

Dialectal Diversity and Crop Cultivation Areas: A Comparative Study of Rice and Maize

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Abstract

This study investigates the relationship between crop cultivation regions and dialectal nomenclatural diversity by examining rice (*Oryza sativa*) and maize (*Zea mays*) as representative cases. Focusing on the quantity and geographical distribution of their appellations across Chinese dialect regions, the analysis explores the mechanisms through which differences in cultivation context shape lexical diversification. It further highlights both the historical causes underlying the divergence of rice and maize terminology and the contemporary regional patterns that have emerged in their dialectal usage.

Keywords: Chinese Dialects, Rice, Maize, Distributional Causes

Introduction

As a nation deeply rooted in agriculture, China counts rice and maize among its principal crops. While both are known by various dialectal names, a significant disparity exists in their lexical diversity. The *Atlas of Chinese Dialects (Lexicon Volume)* documents only 33 distinct terms for rice, whereas it records a remarkable 84 for maize (Cao, 2008). What accounts for such a substantial difference in the number of dialectal names?

This study approaches the issue from the perspective of crop origins, analyzing the relationship between a crop's native region and the number of its dialectal names. Using rice and maize as case studies, it further explores how a crop's place of origin shapes the diversity of its dialectal designations.

Literature Review

Previous research on this topic has mainly focused on three areas: the agricultural development history of rice and maize in China, the etymological evolution of their respective terms, and their present dialectal distributions.

In agricultural history, seminal works by Yan (1982, 1989) provided foundational insights into the origins of rice agriculture in China, while You (1989) traced the timeline and pathways of maize's introduction into China and Asia. Earlier, you (1980) had pioneered the integration of linguistic geography and historical linguistics, analyzing the distribution and developmental trajectories of cultivated rice in Asia through an etymological perspective. Building on this methodological innovation, You & Zhou (1986) extended the framework to a more holistic investigation of cultivated plant history, establishing a body of work that remains influential for its pioneering scope. From an agricultural-linguistic perspective, you (1989, 1990) also examined the etymological evolution of rice-and maize-related terminology within China, linking crop history with lexical development. More recently, Yu (2023) has offered a detailed description of the contemporary dialectal distribution of rice-related terms.

Building on this body of scholarship, the present study synthesizes existing research to investigate how crop provenance—whether indigenous or introduced—shapes the dialectal nomenclature of rice and maize in Modern Chinese, with the broader aim of extending these findings to the core vocabulary of other agricultural products.

Results

The Origin of Rice and the Distribution of its Dialectal Names

Although academic debate persists regarding the precise origin of rice in China—with hypotheses pointing to India, Southeast Asia, South China, and Yunnan (Yan, 1989)—it is widely accepted that rice cultivation originated in China. Consequently, China is recognized as the cradle of rice agriculture, and rice is classified as an indigenous crop.

Examination of the *Linguistic Atlas of Chinese Dialects (Lexicon Volume)* documents 33 distinct dialectal terms for the rice plant across China (Cao, 2008). A morphemic analysis categorizes these terms into five principal root-morpheme series: the dao series, the zhou series, the he series, the gu series, and a miscellaneous other category. As shown in Figure 3.1. The geographical distribution of these lexical sets demonstrates a high degree of regional cohesion and forms distinct, contiguous zones.

Specifically, northern regions predominantly employ terms from the dao series; southwestern regions favor the gu series; southern China (excluding the Chaoshan and coastal Fujian regions) widely uses the he series; while the Chaoshan region, coastal Fujian, Taiwan, and Hainan Island are dominated by the zhou series. Critically, the boundaries between these lexical zones are characterized by gradual transitions, with a conspicuous absence of disjunct, isolated occurrences of terms far from their core regions.

The earliest textual evidence of rice cultivation appears in the *Classic of Poetry*, which contains references across several regions of present-day northern China. In *Odes of Bin: Seventh Month*, the text notes the harvesting of rice in the tenth month in the area corresponding to modern Shaanxi. In *Odes of Zhou: Bountiful Year*, the character *tu* is employed as an archaic term for rice. Similarly, *Odes of Tang: Bustard Feathers* documents constraints on rice and millet cultivation in what is now Shanxi, while *Odes of Lu: Bi Gong* records the presence of rice alongside millet and sorghum in present-day Shandong. Collectively, these passages indicate that rice cultivation was already widespread during the Western Zhou through Spring and Autumn periods, in close agreement with archaeological findings, and that by this time the crop was already designated by the term *dao* (Yan, 1982).

Concerning the designations *he* and *gu*, You (1980) argued that the ecological suitability of southern China for rice cultivation, combined with the cultural and linguistic interactions between North and South during the Spring and Autumn period, fostered sustained contact between the Zhuang–Dong languages of the Baiyue peoples (present-day Zhejiang, Fujian, Guangdong, and Guangxi) and the languages of the Central Plains. This contact, he contends, gave rise to the differentiation of the *he* and *gu* appellations. The present study broadly concurs with this interpretation, viewing it as a key explanation for the spatially contiguous distribution of dialectal terms for rice.

In summary, rice, as an indigenous crop in China, held an inherent advantage: its cultivation likely preceded the advent of writing in many regions. Accordingly, when the Chinese script and standardized pronunciations were first established, rice was assigned distinct appellations in different regions. In the North, *dao* became predominant, while in the South, *he* and *gu* emerged as principal designations. These three lexical lineages have persisted throughout history, and despite extensive temporal and regional variation, the overall diversity of rice-related terminology in Chinese dialects remains comparatively limited.

Introduced Crops Exhibit Greater Lexical Variation

As a newly introduced crop, maize was initially named spontaneously by local communities in different regions of China, drawing on their established cognitive frameworks and linguistic conventions. With the rapid expansion of its cultivation, the number of such local appellations proliferated accordingly. Historical evidence from regional gazetteers confirms that the lexical diversity of maize surpasses that of any other introduced crop (You, 1989).

Scholarly research has identified two primary pathways for the introduction of maize into China: Portuguese maritime transmission through the southeastern coastal regions and overland dissemination via Central Asia facilitated by Arab intermediaries (You & Zhou, 1986). Species introduced through maritime routes were conventionally assigned the prefix *fan* (“foreign”), a practice that explains the persistence of designations such as *fansui*, *fanzhu*, and *fanmai/fandamai* (in southeastern coastal dialects). By contrast, maize entering through the overland route was initially termed *yumai* (“imperial wheat”), possibly reflecting its status as a tribute commodity. Over time, the morpheme *yu* (“imperial”) underwent phonological convergence with the homophonous *yu*, giving rise to appellations such as *yumai* that remain in use in Shaanxi, Gansu, and parts of Sichuan. This phonetic shift further underlies the northern proliferation of *yu*-based terms, including *yumi*, *yushushu*, *yusu*, and *yudaoshu*.

Nevertheless, analyzing maize's nomenclatural diversity solely through these two transmission routes is insufficient to account for its underlying mechanisms. The decisive factor lies in historical timing. In contrast to rice, which has been cultivated in China for 7,000–8,000 years, maize was introduced only in the fifteenth century, when both the orthographic and phonological systems of Chinese were already well established. Within such a mature linguistic environment, speakers exhibited path-dependent tendencies: rather than coining entirely new and etymologically unanchored terms, they accommodated the foreign crop through semantic extension and phonological adjustment of existing lexical resources. These adaptive strategies, however, were mediated by regional cultural variation, leading to divergent outcomes. A parallel can be observed in the transliteration of personal names: the artist “Michelangelo” appears as either Mikailangjiluo or Mikailangqiluo, while “James” is rendered as Zhanmusi or Zhanmushi. Similarly, as maize spread across different regions, locally specific linguistic adaptations accumulated over time, eventually crystallizing into the highly heterogeneous distribution of appellations observed today.

Influence of Administrative Divisions on Names

It is well established that the formation of dialect regions has been profoundly influenced by geographical barriers and historical administrative demarcations, producing boundaries that frequently diverge from contemporary political jurisdictions. According to the Institute of Linguistics, Chinese Academy of Social Sciences (2012), such incongruence between dialectal and administrative boundaries is widespread, as presented in Figure 3.3. Illustrative cases include Suzhou, Wuxi, and Changzhou, which share cultural traditions and linguistic features characteristic of the Wu dialect region, yet are administratively incorporated into Jiangsu Province. Similarly, although the cultural and linguistic nucleus of Huizhou lies in southern Anhui, Wuyuan County has been placed under Jiangxi, while Chun'an and Jiande fall under Zhejiang. Furthermore, Yulin City in northern Shaanxi is linguistically classified within the Jin dialect zone but remains administratively under Shaanxi Province, exemplifying the persistent misalignment between linguistic and political boundaries.

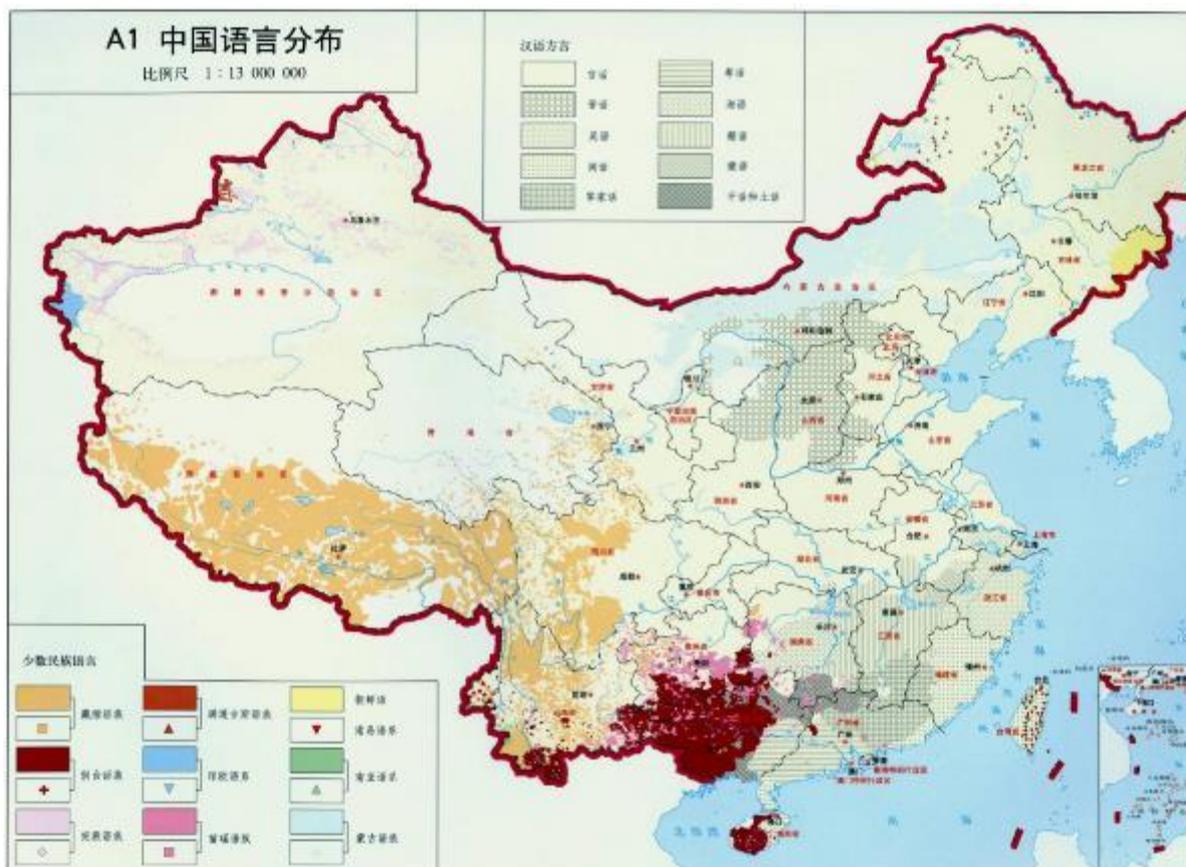


Figure 3.3: Linguistic Map of China

Source: Institute of Linguistics, Chinese Academy of Social Sciences (2012)

Logically, one would expect crop appellations within a single dialect region to exhibit a high degree of internal consistency. Yet empirical evidence from the *Linguistic Atlas of Chinese Dialects: Lexicon Volume* indicates that actual distributional patterns diverge significantly from such theoretical expectations. The terminology for maize exemplifies three distinct distributional patterns:

(1) High consistency. In the Huizhou dialect region, maize appellations are almost uniformly realized as *baolu/baoluo*, closely matching dialectal boundaries.

(2) Partial consistency with transitional zones. Within the Jin dialect region, lexical variation is evident: northern Shaanxi predominantly uses *jindaoshu*, while other Jin-speaking areas prefer *yujiaozhi/yumi*. In the intermediate geographical belt, *yudaoshu* functions as a transitional form, reflecting contact-induced accommodation.

(3) Marked deviation. In the Wu dialect region, even geographically proximate cities such as Suzhou, Wuxi, Changzhou, Shanghai, and Hangzhou display striking lexical heterogeneity, employing semantically unrelated terms including *yumai*, *dami*, *fanmai*, *jitousu*, and *bangtou*.

In conclusion, the distribution and diffusion of crop-related dialect vocabulary reflect a multifaceted process shaped by multiple drivers. While deeply rooted in the cultural legacies of historical dialectal boundaries, it is also increasingly molded by the administrative,

economic, and social networks that have taken shape through modern reconfigurations of administrative divisions.

Conclusion

This study compared the dialectal nomenclature of rice and maize to uncover the mechanisms underlying the notable disparities between indigenous and introduced crops in terms of both the number of dialectal variants and the morphological strategies by which they are formed. The findings suggest that indigenous crops possessed a chronological advantage in the standardization of their appellations, stabilizing early through conventions of social usage and subsequently diffusing across regions in relatively unified forms. By contrast, introduced crops entered China at a stage when linguistic and writing systems were already highly developed, which constrained the creation of new designations and necessitated adaptations from existing lexical resources. Regional variation in such adaptive strategies ultimately produced the pronounced geographical and lexical diversification exemplified by maize. This tendency is not unique to maize: introduced crops such as potato (69 dialectal appellations), chili pepper (65), and tomato (65) display striking lexical heterogeneity, whereas indigenous crops such as radish (21) and wheat straw (53, though relatively numerous, are consistently derived from the morpheme *mai* and thus reveal strong morphological regularity) show more concentrated distributions (Cao, 2008).

This study systematically examines the dialectal nomenclature of indigenous and introduced crops in China. By foregrounding crop origin and chronology of introduction, it identifies the mechanisms that account for the pronounced asymmetry in lexical diversity: native crops display comparatively limited variation, whereas introduced crops exhibit markedly greater heterogeneity. Beyond the agricultural domain, these findings have provided new perspectives for research in Chinese historical linguistics and dialectology, while also offering an empirical foundation for investigating the diachronic evolution of Chinese dialect communities.

Given the limitations of available sources and the incomplete scope of field surveys, these findings should be interpreted with caution. Nevertheless, they provide a conceptual framework and methodological reference for future investigations into the relationship between crop provenance and dialectal nomenclature, thereby contributing to a deeper understanding of how cultural history, linguistic systems, and regional adaptation jointly shape patterns of lexical diversity in Chinese dialects.

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