

Three types of quantifiers in Mandarin Chinese when they are floated

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This paper aims to investigate the syntactic properties and behaviors of three types of quantifiers in Mandarin Chinese when they are floated:

- (i) The maximal quantifier (MQ): *quan-bu* ‘all’
- (ii) The universal quantifier (UQ): *mei* ‘every’
- (iii) The numeral-classifier quantifiers (NQ): *liang-ben* ‘two-CL’

When the three quantifiers are not floated, they all behave like nominal modifiers. However, when they are ‘floated’, the picture becomes more complicated. Sometimes, the three types of FQs (abbreviated as FMQ, FUQ, and FNQ respectively) have identical distributions. For example, all of them can appear in front of a focus particle *dou* (ex.(1a)), but cannot appear after *dou* (ex (1b)).

- (1) a. [Xue-sheng] ying-gai quan-bu/mei-ge/san-ge **dou** lai-le.
student should all/every/3-CL DOU come-ASP
‘It is very likely that the students/every student/ the three students have come.’
- b. [Xue-sheng] yinggai **dou** *quan-bu/*mei-ge/*san-ge lai-le.
student should DOU all/every/3-CL come-ASP
‘Intended meaning: as (2a)’

Nevertheless, distributional differences do exist among FUQs/ FMQs and FNQs. Specifically, certain internal argument positions only allow the appearance of FNQs (ex.(2)). Moreover, it seems that FMQs can occur in PRO position but FUQs and FNQs cannot, ex.(3).

- (2) a. Yu-chuan cheng-le *quan-bu/ *mei-sao/ san-sao. (unaccusative)
Fish-boat sink-ASP all/ every-CL/ three-CL
‘*All/ *every/ three fishing boats sank.’
- b. Ta yi-jing du-wan-le [xiao-shuo] *quan-bu/ *mei-ben/ san-ben. (transitive)
he already read-complete- ASP novel all/ every-CL/ 3-CL.
- (3) a. [Shi-bing]_i bei [_{VP} quan-bu/ *mei-ge/ *san-ge PRO_i sha-si le t_i]. (short passive)
soldier PASSIVE all/ every-CL kill-dead-ASP
‘All of the soldiers/ *every soldier/ *three of the soldiers were killed.’
- b. Yi-sheng quan [bing-ren]_i hui-jia hou [_{IP} quan-bu/*mei-ge/san-ge PRO_i jie-yan.]
doctor persuade patients go home after all/every-CL/ 3-CL quit smoking
‘The doctor persuaded all/ every/ three of these patients to quit smoking after going home.’

Arguing against Fitzpatrick's (2006) generalization that floating quantifiers denoting exhaustivity are adverbial, the present analysis proposes that in Chinese, FMQs and FUQs, as well as FNQs, all belong to the nominal category based on two pieces of argument. First, the adjacency condition of Case assignment states that Case assignor and its Case assignee should stay adjacent to each other. It is observed that the three FQs can be adjacent to a preposition both when they are followed by or separated from the associated DP/NP. Second, the distribution of FQs in various DP/NP positions is identical to that of overt NPs and their non-floating counterparts. Crucially, adverbs don't occur in these positions.

Based on the conclusion that the three types of quantifiers are nominal elements even when they are floated, the proposed structure pertaining to the three quantifiers are illustrated in (4). Instead of the adverbial analysis, the distributional puzzles are accounted for by the Definiteness effect (ex(2a)), the structural limitation stemming from the proposed structures (ex (2b)) and the possibility for MQs to select a DP complement (ex.(3)), respectively.

- (4) (i)MQ 'quan-bu': [_{QP} quan-bu(de)] [_{DP} xiao-shuo] 'all the novels'
(ii)NQ 'liang-ge; san-ben': [_{DP} [_{NumP} san [_{CLP} ben [_{NP} shu]]] 'three-CL book'
(iii)UQ: 'mei-CL' [_{DP} mei [_{NumP} yi [_{CIP} ben [_{NP} shu]]]] 'every-one-CL-book'

A further investigation into the type of movement which can license FQs in Chinese poses another challenge to Fitzpatrick's claim that only A-bar movement can license adnominal FQs. Empirical results point out that in Chinese, both A-movement and A-bar movement can license the three types of FQs. Furthermore, I suggest that a movement-only version of the stranding approach is not sufficient to attain the existent FQ constructions in Chinese. Instead, the proposal in Sportiche (1988), which suggests that an FQ is attached to an empty nominal of some sort, is able to account for the Chinese data more adequately. In specific, the FQ-related empty element can either be derived by movement or base-generated. The various types of FQ-related empty element can be identified via different strategies available in the Chinese grammar. Crucially, the phenomenon of floating quantification enables us to recognize the existence of a new type of empty element, True Empty Position (TEP) as proposed by A. Li (2007).