Re-examining the Grammaticalization Path of *dou*: From Universal Quantifier to Scalar Marker

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  Universal Quantification, Scalar Trigger

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  Medieval Chinese (1st c. B.C - 960 A.D.)

  Pre-Modern Chinese (960 A.D. - 1900 A.D.)

  Modern Chinese (1900 A.D. - Present)

The Multifunctionality of *dou*

The functional particle *dou* in Mandarin has long been an area of fascination due to its multifunctionality.

In most of the descriptive works, *dou* has two uses:

Universal Quantification (UQ)

(1)　孩子们都去公园了。

　　　haizi-men dou qu gongyuan le

　　　children-PL DOU went park-ASP

　　　'The children all went to the park.

The Multifunctionality of *dou*

Scalar Trigger (SCL)

(2)　连小孩子都读过这本书。

　　　(lian) xiaohaizi dou du-guo zhe-ben shu

　　　(LIAN) young children DOU read-EXP this-CL book

　　　'Even young children read this book.

Related Functions?

The central topic: How many semantic characterizations of *dou*?

One-*dou* claim: Dou's function as SCL is an extension of the UQ function.

(Lee 1986; Cheng 1995; Pan 2006; Xiang 2020)

vs

Two-*dou* claim: There are two subtypes of *dou*

a) The objective use: UQ

b) Subjective evaluations: SCL

(Jiang 2003; Shank 2004; Zhang 2005; Chen 2008)

Cross-linguistic Regularities?

To solve this long-standing dilemma, the conceptual correlations between UQ and SCL have been examined cross-linguistically (Ying 2017, a.o.).

Hypothesis:

If the UQ-SCL polysemy can be observed cross-linguistically, it will suggest that these two logical functions are at least intrinsically correlated and therefore subsumable at the level of human conceptualization.

Cross-linguistic Representation Patterns (Ying 2017)

An onomasiological approach:

For the concepts UQ and SCL, test sentences have been extracted from instantiations of the concepts

in reference grammars, and the informants are asked to find the counterparts in their native

language.

UQ
➢ Maximality
1. **Everyone** has come.
2. They **all** need to work hard.
➢ Non-maximality
3. The playground is **full of** young people.

SCL
➢ NPI
1. He is so poor that he doesn't **even** have a place to sleep.

➢ PPI
2. **Even** a small child knows this.

➢ Conventional vs. Conversational
3. She gave him lots of things, **even** this/this **too**.

Among the 40 languages investigated, Mandarin and Cantonese are the only languages where the UQ - SCL polysemy can be observed.

No UQ - SCL polysemy	UQ - SCL polysemy
Indo-European	
Latvian, Russian, Antiguan Creole ,German, Greek, Bengali, Hindi, Persian, Tajik, Urdu, French, Italian, Portuguese, Spanish	
Sino-Tibetan	
Jin dialect, Wu dialect, Min (Taipei), Min (Yun'ao), Nuosu (Yi language), Tibetan	Cantonese *dou*, Mandarin *dou*
Niger-Congo	
Ghomálá, Kinyarwanda, Pular, Setswana, Shona, Swahili	
Austronesian and Austroasiatic	
Indonesian, Malay, Tagalog; Vietnamese	
Turkic	
Uzbek, Kazakh, Turkish	
Afro-Asiatic	
Arabic	
Koreanic and Japonic	
Korean; Japanese	

Cross-linguistic data suggests:

The concepts of **UQ** and **SCL** are not universally correlated.

Hypothesis

The UQ - SCL polysemy observed in Mandarin Chinese is due to some **language-specific development** rather than language-universal reasons.

One way to test this hypothesis is to examine the diachronic development of *dou*.

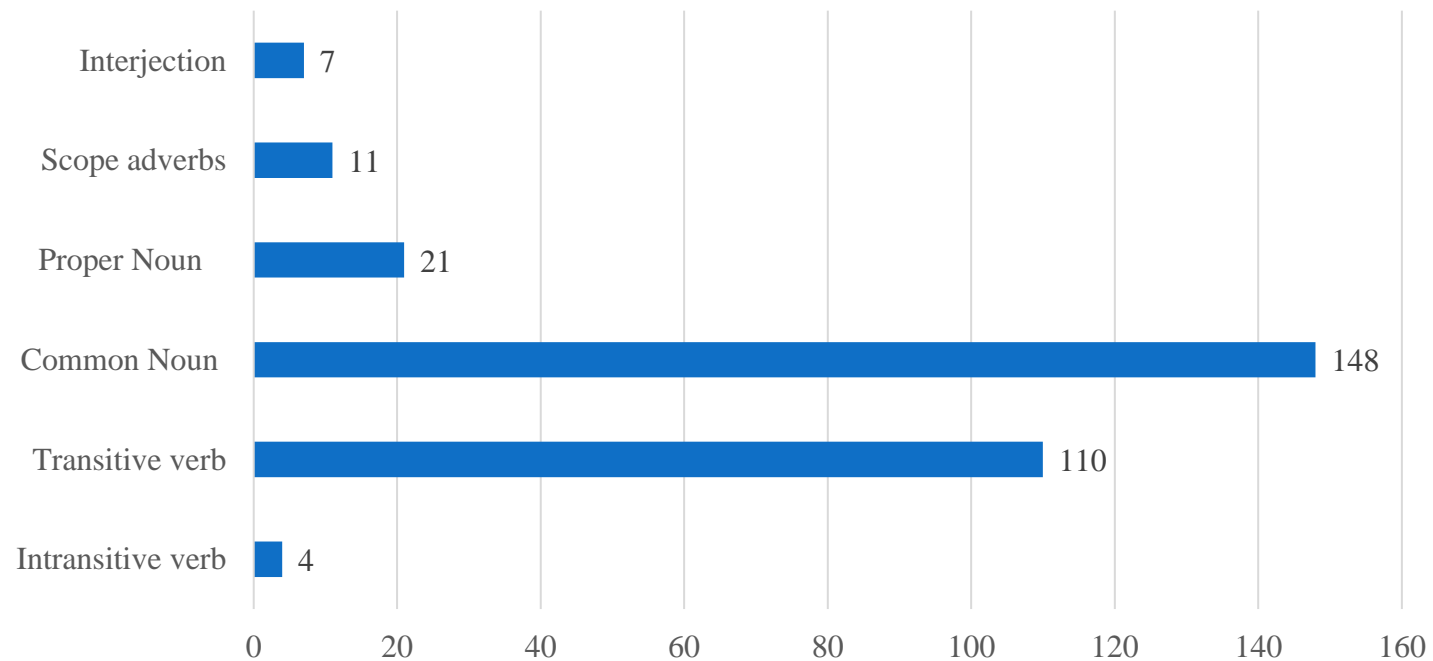# The Grammaticalization Process of *dou*

(Simplified) Chronology of the Chinese Language

- Archaic Chinese (10th- 2nd c. B.C.)

- Medieval Chinese (1st c. B.C - 960 A.D.)

- Pre-Modern Chinese (960 A.D. - 1900 A.D.)

- Modern Chinese (1900 A.D. - Present)

Archaic Chinese (10th- 2nd c. B.C.)

It is observed that *dou* (pronounced as *du*) in Old Chinese is mainly used to signify concrete actions or objects.

Table 1. Distribution of lexical categories of *dou* in Old Chinese

Archaic Chinese (10th- 2nd c. B.C.)

- Inanimate noun: city/capital

  (3) 凡邑，有宗庙先君之主曰[都_N]。

  "Among all the cities, the ones with the ancestral temples are called '**du**'".

  (*Zuo Zhuan*, c. late 4th century BC)

- Verb: building a capital/gathering

  (4) 国，城曰[都_N]者，国君所居，人所[都_V]会也。

  "The **capital** of a kingdom is called '**du**'; it is where the king lives and people **build a capital** and gather."

  (Shi Ming, 200 BC)

- Scope adverb (describing the circumstance of an action): total, all

  (5) …, [都_{ADV}]受天下委输。

  "from **all** the places gathering the **all** goods transported."

  (*Shi Ji*, c. 191 BC)

Archaic Chinese (10th- 2nd c. B.C.)
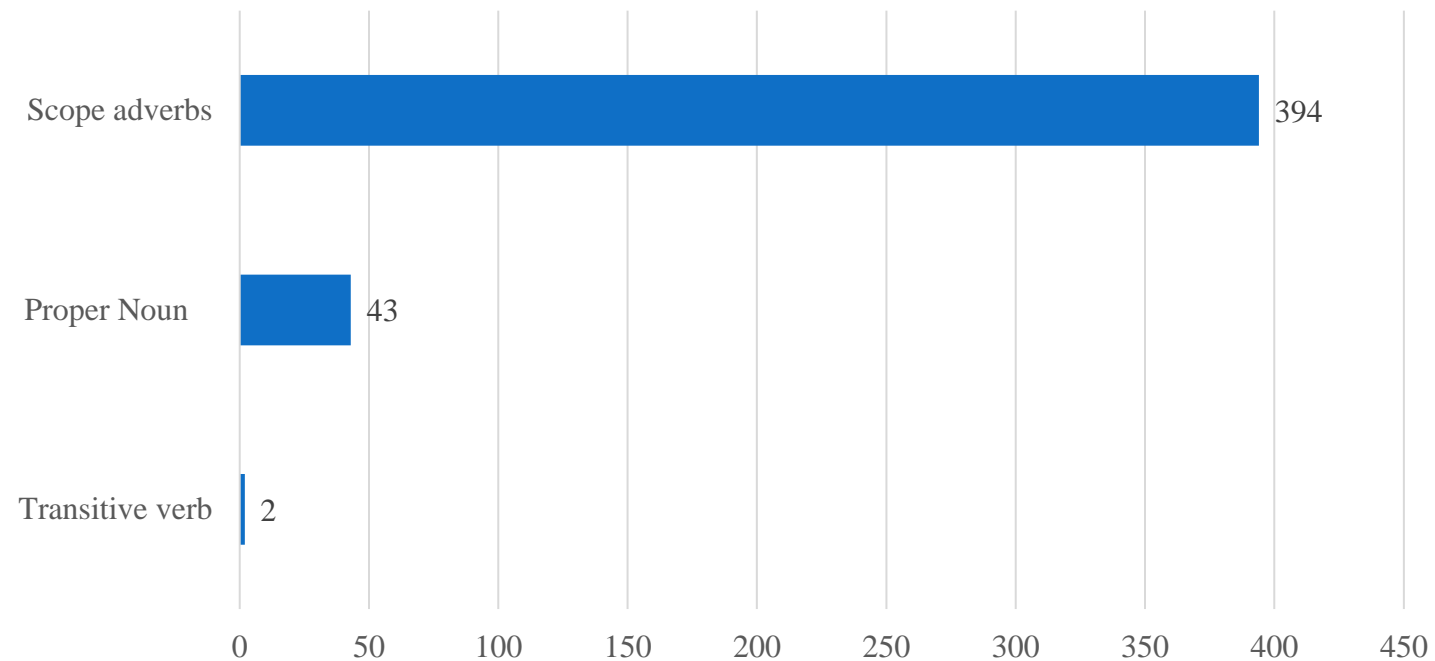
At this stage:

- verbs and nouns referring to concrete actions (building a capital) or objects (city/capital)
  constitute the majority of the usage of *dou*.

- The use of *dou* as scope adverb is still rare.

The degree *dou*'s abstractness and subjectiveness in Old Chinese is relatively low.

Medieval Chinese (1st c. B.C - 960 A.D.)

In Medieval Chinese, *dou* is most commonly used as an adverb; Its use as a transitive verb becomes rare compared to Archaic Chinese.

Table 2. Distribution of lexical categories of *dou* in Medieval Chinese

Medieval Chinese (1st c. B.C - 960 A.D.)

Similar to the use of *dou* in Modern Chinese, the scope adverb *dou* in Medieval Chinese can occur in:

- Plural NP (subject/topic)…*dou*…VP, indicating that a certain property/action is satisfied by all members of the quantified plural arguments.

  (6) …而积年之疾一朝[都_{ADV}]除

     er   ji-nian-zhi-ji   yi-zhao dou   chu

     and many-years-ZHI-illness one-day DOU disappeared

     "…And the chronic illnesses suddenly **all** disappeared."   (*Lie Zi*, cn. 4th cn. B.C.E.)

- Plural NP (subject/topic)…*dou*…Neg…VP. *dou* often co-occurs with negation.

  (7) 小人[都_{ADV}]不可与作缘。

     xiaoren   dou   bu   ke   yu   zuo   yuan

     backstabber DOU NEG can with make affinity

     "We should not befriend backstabbers **in general**."   (*Shishuo xinyu,* cn. 4th cn. B.C.E.)

Medieval Chinese (1st c. B.C - 960 A.D.)

Similar to the use of *dou* in Modern Chinese, the scope adverb *dou* in Medieval Chinese can occur as:

● The drop of plural NP (subject/topic) can be observed, but rarely.

 (8) 僧弥便云："**[都ADV]**已晓。"

  sengmi bian yun dou yi xiao

  Sengmi then say DOU already understand

  "Sengmi then said: '(The lecture) I already understand **all** of it.'"

               (*Shishuo xinyu,* cn. 4th cn. B.C.E.)

Medieval Chinese (1st c. B.C - 960 A.D.)

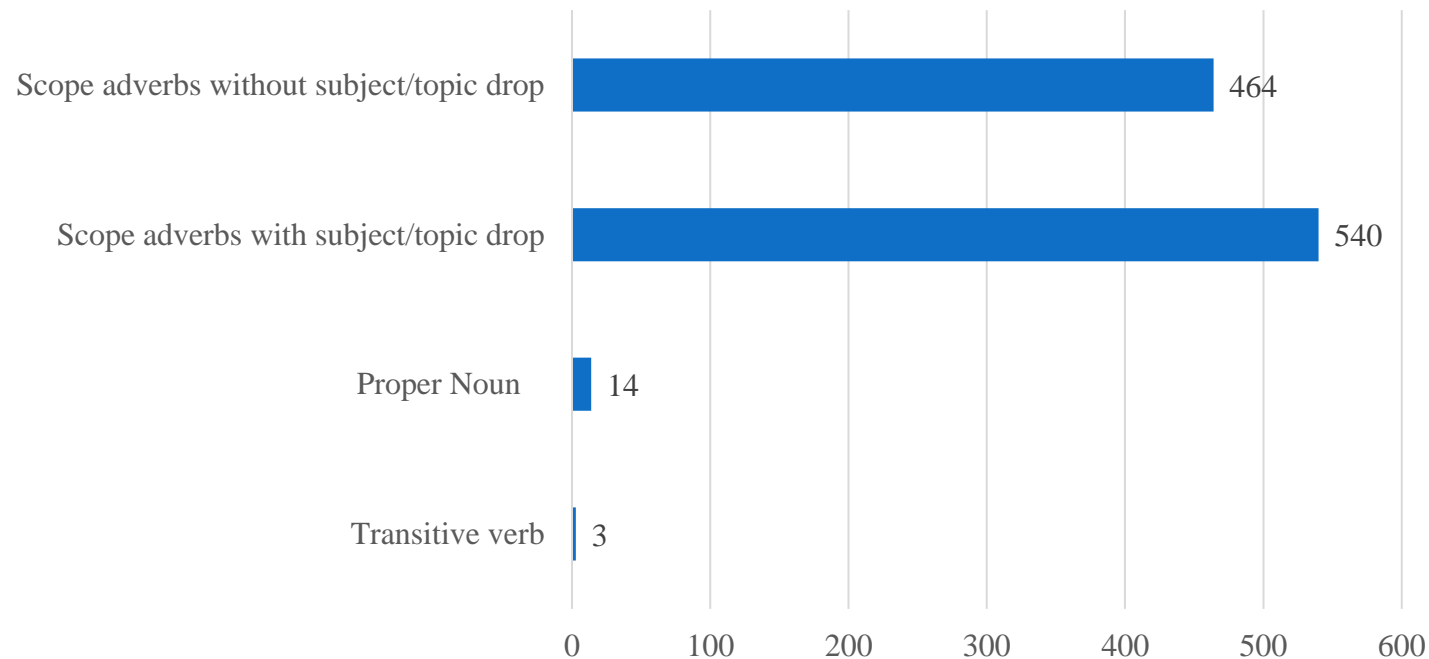At this stage, we can already find the *dou*-constructions being used in Modern Chinese.

- The usage of *dou* as a scope adverb is predominant;

- *dou* commonly follows the plural NP (subject/ topic) and precedes the VP.

The lexical category of *dou* starts to shift from a lexical item "city/capital" to an abstract concept 'all'/'both' or "in general".

Pre-Modern Chinese (960 A.D. - 1900 A.D.)

In Pre-Modern Chinese, the use of *dou* as nouns and verbs becomes even rarer compared to its use as adverbs, which accounts for 98% of the total.

Table 3. Distribution of lexical categories of *dou* in Pre-Modern Chinese

Pre-Modern Chinese (960 A.D. - 1900 A.D.)

- Sentence with *dou* exhibits a clear distributive reading as in Modern Chinese.

  (9) 那些老爷， 都有万贯家私…

  na-xie   laoye dou   you wan-guan   jiasi

  those-PL lord   DOU have thousand-CL properties

  "Each of those lords all have thousands of properties."

  (*Ru Lin Waishi*, early 16th century)

- The drop of subject/topic has become more prevalent than in the Middle Chinese.

The occurrence of *lian…dou*

During the Northern Song Dynasty (960-1127), new constructions emerged: The NP arguments in the subject position could be linked by a conjunction *lian* (连) derived from its verb form "to connect/link'.

(10) 面颊连项[都ADV]有伤疤。　　　　　　　　　　　**NP1 *lian* NP2 *dou* VP**

mianjia lian　xaing dou　you　shangba

face　　LIAN neck　DOU have scar

"There are scars on the face, **and also** on the neck."　　　　　　　　　　　(*Shui Hu Zhuan*, mid-14th century)

(11) 连我脚上穿的鞋[都ADV]不见了。　　　　　　　***lian* NP *dou* VP**

lian wo jiao-shang chaun-de xie dou bu jian le

Lian 1sg foot-on wear-AUX shoes DOU Neg see ASP

"**Even** the shoes on my feet were lost."　　　　　　　　　　　(*Jin Ping Mei*, c. 1610)

In (10), the verbal status of *lian* is more or less retained and *dou* acts to **quantify the two arguments** "face" and "neck". But in (11), *dou* seems to only have one associate "the shoes" and *lian…dou together* has a similar meaning to "**even**".

dou without *lian* as "even"

In (12), the structure "NP *dou* VP" could independently express the scalar reading "even"; *lian* becomes optional.

(12) …鞋子都跌掉了。   **NP *dou* VP**

      xiezi dou die diao le

      shoes DOU fall off ASP

      "Even (my) shoes have fallen off."   (*Xingshi Yinyuan Zhuan*, early 14th century)

The above diachronic evidence suggests that the co-occurrence of *lian and dou* is crucial to the development of *dou* from UQ to SCL.

One possible explanation:
The scalar reading is a pragmatic inference

Derived from its original meaning "to link / to join / to connect", *lian* was first used to connect at least two meaning units.

Hypothesis: In actual usage, unless parallel construction is employed, one of the two meaning units carries **more "weight" semantically** than the other. *Lian* XP indicates XP is more "**noteworthy**" or "**informative**" to the speaker (Hu and Shi 2007).

NP1 *lian* NP2 *dou* VP

[Face] lian [neck] *dou* have scars.

Having scars on the neck   **> informative to the speaker**   Having scars on the face

One possible explanation:
The scalar reading is a pragmatic inference

➤ **NP1 *lian* NP2 *dou* VP**

VP(NP2)   **> informative to the speaker**   VP(NP1)

NP1 ➤ Scalar model ➤ NP2   Subjective evaluations of the speaker

***lian* NP2 *dou* VP**   entails   **NP1 *lian* NP2 *dou* VP**

"lian NP2 *dou* VP "* wins the competition with "NP1 *lian* NP2 *dou* VP". NP1 drops off due to language economy; *lian* has undergone a grammaticalization from a conjunction to a preposition.

➤ ***lian* NP *dou* VP**

The optionality of *lian*

- The drop of subject/topic has become more prevalent; *dou* lacks the objects of quantification.
- *lian* NP *dou* VP is frequently used.

During the reanalysis processes, *dou* takes over *lian..dou'*s job, i.e. the pragmatic mechanism of marking the most informative object.

➢ **(lian) NP *dou* VP**

The optionality of *lian*

➤ *(lian)* **NP** *dou* **VP**

Lian becomes optional probably because it is only needed as a last resort to disambiguate of *dou*'s different uses.

(13) Laoshi dou xihuan zhe ben shu.

　　teacher DOU like this-CL book

　　a. "All the teachers like this book."　　　　　　　　- UQ *dou*

　　b. "Even the teachers like this book."　　　　　　　- SCL *dou*

I.　Prosodic disambiguation　　　　　　Stress on "teacher"　vs.　Stress on "*dou*"

II.　Plurality/singularity disambiguation　Mandarin bare NP:　pl.　vs.　sg.

III.　*Lian XP* disambiguation

Summary

Corss-linguistic data suggests that the ᴜQ - ꜱᴄʟ polysemy observed only in Mandarin Chinese might be **language-specific** rather than language-universal.

This claim can be further supported by the diachronic evidence. *Dou*'s function as ꜱᴄʟ appeared only after **the use of "*lian* NP *dou* VP" became prevalent**.

Hypothesis: The occurrence of *lian* triggers the scalar model on a degree of informativeness. *dou* takes over such pragmatic mechanism during the reanalysis processes.

Chances are ᴜQ *dou* and ꜱᴄʟ *dou* are not logically but pragmatically related.

Thanks!

Questions/Feedback?