The topic of this paper is distributive quantification in Mandarin Chinese and how it is constrained. The starting point is the two adverbial expressions, dou and quan, both of which are often translated as ‘all’. Despite their syntactic and semantic similarities, closer examinations reveal that the occurrence of quan is more restricted than that of dou. While we concur with the view that dou can function as a distributive operator, we argue that quan itself is neither distributive nor quantificational. Its sole semantic function is to restrict the domain of distributive quantification. The incompatibility of quan in various environments is attributed to this single reason: quan is merely a domain regulator for distributivity.

1. Two Types of Adverbial ‘All’ in Mandarin Chinese

1.1. Similarities

There are two types of adverbial expressions in Mandarin Chinese, both of which roughly correspond to ‘all’ in English. These two adverbs, dou and quan, seem interchangeable in sentences like (1):

(1) a. tamen dou shui-zhao le
    they all asleep ASP
    ‘They are all asleep.’

b. tamen quan shui-zhao le
    they all sleep ASP
    ‘They are all asleep.’

Syntactically, both dou and quan always come immediately before the verb. They also impose the same structural requirement on the NP associated with them. Although the basic word order in Chinese is SVO, when an object NP is associated with dou or quan, it cannot stay in its canonical post-verbal position, as illustrated in (2).

(2) a. *Zhangsan dou kan wan le naxie shu
    Zhangsan all read finish ASP those book
    ‘Zhangsan finished reading all of those books.’
b. *Zhangsan quan kan wan le naxie shu
   Zhangsan all read finish ASP those book
   ‘Zhangsan finished reading all of those books.’

To establish the association with dou/quan, the object NP must move to a preverbal position, which can be after the subject as shown in (3) or before the subject NP as in (4).

(3) a. Zhangsan naxie shu dou kan wan le
       Zhangsan those book all read finish ASP
       ‘Zhangsan finished reading all of those books.’

b. Zhangsan naxie shu quan kan wan le
       Zhangsan those book all read finish ASP
       ‘Zhangsan finished reading all of those books.’

(4) a. naxie shu Zhangsan dou kan wan le
       those book Zhangsan all read finish ASP
       ‘Zhangsan finished reading all of those books.’

b. naxie shu Zhangsan quan kan wan le
       those book Zhangsan all read finish ASP
       ‘Zhangsan finished reading all of those books.’

We follow Cheng (1995) and call this constraint the Leftness Condition, which provides that the associated NP be on the left of dou/quan. The subject NP satisfies the condition by default, but the object must be dislocated, as seen above.

Another property shared by dou and quan is that the NP associated with dou or quan need not be plural. Both dou and quan can quantify over parts of a singular NP, as shown in (5).

(5) a. naben shu wo dou kan-wan le
        that book I all read-finish ASP
        ‘I finished reading all parts of that book.’

b. naben shu wo quan kan-wan le
        that book I all read-finish ASP
        ‘I finished reading all parts of that book.’

c. na ping shui dou liu-guang le (from Lin (1996))
        that container water all run-out ASP
        ‘That container ran out of water.’