coordinator. This inevitability is best understood as the effect of constructional coercion (Michaelis 2004). That is, a construction imposes its meaning of ALTERNATION as a whole on a particular key component of the construction. In this case, huò is the only constant component of the [huò X huò Y] construction, and therefore a natural recipient of constructional coercion. The development of huò shows that the “reassignment of morphemes to different semantic-syntactic category labels” (Hopper and Traugott 2003: 51) occurs in construction-specific contexts.

Himmelmann (2004) points to three types of expansion that characterize grammaticalization, including “host-class expansion,” “syntactic expansion,” and “semantic-pragmatic expansion,” as key indicators of increased productivity. In the case of the Chinese disjunction construction, all three types of
expansion can be observed. First, the two coordinands X and Y expand beyond the original context in which X and Y are VPs. Corpus data provide evidence that coordinands in the nominal domain occurred in Medieval Chinese, as illustrated in (35)–(36).

(35) Yellow Ba and his associates did not move for ten or twenty years.

[Huang Ba and his associates, some of them did not move for ten years, others for twenty years.]

*(Jin Shu, ‘Book of the Jin’)*

(36) Practice according to the Buddhist dharma, for one week, three weeks, or one month, three months, even a whole year.

*(Tangdai Muzhi Huibian Xuji, ‘Sequel to Tang Dynasty Epitaph Collection’)*

The “host-class expansion” into nominal coordinands involves count nouns with numerals as modifiers, denoting quantified units. This is presumably due to the intrinsic semantic relationship between the partitive sense and quantification. Such a connection is clear in (35), the earliest attested use of *huò* with what seem to be nominal coordinands, in which case the use of *huò* is still reminiscent of an EQ, but can potentially be reanalyzed as a DC. In (36), the interpretation of *huò* as DC is less ambiguous, though its connection to numerals remains. The early lexical semantic preference for NPs involving numerals indicating quantified units slowly disappeared, and other nouns entered the slots, as in (37) from Early Modern Chinese of the Qing dynasty.

(37) (Whether) son or daughter, (it’s important to) get someone to continue the bloodline.

*(Ye Sou Pu Yan, ‘Revelatory Words of a Wild Old Man’)*
This example is qualitatively different from all the previous examples. Not only does the construction \([huò X huò Y]\) instantiate “host-class expansion” by having two noun phrases as coordinands. It also serves as the logical object of the verb *de* ‘to get,’ and, by virtue of left extraction, the topic of the utterance. Furthermore, the noun phrases no longer involve numerals. In other words, this use exemplifies syntactic and semantic-pragmatic expansions as well. In this situation, the ADV or the EQ reading is no longer coherent, and the only possible reading of *huò* is DC. While the disjunctive construction remains bisyndetic in this example, it is unsurprising that monosyndetic \([X \ huò Y]\) including \([\text{NP1} \ huò \ \text{NP2}]\) would flourish upon the establishment of *huò* as a mature DC. Consider examples (38), (39), and (40), where the disjunctive construction serves as a postposed modifier of the head noun *se* ‘color,’ a subject nominal, and a direct object nominal, respectively.

(38) 继又与吾研论衣之颜色, 谓余必著色之淡红或淡绿者, 盖余等甚适, 而又为太后所喜故也

\[
\begin{align*}
ji & \ yu \ yu \ wu \ yu \ yanlun \ yi \ zhi \ \text{yanse}, \\
\text{then again} & \ 1P \ 1P \ \text{discuss} \ \text{clothes} \ \text{ASSOC} \ \text{color}, \\
wei & \ yu \ bi \ zhuo \ se \ zhi \ dan \ hong \ huo \ dan \\
\text{say} & \ \text{1P} \ \text{have.to wear color} \ \text{ASSOC light red} \ \text{HOU light} \\
liu & \ zhe, \ gai \ yu \ yu \ deng \ shen \ shi, \\
\text{green} & \ \text{NML, probably} \ \text{PREP 1P level really appropriate,} \\
er & \ \text{and also PASS empress NML enjoy reason FP} \\
\text{‘(He) then discussed with me the colors of the clothes, saying that I have to wear light red or light green because those colors not only suit the likes of me very well, but also please the Empress.’} \\
\text{(Qing Gong Jin Er Nian Ji, ‘Two-year Records of Qing Palace Prohibitions’)}
\end{align*}
\]

(39) 平心静气来说, 他自己所做的诗或文, 实在也没有什么超人之处

\[
\begin{align*}
\text{pingxinjingqi \ lai \ shuo, \ ta \ ziji \ suo \ zuo \ de \ shi} \\
\text{calm \ come \ speak, \ 3P \ self \ NML \ write \ ASSOC \ poem} \\
huo \ wen \ shizai \ ye \ mei \ you \ shenme \ chao \ ren \\
\text{HOU \ essay \ really \ also \ NEG \ EXST \ what \ surpass \ people} \\
\text{zhi \ chu} \\
\text{ASSOC \ place} \\
\text{‘To be fair, his own poems or essays are really nothing extraordinary.’} \\
\text{(Zeng Guofan Jiashu, ‘The Zeng Family Correspondence’)}
\end{align*}
\]
The appearance of these uses suggests that the constructionalization of standard disjunction has taken place. That the bisyndetic construction slowly gives way to the monosyndetic construction can be seen from the frequency data in Figure 1: \([\text{huò } X \text{ huò } Y]\) is the second most frequently used construction in Archaic Chinese, and its frequency gradually increased in Medieval Chinese. However, from Medieval Chinese over Early Mandarin to Early Modern Chinese, it gradually decreased while \([X \text{ huò } Y]\) steadily increased. This is followed by a drastic surge of \([X \text{ huò } Y]\) in Modern Chinese, where \([\text{huò } X \text{ huò } Y]\) became nearly obsolete. Up to this point, \(\text{huò}\) as a DC co-existed with its earlier uses as ADV/EQ; but with the frequency hike of DC, the earlier ADV/EQ uses plunged, seen primarily in hyper-formal contexts. Figure 2 illustrates the non-linear process of grammatical constructionalization of disjunction resulting from a series of micro constructional changes driven by contextual reanalysis and frequency effect.

From Figure 2 it is clear that the grammatical constructionalization of Chinese disjunction proceeded non-linearly. In the earlier stage of the development, an existing grammatical pattern \([\text{huò } X]\) was reanalyzed, and developed a set of related new senses ‘possibly X/some X,’ which led to a structural

<table>
<thead>
<tr>
<th>FORM</th>
<th>MEANING</th>
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<tbody>
<tr>
<td>Source Construction</td>
<td>([\text{huò } X]) ((X = \text{VP}))</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>([\text{huò } X \text{ huò } Y])</td>
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<tr>
<td>Intermediate Construction</td>
<td>([\text{huò } X \text{ huò } Y])</td>
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<tr>
<td>Constructionalization</td>
<td>([X \text{ huò } Y])</td>
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</table>

Figure 2: Grammatical constructionalization of disjunction in Chinese.
rearrangement, \([\text{huò } X \text{ huò } Y]\), to fulfill a new communicative function, namely juxtaposing X and Y as opposite entities. This in turn triggered a pragmatic inference, namely that X and Y are alternatives. Finally, under frequency effect, the implicature became semantically conventionalized as disjunction, paired with the form \([X \text{ huò } Y]\). The process of constructionalization is characterized by a decrease of compositionality, an increase in syntagmatic boundedness, and an expansion in functional range. It is worth noting that although the construction \([\text{huò } X \text{ huò } Y]\) is an intermediate stage, it is not entirely “transient.” That is, instead of disappearing from the language, it has stayed as a stylistically marked construction, as illustrated by example (8) in Section 3.

At a theoretical level, this development points to the insight that grammaticalization is a process that begins with a construction, going through intermediate constructional changes, and eventually leads to a new construction. Thus, the significance of construction is ubiquitous throughout the entire process. It is the source, the context, the unit, and the product of diachronic grammatical change.

5 Conclusions

In this study we have traced the trajectory of changes that led to the emergence of disjunction in Chinese. Characteristic of the development are the occurrences of a series of micro constructional changes or “incremental adjustments,” (Hoffmann and Trousdale 2011: 13) which lead to the conventionalization of standard disjunction.

In this process, reanalysis of the internal organization of an existing construction in a given discourse context is key to the occurrence of constructional changes. Accounting for the micro constructional changes driven by reanalysis allowed us to account for the internal dimensions of the grammatical constructionalization of disjunction. On the other hand, given the typological propensity of Archaic Chinese for “precategoriality” at the lexical level and for “hidden complexity” at the syntactic level (Bisang 2008), the categorial indeterminacy of the morpheme \(\text{huò}\) defies a lexeme-based analysis of grammaticalization. The constructionist approach recognizes the fluidity and contextual sensitivity of both lexical and syntactic interpretation, focuses on the holistic aspect of change in repeated usage events, and places the micro constructional changes in the larger structural and pragmatic contexts. In doing so it accommodates “categorial underspecification or indeterminacy.” (Fried 2013: 424) Frequency
effect is another driving force of change, and contributed to the strengthening and conventionalization of an emerging schema by way of rising productivity through increase in type frequency (Bybee 2006).

It should be recognized as well that the conceptual source or lexical input of a construction plays an important part in grammaticalization (Heine 2003). As we have shown, the development of Chinese disjunction follows a pathway from a conceptually well-defined lexical source. To a certain extent, the conceptual substance of doubt and uncertainty associated with the lexeme huò has remained constant throughout the grammaticalization process. What has undergone change is best described as the domain of reference. That is to say, in the lexical verb, the sense of doubt and uncertainty pertains to a mental state with regard to a concrete event in the real world. When reanalyzed as EQ, ADV, and finally as DC, the uncertainty becomes increasingly subjective (Sweetser 1991). Synchronically, these different senses coexist within one conceptual network, where the most recent development occupies the most central place of usage whereas the earlier senses are on the periphery.

Typologically, the conceptual connection between doubt, epistemic uncertainty, and disjunction is cross-linguistically attested. Merlan (1982) observed that a dubitative adverb manjaya ‘perhaps’ is typically used to express an alternative relationship in Mangarayi. Mous (2004) noted that Iraqw disjunctive laqāa serves functions beyond disjunction, and that the “non-coordinating” uses include the expression of possibility, probability, and doubt. Iyeiri (2009) shows that the English verb doubt has developed an epistemic use, as in This, I doubt, will prove a Utopian conceit.

In the present study, we observe a conceptual connection between the seemingly distinct senses of epistemic uncertainty, existential quantification, and disjunction. More importantly, we observe a pathway of change from doubt and uncertainty to disjunction. The discovery of this pathway has implications for the directionality of change in the constructionalization of disjunction in general, and sheds light on synchronic polysemy observed in languages such as Mangarayi and Iraqw, and many other languages discussed in Mauri (2008). Critically, disjunction is conceptually and diachronically continuous from epistemic uncertainty and existential quantification, both of which are related to the notion of irrealis. The difference between them is one of degree in terms of the conventionality of the constructions.

Another factor that feeds into grammatical constructionalization is discourse pragmatics. As our study has shown, pragmatic inference is a crucial trigger of construction-specific reanalysis. Wiemer and Bisang (2004: 4–5) regard lexicon and pragmatics as the “fringes” of grammaticalization, secondary to the “core components” including morphosyntactic change, functional change, and
constructions. The difference, as far as this study has shown, seems one of visibility rather than importance or dispensability. For it is clear that construction-based form-meaning changes would not have been possible without proper lexical input and pragmatic inference, although these two factors are not always readily observable.

We conclude by emphasizing the significant role of historical corpus data in revealing the nuts and bolts of the non-linear and gradual process of grammatical constructionalization. True to the central tenet of usage-based Construction Grammar, namely that grammar emerges from language use (Croft and Cruse 2004: 1), the corpus method is well suited for the constructionist approach to language change.

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**Abbreviations and symbols**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø</td>
<td>zero anaphor</td>
</tr>
<tr>
<td>1P</td>
<td>first person pronoun</td>
</tr>
<tr>
<td>3P</td>
<td>third person pronoun</td>
</tr>
<tr>
<td>ADV</td>
<td>adverb</td>
</tr>
<tr>
<td>ASSOC</td>
<td>associative (de)</td>
</tr>
<tr>
<td>CL</td>
<td>classifier</td>
</tr>
<tr>
<td>COMPL</td>
<td>complementizer</td>
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<tr>
<td>COP</td>
<td>copula</td>
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<tr>
<td>DC</td>
<td>disjunctive coordinator</td>
</tr>
<tr>
<td>DEM</td>
<td>demonstrative</td>
</tr>
<tr>
<td>DiLex</td>
<td>disyllabic lexicalization</td>
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<td>EPIST</td>
<td>epistemic</td>
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<td>EXST</td>
<td>existential</td>
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<tr>
<td>EQ</td>
<td>existential quantifier</td>
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<tr>
<td>FP</td>
<td>final particle</td>
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<td>HUO</td>
<td>hūō</td>
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<td>nominalizer</td>
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<tr>
<td>NP</td>
<td>noun phrase</td>
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References


