Contrastive study of nominal universal quantification in Spanish and Chinese

Within the range of quantifiers, universal quantifiers hold a distinctive position, since they express the totality of units (e.g., *every, all, each* and *both* in English), and the universal quantification has been a topic of much interest in formal logic and linguistics. The concept of universal quantification has been a subject of significant interest in both formal logic and linguistics, with ongoing research dating back to the emergence of generative grammar (Chomsky, 1957; May, 1977). In Spanish, there are three key universal quantifiers: t*odo/a(s), cada*, and *ambo/as,* which have been explored from both diachronic and synchronic perspectives (Sánchez López, 1999; López Palma, 1999; Camus Bergareche, 2006).

However, the definition of universal quantifiers in Chinese remains a topic of debate. Some scholars argue that the adverb *都 dōu* is responsible of universal quantification, (Huang, 1982; Feng & Pan, 2018), thus questioning the existence of nominal quantifiers in Chinese. This paper first examines the various interpretations of the frequently used term *都 dōu* and presents our stance on its classification. We argue that 都 is not a true universal quantifier but rather a focus adverb whose meaning is heavily dependent on phonology and often influenced by pragmatic factors (Li, 2023; Liu, 2023).

Next, within the framework of generative grammar (Heim & Kratzer, 1998; Hornstein, 2009; Szabolcsi, 2010) and the theory of semantic types (Montague, 1974; Gamut, 1991), we conduct a contrastive analysis of the three universal quantifiers in Spanish and their Mandarin counterparts. This comparison is approached from both syntactic and semantic perspectives, drawing on data from the literature (Peng & Yan, 2007; Cheng, 2009; Zhou, 2011; Liu, 2023), as well as from two corpora: the Corpus del Español del Siglo XXI (CORPES) for Spanish and the BLCU Corpus Center (BCC) for Chinese, in addition to introspective analysis.

Our findings demonstrate that Mandarin Chinese does have universal quantifiers corresponding to *todo/a(s)* and *cada* in Spanish, such as *每 měi*, *所有 suǒyǒu*, *全部 quánbù*, *整个 zhěnggè*, and *一切 yíqiè*. However, these terms exhibit more complex syntactic and semantic features. Notably, there is no direct equivalent to *ambo/as* in Chinese, likely due to the existence of three distinct ways to express the quantity of two. Additionally, we highlight the phenomenon of null universal quantifiers in Chinese, where a bare noun can imply the total quantity, often necessitating the presence of *都 dōu*. This observation contributes to the misconception that *都 dōu* functions as a universal quantifier.

Key words: nominal universal quantification; Chinese; Spanish; semantic; syntax

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