

Network Reorganization of Cross-Regional Cultural Integration in Ming-Qing Ceramics: A Three-Region Comparison and Five-Dimensional Diagnosis

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Abstract: Existing studies on cultural integration in Ming-Qing ceramics mostly proceed along single-line contexts such as China–Europe, China–Middle East/West Asia, or Europe–China, and often directly understand “the expansion of exchange” as “the strengthening of integration.” Taking Chinese samples as the main axis, this article places China, the Middle East/West Asia, and Europe within the same framework, adopts a comparative structure of “region × role × period,” and uses five artistic representations on ceramic products: theme, style, vessel form, patterns and motifs, and color, as a unified observational language to conduct quantitative and qualitative analysis of existing samples. The article argues that what occurred between the Ming and Qing dynasties was not simple continuous strengthening, but network reorganization: the input-output symmetrical integration relationship centered on the Middle East/West Asia in the Ming dynasty completely withdrew in the Qing dynasty, while the China-Europe direct axis rose and replaced the original hub structure. China’s long-term absorption of Islamic factors shows a special state: once cultural factors from a certain source have been deeply internalized, even if continuous input from the same source clearly declines, the relevant integration can still continue to exist within the local production system. This article summarizes this state as “source-specific saturation.”

Keywords: Ming-Qing transition; ceramic cultural integration; network reorganization; five-dimensional diagnosis; source-specific saturation; Chinese porcelain

1. Introduction

Ceramic samples are suitable for studying cross-regional cultural integration because they deposit cultural contact in visible artistic representations. The sources and color development of glazes reflect different traditions’ understanding of ideal colors; distinctions in vessel forms reflect differences in bodily practice, functional concepts, and living systems; the transplantation, transformation, and reorganization of patterns and motifs show the recoding of decorative grammar in cross-cultural contexts; changes in theme and style directly correspond to differences in cognitive structures and aesthetic orientations. For this reason, this article places its research focus on the artistic representations of ceramic products themselves, rather than taking trade volume or institutional change as the main axis of argumentation. The latter only serves as explanatory variables in this article.

Cross-regional ceramic interaction between the Ming dynasty (1368–1644) and the Qing dynasty (1644–1912) has long been incorporated into the continuous narrative of “the global expansion of Chinese porcelain.” Whether in the trade history of export porcelain, the history of the spread of Chinese porcelain in the Islamic world, or the history of European collection and transformation of Chinese porcelain, existing studies have accumulated a large number of achievements, but most of these achievements proceed along bilateral paths and less often place China, the Middle East/West Asia, and Europe within the same framework for juxtaposed comparison (Finlay, 2010; Gerritsen, 2020) ^[1-2]. The result brought by this research pattern is that there are many discussions of “who influenced whom,” while judgments on “how the relationship structure changed” remain insufficient.

One of the questions this article seeks to answer is whether the expansion of “cross-regional cultural integration” during the Ming and Qing dynasties was equal to continuous strengthening along existing directions. Judging from the existing samples and quantitative results, the answer does not support an interpretation of single-line enhancement. The input-output symmetrical integration relationship of China

←→ Middle East/West Asia, centered on the Middle East/West Asia in the Ming dynasty, completely withdrew in the Qing dynasty, while key directions such as Chinese output → Europe and Chinese input ← Europe rose simultaneously. More importantly, this structural change is also concretely reflected in the samples: from the Yongle-Xuande blue-and-white flattened flask to the Qianlong blue-and-white moon flask, and from Kraak porcelain to armorial porcelain and Guangcai porcelain, the changes in vessel form, color, patterns, and themes in the Chinese samples together constitute an art-historical evidence chain of network reorganization.

Based on this judgment, this article proposes two progressive arguments. The first is that the key change between the Ming and Qing dynasties should be defined as “network reorganization,” rather than “simple strengthening.” The second is that China’s long-term absorption of Islamic factors shows a special state: when the relevant factors have already been internalized as part of the local production system, continuous input from the same source no longer produces significant incremental integration. This article names this state “source-specific saturation.”

2. Literature Review and Research Positioning

Existing studies generally form three main lines. The first line is research on the export of Chinese ceramics to Europe. From Jörg (1982)^[3], who conducted statistics on VOC archives, to Finlay (2010) and Gerritsen (2020), who discussed the global circulation of Chinese porcelain, this line clearly establishes the scale, routes, and market landscape of export porcelain. Its limitations are equally evident: although the images of trade volume and direction are clear, they are insufficient to explain why, when facing the same Chinese porcelain, Europe long exhibited an “input-driven” pattern, while China and the Islamic world in some directions entered an “absorption mode.”

The second line is research on the dissemination and reception of Chinese blue-and-white porcelain and related samples in the Islamic world. Relevant studies have pointed out that the acceptance pathways of Chinese factors differed between Ottoman Iznik and Safavid Iran: the former was closer to active translation and local innovation, while the latter was closer to imitative absorption (Porter, 2021; Atasoy & Raby, 1989)^[4-5]. The key contribution of this line is to remind us that cross-regional cultural integration is not only a matter of “how much input” but also of “how transformation occurs.” However, existing discussions mostly remain at the level of style analysis and have not conducted a horizontal comparison with China and Europe within a unified framework. Another important research blind spot is why this deep absorption suddenly “saturated” in the Qing dynasty; no study has investigated whether there is a causal relationship between absorption and decline, and whether it is precisely because absorption was so deep that continued input no longer produced incremental integration. This is one of the core issues this article seeks to address.

The third line is research on Europe’s collection, transformation, and reproduction of Chinese porcelain. Studies on mounted porcelain, Delftware, Chinoiserie, and Meissen hard-paste porcelain have clearly shown that Europe’s response to Chinese porcelain was not passive acceptance, but a continuous process of selective reorganization. Nevertheless, these studies mostly focus on Europe’s own cultural reactions to distant China, and rarely place European samples back into the three-region network to examine changes in their relational structure with China and the Islamic world.

The research positioning of this article is therefore not to supplement a new bilateral line, but to reorganize the observation of existing results. On one hand, it retains the literature, samples, and judgments established in previous studies; on the other hand, through the juxtaposition of three regions (China, Middle East/West Asia, and Europe), differentiation of three roles (input, output, and local absorption), and the five-dimensional measurement of artistic representations of ceramic samples, it transforms the originally parallel research lines into a comparable structural analysis. In other words, the focus of this article is to place existing samples within a unified standard of artistic representation—five-dimensional measurement—and study them within the same framework of cultural integration.

3. Analytical Framework and Samples

This article adopts an analytical framework of three regions (China, Middle East/West Asia, Europe) × three roles (output, input, local absorption) × two periods (Ming, Qing), studying more than 110 samples and forming 18 independent datasets. This structure is not pursued for formal completeness, but because only by simultaneously incorporating region, direction, and period can one distinguish “changes within a single region” from “reorganization of the entire network.” For example, the increase of China’s

output → Europe alone does not automatically demonstrate “network reorganization”; only when it is considered together with the decline of China’s input ← Middle East/West Asia, the high-level stability of local China–Middle East/West Asia interactions, and synchronous changes in European directions does the nature of reorganization become apparent (See Table 1).

The five-dimensional framework—theme, style, form, pattern/motif, and color—serves as the unified observational language of this article.

Style: The overall aesthetic orientation and technical tradition of an object. Style is not a single visual feature but a stable, recognizable set of production and aesthetic conventions—for example, the restrained regularity of Chinese official kilns, the flowing brushwork and floral vocabulary of Iznik, or the vernacular reinterpretation in Delftware. The style dimension captures “how the object is presented” and reflects collective aesthetic orientation and technical tradition within the deep structure of culture.

Form/Shape: The three-dimensional morphology and functional concept of an object. Form carries usage patterns, bodily practices, and functional concepts—for example, the storage function and proportional aesthetics of the Chinese meiping vase, the ritual and banquet functions of Islamic metal forms (e.g., ewers, military vessels, long-necked bottles), and the physical reconstruction of Eastern objects in European mounted porcelain. The form dimension captures “how the object is used and perceived,” representing the most material layer of cultural artistic representation.

Pattern/Motif: The decorative grammar and visual language rules of an object. Patterns involve compositional rules, motif types, and decorative grammar—for example, the continuous vine structure of Chinese lianhua motifs, the infinite repetition principle of Islamic geometric patterns and Arabesque, and the decorative systems of European rocaille and floral motifs. The pattern dimension captures “what visual grammar is applied in decorating the object,” making it the aspect most easily transmitted and imitated in the process of cultural integration.

Color: The color system and material-technical basis of an object. Color relates both to aesthetic preference and material conditions—for example, the cobalt-blue system of Chinese blue-and-white porcelain relying on Persian cobalt imports and domestic substitution, the absorption and transformation of celadon green in Islamic ceramics, and Europe’s imitation and recreation of “Chinese white.” The color dimension captures “what colors the object presents,” serving as the intersection of aesthetic and material-technical aspects in cultural artistic representation.

The five dimensions are not arbitrarily combined but constitute an integration of existing traditions in ceramic art-historical analysis: they incorporate the “form, pattern, color” logic from Chinese ancient ceramic classification while responding to ongoing discussions in European morphological studies and Islamic decorative research regarding color, composition, form, and function.

The five-dimensional framework functions as both a descriptive and a measuring tool. As a descriptive tool, it helps researchers indicate which cross-regional factors appear in the samples and in what ways they manifest; as a measuring tool, it further reveals which dimensions the integration across different regions primarily affects. For example, Europe remained most active in the theme and form dimensions, whereas China’s absorption of Islamic factors is concentrated in the color and form dimensions. Only by clarifying these dimension-level differences can classifications such as “input-driven,” “absorption mode,” and “symmetry” be grounded in evidence.

The three analytical roles defined in this article—output, input, and local absorption—are classified based on the function that ceramic products serve in cross-regional circulation, rather than their specific market destination. According to this classification, the samples are divided into three categories: output samples, input samples, and local samples. Subsequently, each ceramic sample within each category is independently scored according to the five-dimensional standards of China, Middle East/West Asia, and Europe. A single object is not assessed under only one target framework, but is simultaneously evaluated against three sets of regional-local standards. Each dimension is independently assigned a value: 0 = does not meet the main class of the standard, 1 = partially meets the standard (weak relevance or local comparability), 2 = fully meets the standard (directly matches the main class of the standard). The scores of the five dimensions are summed to obtain the sample’s score against that set of standards (0–10 points). After this procedure, the scores of multiple samples within the same role group are averaged to form the average score of that role sample group relative to each regional standard.

On this basis, the article further constructs a “cross-regional integration” index to measure the intensity of integration that a role sample group exhibits between different regional cultural standards. Taking the “China output samples” as an example: the article first calculates the average score of this

group under the “China local standard,” the “Middle East/West Asia local standard,” and the “Europe local standard”; then, the sum of the “China local standard average score” and the “Middle East/West Asia local standard average score” is taken as the “cultural integration of China output samples with the Middle East/West Asia” index; the sum of the “China local standard average score” and the “Europe local standard average score” is taken as the “cultural integration of China output samples with Europe” index. The calculation logic for Middle East/West Asia output samples, Europe output samples, and input samples and local samples from all regions follows the same procedure.

The key implication of this procedure is that what is measured is not the “unidirectional adaptation” of a single sample to a specific market, but rather the bilateral integration it exhibits between source-region cultural characteristics and those of another comparative region. Therefore, the so-called “China output–Europe integration” in this article is not equivalent to a simple judgment of “whether it was specifically customized for a region”; rather, it expresses the extent to which China output samples, as a role group, manifest cross-regional cultural integration under dual comparison with both Chinese local standards and European local standards (See Figure 1).

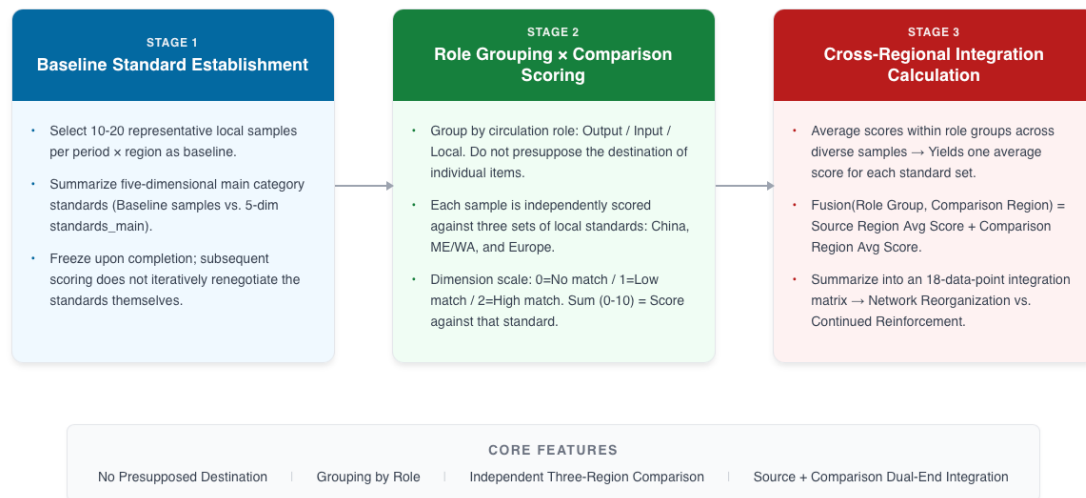


Figure 1. Cross-Regional Standard Comparison Scoring Process Based on Circulation Roles

Table 1 The core sample counts for each period, region, and role in this article.

Period	Region	Local	Output	Input	Total
Ming (1368–1644)	China	11	7	4	22
Ming (1368–1644)	Middle East / West Asia	10	5	5	20
Ming (1368–1644)	Europe	12	4	7	23
Qing (1644–1912)	China	19	9	14	42
Qing (1644–1912)	Middle East / West Asia	10	5	4	19
Qing (1644–1912)	Europe	12	5	5	22
Total		74	35	39	148

Table 2 The cultural integration of five-dimensional artistic representations for ceramic samples across the three regions and three roles during the Ming and Qing periods.

Integration Role	Ming	Qing	Change
China local · Middle East/West Asia	6.7	6.9	+0.2
China local · Europe	5.6	5.6	0
China output → Middle East/West Asia	5.4	5.0	−0.4
China output → Europe	3.2	6.3	+3.1
China input ← Middle East/West Asia	5.0	2.0	−3.0
China input ← Europe	1.0	5.6	+4.6

The Chinese-perspective samples in this study are the Yongle–Xuande blue-and-white flattened flask and the Qianlong blue-and-white moon flask as a before-and-after comparison, together serving as the core evidence for “source-specific saturation.” Supporting samples include the blue-and-white dragon-phoenix plate, Dutch market blue-and-white plate, Kangxi yellow-ground famille-rose peony bowl, large Guangcai bowl, Iznik Saz leaf plate, and Meissen teapot.

4. The Chinese-Perspective Axis: From Absorption to Directed Adaptation

The Ming-Qing changes in Chinese samples are first manifested in the asymmetry of local absorption structures. Table 2 shows three structural changes: first, China's output direction shifted from the Middle East/West Asia to Europe; second, China's input source shifted from the Middle East/West Asia to Europe; third, China's local absorption of Islamic factors remained high and stable even as input declined.

During the Ming dynasty, the China local–Middle East/West Asia integration reached 6.7/10, one of the highest single values from the Chinese perspective; the evidence is not concentrated in a single aspect but simultaneously distributed across materials, vessel forms, and patterns/motifs. The Persian-imported “Huihui blue” constituted an essential material prerequisite for the development of blue-and-white coloration; Islamic metal and glass vessels provided direct reference for at least 18 types of forms, including moon flasks, military ewers, and handled ewers; decorative factors such as pomegranate motifs, Arabic geometric patterns, and vine motifs also left enduring traces in the Jingdezhen decorative system (Ding, 2024; Zhao, 2017)^[6-7].



Figure 2. Yongle–Xuande blue-and-white flattened flask (Art Institute of Chicago 259858)

The prototype of the flattened flask form derives from Islamic metal vessels. Ming dynasty Jingdezhen artisans transplanted it into porcelain and completed localized transcription with blue-and-white decoration.

The significance of this sample lies in demonstrating two levels at which Islamic cultural factors entered Ming Chinese ceramics: the material level (Persian-imported cobalt) and the form level (Islamic metal prototypes). Therefore, it is not simply a “passively influenced” sample, but a sample that incorporates foreign forms into the local production system (See Figure 2).

By the Qing dynasty, the same absorption line shows greater stability: China local–Middle East/West Asia integration rose from 6.7 to 6.9. Islamic factors no longer appear as external supplements but have become part of the Chinese ceramic system. The Qianlong blue-and-white double-eared moon flask with Eight Treasures motifs thus serves as a key comparative sample. Its vessel form continues the basic structure of the Yongle–Xuande flattened flask, but in terms of color, it has shifted from imported Persian cobalt to domestic Zhejiang or Zhu Ming cobalt. Continued stable production exemplifies the “form retained while material is domestically sourced” pattern (See Figure 3).



Figure 3. Qianlong blue-and-white double-eared moon flask with Eight Treasures motifs (Palace Museum, Xin 00118010)

The same vessel form continued in production during the Qing dynasty, but the material source shifted from imported cobalt to domestic cobalt, demonstrating the parallel retention of form and material autonomy.

The second line of change along the Chinese axis is the reorganization of output direction. During the Ming dynasty, China output → Middle East/West Asia scored 5.4, higher than output → Europe at 3.2. The reason is clear: the former continued the relatively mature adaptation tradition of exports to the Islamic world established since the Song and Yuan dynasties, whereas the latter was severely constrained by the Ming maritime prohibitions and closure of informal trade channels. Under long-term maritime restrictions, Chinese kiln workers could not obtain stable, continuous market feedback. Consequently, Ming-era output samples for Europe—for example, Kraak porcelain—although exhibiting compositional adjustments such as paneling and framed borders, still largely adhered to internal Chinese decorative logic.

During the Qing dynasty, China output → Europe rose sharply from 3.2 to 6.3, becoming one of the most pronounced directional changes in the table. This change is clearly reflected in the samples. The Q03 blue-and-white plate for the Dutch market shows that Qing Chinese kilns were already capable of making more specific, targeted adjustments for the European market in terms of vessel form, border decoration, and pattern layout; the large Guangcai bowl and the Russian Empire armorial blue-and-white plate further extended these adjustments to theme and color. The former features scenes of European factories along the Pearl River, developing a decorative system in Guangzhou specifically for the European market; the latter places the Russian imperial double-headed eagle in the center of the plate while retaining Chinese border decorative grammar. In other words, what was reinforced in the Qing was not simply export volume, but the systematic responsiveness of samples at the level of artistic representation to European demand (Suebsman, 2023)^[8], showing a higher degree of cultural integration (See Figure 4).



Figure 4. Qing dynasty blue-and-white plate for the Dutch market, Q03 (MET 60.9)

Chinese kilns adjusted vessel form, pattern, and color according to European client requirements, demonstrating the targeted adaptation of output samples.

The third line of change along the Chinese axis is the shift in input sources. During the Ming dynasty, China input $\leftarrow$ Europe scored only 1.0; this value does not indicate “low integration,” but rather that the “channel was almost nonexistent”: as the sole mature production center of high-fired porcelain, China held absolute technical superiority, making it difficult for European and Islamic ceramic objects to enter the internal system (Vainker, 1991; Clunas & Harrison-Hall, 2014) ^[9-10]. By the Qing dynasty, China input $\leftarrow$ Europe rose to 5.6, primarily not through large-scale physical import of European ceramics, but through material and technical input—such as European cobalt, enamel pigments, and gilded-red decoration—manifested in Chinese samples themselves.



Figure 5. Qing Kangxi yellow-ground famille-rose peony bowl (Palace Museum, Xin 00140838)

Theme, style, form, and pattern remain dominated by Chinese court aesthetics, but the color dimension clearly shows traces of European material and technical input.

The significance of this sample lies in making European-sourced materials and techniques visible through the finished Chinese porcelain: inputs such as overglaze blue, rouge, and antimony yellow are clearly present, yet the sample’s theme, composition, and form remain governed by Chinese court aesthetics (See Figure 5). This indicates that Qing China’s absorption of European factors primarily occurred at the material and technical levels, rather than reversing the cultural agency of the samples (Giannini et al., 2017; Colombari et al., 2022; Valenstein, 1998) ^[11-13].

5. Three-Region Comparison: From Symmetry to Network Reorganization

The significance of network reorganization becomes fully apparent only when the changes in Chinese samples are placed back into the context of all three regions. The input-output symmetrical integration relationship between China and the Middle East/West Asia, which had Middle East/West Asia as the hub in the Ming dynasty, completely withdrew in the Qing dynasty. This directly refutes the simplistic narrative that “the Ming and Qing represent mere continuation and strengthening.” If it were simple continuation, the high-integration relationships established in the Ming should have further intensified; in reality, the Qing shows a differentiated pattern in which some relationships significantly increase while others markedly decrease. The synchronous rise of China output $\rightarrow$ Europe and China input $\leftarrow$ Europe, occurring in parallel with the sharp decline of China input $\leftarrow$ Middle East/West Asia, can only be interpreted as a reordering of relationship structures.

From the perspective of five-dimensional diagnosis, this reorganization is not driven by a single mechanism. Strengthening toward Europe primarily occurs at the level of market adaptation in theme, form, pattern/motif, and color, and thus aligns more closely with “input-driven” and “targeted rewriting.” High-level stability toward the Islamic direction is mainly concentrated in long-term deposition of color and form, aligning more closely with an “absorption mode.” The distinctiveness of Chinese samples lies in their simultaneous display of these two mechanisms in the same period: on one hand, in response to European demand, they undergo more targeted visual adaptation through export samples; on the other hand, regarding Islamic factors, they have reached a post-absorption stabilization phase.

Representative images of Islamic samples further illustrate this point. The Iznik Saz leaf plate is not a simple copy of Chinese blue-and-white porcelain, but rather translates the visual grammar of Chinese blue-and-white into an Islamic botanical motif; its color, pattern, theme, style, and form are internalized at different rates, forming a sample characteristic of “dimensionally separated translation.” By contrast, European samples citing Chinese models remain in a long-term input-driven state: mounted porcelain, Delftware, and Chinoiserie reflect continuous reinterpretation of Chinese forms rather than stable translation of foreign factors into local formal grammar as in Iznik (See Figure 6 and 7).



Figure 6. Iznik blue-and-white Saz leaf plate (British Museum G37)

The blue-and-white color references Chinese blue-and-white, but the motif, composition, and style have been translated into an Islamic visual order, representing a deeply absorbed sample.



Figure 7. Meissen teapot (MET 42.30.10)

Technically achieving hard-paste porcelain innovation, the patterns continue to reference Chinese floral systems, demonstrating that technical autonomy does not equate to cultural self-sufficiency.

Therefore, the “network reorganization” described in this article encompasses at least three levels: channel reorganization, i.e., the shift from Middle East intermediary to the direct China–Europe axis; role reorganization, i.e., the weakening of the Middle East/West Asia hub; and source reorganization, i.e., the simultaneous completion of China’s internalization of Islamic factors and the new input of European factors. The interaction of these three levels constitutes the most important structural change between the Ming and Qing dynasties.

6. Source-Specific Saturation

“Source-specific saturation” is not an abstract concept detached from the samples, but an explanatory model distilled from the long-term changes observed in Chinese samples. Its most typical empirical basis is that, during the Qing dynasty, China local–Middle East/West Asia integration reached 6.9, while China input ← Middle East/West Asia simultaneously declined to 2.0. This indicates that Islamic factors did not disappear with the reduction of physical imports; on the contrary, they remained stably present in the form, color, and pattern/motif of Chinese samples. In other words, a decline in the cultural integration of input samples does not necessarily correspond to the termination of integration.

The contrast between the Yongle–Xuande blue-and-white flattened flask and the Qianlong blue-and-white moon flask provides the clearest empirical support for this concept. The former directly connects to Islamic sources in both material and form, while the latter achieves material autonomy while retaining the same vessel form. It is precisely in this sustained production of “form retained while material is autonomous” that we can observe: once cultural factors from a given source are incorporated into the local production system, their continued presence no longer depends on ongoing input from the original source.

The reason for including the term “source-specific” is that it does not imply that all foreign factors have been fully absorbed. During the Qing dynasty, China’s interaction with European factors remained in a stage of concurrent contact, input, and translation: China input ← Europe rose from 1.0 to 5.6, while China local–Europe remained at 5.6. This shows that, within the same period, China exhibits different mechanisms for different sources: saturation-stabilized integration for Islamic factors, and growing integration following the initiation of input for European factors.

7. Conclusion

This article, using Chinese samples as the main axis, conducted quantitative and qualitative analyses of a large number of samples, resulting in three conclusions. First, the most important structural change between the Ming and Qing dynasties was not simple strengthening, but network reorganization. Specifically, the input-output symmetrical integration between China and Middle East/West Asia, which had Middle East/West Asia as the hub in the Ming dynasty, completely withdrew in the Qing dynasty; the China–Europe direct axis simultaneously rose, and both Chinese output and input shifted toward Europe. Second, this change can be identified through the artistic representations of samples: the Yongle–Xuande blue-and-white flattened flask, Qianlong blue-and-white moon flask, Q03 Dutch market blue-and-white plate, large Guangcai bowl, Meissen teapot, and Iznik Saz leaf plate collectively demonstrate that changes in material, form, pattern/motif, theme, and color constitute the truly observable layer of network reorganization. Third, China’s long-term absorption of Islamic factors provides the clearest empirical basis for “source-specific saturation.”

Methodologically, the value of this article lies not in adding new material, but in placing existing samples within a unified framework to reassess their relationships. China is not merely a branch within the three-region network, but a key node for understanding how cross-regional ceramic cultural integration during the Ming and Qing dynasties shifted from an Islamic-centered axis to a direct China–Europe axis.

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