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CONTENTS

CHALLENGES AND SOLUTIONS: THE INGENUITY OF THE YAOZHOU POTTERS

Lecture given by Sabrina Rastelli on Tuesday 11 November 2025

Introduction

Since its identification in the 1950s, what we commonly call 'Yaozhou ware', that is, greenware characterised by vivid designs carved or impressed under a transparent olive-green glaze (fig. 1), has been regarded as somewhat inferior to Ding or Jun wares. However, closer observation of Yaozhou wares shows that it is a groundless disparagement. Their exclusion from the 'five famous wares of the Song dynasty (960–1279)'[1] is what prompted my research into the Yaozhou kilns.[2]

This paper is structured in two main parts. The first examines the complex and, in many respects, unique trajectory of the Huangbaozhen[3] kilns from their establishment in the Tang dynasty (618–907) through their peak during the Northern Song (960–1127) and Jin (1115–1234) periods. Particular emphasis is placed on the ingenuity displayed by the potters in adapting to locally available raw materials, evolving firing technologies, and changing aesthetic preferences, and, in certain instances, actively setting those preferences. The second part focuses on what I define as the 'concept of a signature product' and explores its relationship with other ceramic genres produced at Huangbaozhen, arguing for a reassessment of how Yaozhou ceramics have been characterised in scholarship.

The Trajectory of the Yaozhou Kilns—The Initial Phase

The trajectory of the Yaozhou kilns is exceptional, as demonstrated by the combined evidence of archaeological excavation and laboratory analysis.[4]

Archaeological excavations show that when the Huangbaozhen kilns were first established during the Tang dynasty, their production focused primarily on several types of blackwares and on *sancai* ceramics. At the same time, attempts were made to produce whitewares inspired by those manufactured at the Gongxian and

[1] Rastelli 2016.

[2] My engagement with the Yaozhou kiln complex dates back to December 1994, when I was a student at Xi'an Xibei Daxue (Xi'an Northwest University) and conducted an interview with Zhuo Zhenxi, the archaeologist directing the excavations at Huangbaozhen. During that encounter, Zhuo invited me to visit the site and to examine the excavated materials, including ceramics from the Five Dynasties layers, which at that time were virtually unknown outside China. It was the exceptional quality of those materials—second to none—that inspired my doctoral research into the Yaozhou kilns.

[3] This toponym has been variously pronounced as 'Huangbaozhen' or 'Huangpuzhen' because the middle character 堡 can be read in three different ways: *bǎo*, *pù*, *bǔ*, the first meaning 'fortress', the other two meaning 'walled village'. Considering the explanation of the name provided by the 1557 edition of the *Yaozhou zhi* (Yaozhou Gazetteer), in which the alternative names are said to be Huangbaozhai or Sanbaozhai, where the character *zhai* 寨 also means 'fortress', the correct pronunciation is *bǎo*; this is also the official reading (https://cidian.odict.net/862170772/855391465/862069687/).

[4] The results of the main archaeological campaign carried out at Huangbaozhen from the late 1980s to the late 1990s are published in three final reports—Shaanxisheng 1992; Shaanxisheng 1997; Shaanxisheng & Yaozhouyao 1998—and in my PhD thesis (Rastelli 2002), also published as a book in 2008. For the laboratory analyses I am deeply indebted to Professor Nigel Wood and Chris Doherty of the Research Laboratory for Archaeology and the History of Art (RLAHA) at the University of Oxford, where the ceramic sherds that I was permitted to export from China were analysed. At the end of the 1990s, such laboratory investigations were far less common than they are today. To provide a sense of context, at that time only four samples from Yaozhou had been tested outside China. The results of the RLAHA analyses are published in Rastelli *et al*. 2002 and in my PhD (Rastelli 2002).

Fig. 1. Yaozhou greenware bottle with carved design, Northern Song dynasty (960–1127), height 16 cm, © Shang Shan Tang Collection.

Xing kilns. However, lacking access to pure white-firing clays, the Yaozhou potters were unable to achieve comparable results (fig. 2). To disguise the impure body, a white slip was applied, but because the raw material used for the slip was rich in titanium dioxide, the overall appearance of the wares was yellowish and, in any case, they did not qualify as porcelain.

Unable to compete successfully with the Xing or Ding kilns, and increasingly aware that survival based solely on blackware production was economically precarious,[5] the Yaozhou potters resolved to experiment with celadon production. Celadon glazes do not require to be applied on a white body, but they do require firing in a reducing atmosphere, a novelty for the Yaozhou stokers who, however, after an initial period of experimentation, mastered it.

Interestingly, laboratory analyses carried out in Oxford revealed that the glaze recipe used for early Yaozhou celadons was similar to that previously employed for whitewares. In effect, the earliest Yaozhou celadons were simply whitewares fired in a reducing atmosphere. The glaze was of the lime type, comparable in this respect to Yue ware. Unlike Yue glazes, however, the Yaozhou glaze did not include body clay as a major ingredient, as demonstrated by the low titania content of the glaze in contrast to its high concentration in the body and in the slip. This approach is characteristic of the northern whiteware tradition and maybe should not

Fig. 2. Yaozhou whiteware bowl, Tang dynasty (618–907), diameter 14.2 cm, Yaozhou Kiln Museum. Photo by the author.

Fig. 3. Yaozhou greenware fragment showing the good quality of the green glaze and the yellowing effect of the white slip underneath, Tang dynasty (618–907), Yaozhou Kiln Museum. Photo by the author.

come as a surprise, given that the Yaozhou celadons of the Tang dynasty were essentially reduced whitewares.

Although the transparent green glaze achieved by this method was of good quality, the very uneven grey body beneath prevented the glaze from realising its full aesthetic potential. To mask the body, the Yaozhou potters reverted to applying a coat of white slip, which compromised the overall appearance owing to its yellowing effect (fig. 3). At this stage, Yaozhou production appears to have been trapped in a technological vicious circle.

The Five Dynasties Breakthroughs

A decisive breakthrough occurred during the Five Dynasties period (907–60) with the introduction of two

[5] *Sancai* wares were declining in importance owing to changes in funerary practices.

Fig. 4a. Fully glazed Yaozhou greenware bowl fragment with grit adhering all along its footrim, Five Dynasties (907–960), Yaozhou Kiln Museum. Photo by the author.

Fig. 4b. Fully glazed Yaozhou greenware bowl with grit piled on three areas on the footrim, Five Dynasties (907–960), diameter 18.8, Shang Shan Tang Collection. Photo by the author.

Fig. 5a. Fully glazed Yaozhou greenware bowl fragment showing large scars left by a triangular spacer placed on the base, Five Dynasties (907–960), Yaozhou Kiln Museum. Photo by the author.

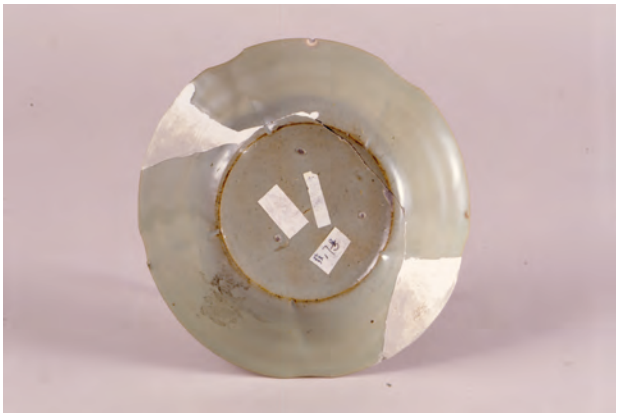

Fig. 5b. Fully glazed Yaozhou greenware bowl showing small scars left by a triangular spacer placed on the base, Five Dynasties (907–960), diameter 16.8, ©Yaozhou Kiln Museum.

major innovations: full glazing and a modified glaze recipe.

While full glazing offered clear aesthetic advantages, it also presented a significant technical challenge: how to support vessels in the saggar without causing them to adhere to its surface during firing. The first potters to confront this problem had been those working at the Yue kilns. It is therefore likely that the Yaozhou potters drew on Yue experience by sprinkling granular material on the bottom of the saggar or by piling it in a few areas beneath the footrim (figs 4a & b). In both cases, the result was not fully satisfactory, therefore, the Yaozhou potters devised the use of triangular spacers placed spur-side up beneath the footrim or the base of the vessel. In this way the scars left by the spurs were confined to three discrete points, thus offering a remarkably successful solution, especially when the spacers were further refined (figs 5a & b). This technique has traditionally been attributed to the Ru kilns, but archaeological evidence makes clear that it was first developed at Huangbaozhen at least a century earlier.

The second significant innovation introduced during the Five Dynasties period concerns the glaze itself. Visually, Yaozhou glazes changed from transparent to translucent or semi-opaque—mitigating the effects of the titanium-rich slip underneath—and chromatically from green to grey-blue and, in some cases, to an almost sky-blue tone (figs 4–6). Analyses carried out in Oxford, and subsequently confirmed by more recent studies,[6] demonstrate that these bluish glazes were of the lime-alkali type, rather than of the lime type characteristic of the Tang period. Lime-alkali glazes mature at higher temperatures and can therefore be applied more thickly without running. The thicker the glaze layer, the more intense the colour, while the higher maturing

[6] Shen *et al.* 2019; Shi *et al.* 2017.

Fig. 6. Fully glazed Yaozhou greenware bowl fragment with the character *guan* (official) carved on the base, Five Dynasties (907–960), ©Yaozhou Kiln Museum.

temperature, if not reached or maintained, contributes to the translucency of the glaze. The chemical analysis of the Five Dynasties sherds confirmed that body clays were not included in the glaze recipe. The shift in colour towards blue is instead attributable to the selection of raw materials with lower iron and, above all, lower titanium content. The excellent results achieved during this phase turned the Huangbaozhen kiln into a centre specialised in celadon production. Its wares reached a level of quality that led to their inclusion in the imperial tribute system, alongside those of the Yue, Xing, and Ding kilns, as proved by the character *guan* (official) carved on the base of some vessels (fig. 6).

While the adoption of full glazing and firing on triangular spacers represented a major technological advance, it also introduced a high margin of error, while the presence of the titanium-rich slip remained a constant threat to the visual quality of the finished wares. It became increasingly evident that the path forward lay not only in refining glazing and firing techniques, but also, and perhaps more crucially, in improving body preparation.

To the naked eye, the bodies of Five Dynasties Yaozhou wares appear more refined than their Tang predecessors. However, laboratory analysis revealed that this apparent improvement was not the result of a more carefully prepared paste, but rather of improved firing conditions. The body paste continued to be produced by mixing two types of clay without sufficient grinding or refining in either the dry or plastic state. As a result, the two clays did not fully blend, and the body retained a mottled appearance at the microscopic level.

A decisive breakthrough occurred sometime around the mid–10th century, when Yaozhou potters identified light-firing materials that resulted in bodies pale enough to eliminate the need for a white slip (figs 7a & b). These bodies could be fired directly on their unglazed footrims, thereby removing one of the most persistent technical and aesthetic obstacles encountered in earlier phases

Figs 7a & b.
Yaozhou greenware bowl with pale body, Five Dynasties (907–960) to Northern Song (960–1127), diameter 13.3 cm, © Shang Shan Tang Collection.

Fig. 8. Yaozhou greenware ewer with designs carved in multi-layered relief, Five Dynasties (907–960) to Northern Song (960–1127), height 21 cm, © Shang Shan Tang Collection.

of production. The glazes associated with this type of Yaozhou celadon appear either translucent or relatively transparent and tend to be slightly greener in tone than the bluish glazes of the early Five Dynasties period. Most vessels produced with this new body are plain, some, however, incorporate small sculptural elements placed in the well (fig. 7a), a feature also found on certain slipped bowls, while others display large floral motifs sharply carved in multi-layered relief on the exterior of ewers and jars (fig. 8). These carved motifs demonstrate an interest in vivid surface decoration and that experimentation with relief carving predated its later widespread adoption.

Unfortunately, no samples of this particular variety were among those tested at the RLAHA, but analyses recently carried out by Chinese scholars confirmed what might have been expected, namely a lower content of iron and titanium oxides in the body.[7]

More unexpectedly, these analyses also revealed a high proportion of potassium oxide, pointing to the deliberate addition of a potash feldspar–rich powdered rock to the body recipe to lighten the final body colour.[8] The Xing potters had experimented with this approach centuries earlier, when they first began producing porcelain. By the second half of the 10th century, both Xing and Ding potters commonly employed pulverised feldspathic rocks in their body recipes. It is therefore plausible that the Yaozhou potters adopted this idea from their Xing and Ding colleagues. At the same time, it must be noted that the feldspar content of Five Dynasties and Northern Song Xing and Ding bodies is significantly lower than that identified in Yaozhou wares of this type.

Despite the technical ingenuity represented by this solution, it proved to be short-lived. For reasons that are not yet entirely clear—one possibility being the difficulty of obtaining the necessary materials, another their workability—this variety was soon supplanted by a different one.

The Northern Song Transformation

The new direction in Yaozhou production was shaped by novel developments in the early Northern Song period: the adoption of coal as fuel and the growing popularity of vividly decorated ceramic surfaces.

New forest management strategies introduced during the Northern Song period led many ceramic kiln centres in northern China, including Yaozhou, to shift from wood to coal as fuel.[9] Coal differs fundamentally from wood in its combustion properties: it produces a shorter flame and burns more slowly. As a result, coal-fired kilns require prolonged high-temperature soaking at the peak of firing to achieve uniform temperatures throughout the kiln chamber. During this extended soaking period, glazes reach full maturity, however, natural slow cooling in these conditions would normally result in the formation of crystals within the glaze, leading to devitrification and a loss of transparency. Judging from the final appearance of Yaozhou wares, which generally display substantially transparent glazes, it appears that cooling was intentionally accelerated.

This technical choice was directly linked to the increasing importance of surface decoration.

7 Shi *et al*. 2017 ; Sang *et al*. 2019.

8 I am again indebted to Nigel Wood, who drew my attention to this element and explained the implications of its presence. Wood 2024, p. 76; Kerr & Wood 2004, p. 540; Huang *et al*. 2023, p. 7; Lu *et al*. 2012, p. 2908.

9 Miller 2020, pp 23, 27–30; Liu 2012, p. 102; Chen 2018; Xiong 2003, pp 44–6; Zhang 2016; Li & Zhou 2014.

Fig. 9. a. Yaozhou greenware bowl with incised design, Northern Song dynasty (960–1127), ©Yaozhou Kiln Museum.

Fig. 9. b. Yaozhou greenware bowl with carved design, Northern Song dynasty (960–1127), height 9.2, Yaozhou Kiln Museum. Photo by the author.

Transparent glazes were essential for bringing out the exuberant carved patterns that characterise Yaozhou celadon of the Northern Song and Jin periods. The carving technique executed by holding the knife at an angle represents a distinctive innovation devised by the Yaozhou potters and destined for great success.[10] When I first began researching Yaozhou wares, I assumed that carved decoration had been adopted to enliven the transparent olive-green glaze. Further consideration has led me to reverse this interpretation. Evidence suggests that the taste for vivid surface decoration emerged earlier, around the mid–10th century, as demonstrated by wares with motifs carved in multi-layered relief. In order for such patterns to be clearly visible, the glaze had to be transparent. In this sense, the development of transparent glazes can be understood as a response to decorative ambitions rather than the other way around. However, it is important to emphasise that the rise of richly carved surfaces did not result in the abandonment of undecorated forms, which continued to be made.

With regard to decorative techniques, the earlier multi-layered carving was gradually abandoned. This was likely due both to the time required to execute such carving and to the technical difficulty of applying it to the interior surfaces of open vessels. Line incising was explored as an alternative but did not produce satisfactory visual results (fig. 9). By contrast, carving at an angle proved to be an ingenious solution, as it preserved a strong relief effect while allowing for greater efficiency and consistency.

As Yaozhou production expanded and the kilns gained momentum, the need to increase the output became increasingly pressing. To this end, the potters adopted the use of hump moulds for decorating open shapes. Hump moulds were also employed at the Ding kilns, and it is possible that Ding craftsmen were the first to introduce them. The Yaozhou potters, however, took the technique a step further by producing hump moulds from decorated master moulds (fig. 10), rather than carving each hump mould individually, as was the practice at Ding. This observation, first articulated by Nigel Wood, highlights the degree to which Yaozhou potters prioritised efficiency without sacrificing visual impact.

Analyses of glaze composition revealed that the olive-green glazes characteristic of this phase remained of the lime-alkali type, as in their Five Dynasties predecessors. However, they contained a higher proportion of titanium dioxide, pointing to variations in the glaze recipe or, more precisely, to changes in the available raw materials. As Nigel Wood has noted, the unusually pure wood ashes and glaze stones used during the Five Dynasties period were no longer available. Another factor is the higher migration of iron and titania from the body to the glaze during the long soak at high temperature.[11]

[10] The technique consists in removing part of the body around the outlined patterns by holding the blade at a certain angle so as to create a progressive difference in depth between the design's contour and the surface. In the deeper part the glaze is thicker and therefore darker, creating a powerful relief effect, although the pattern is not carved in relief.

[11] Wood 2023, pp 52–3; Wood 2021; Shen *et al.* 2019.

Fig. 10. Ceramic master mould (right) and hump mould (left), Metropolitan Museum of Art, New York. Photo by the author.

Fig. 11. Chaser mill excavated at the Huangbaozhen kiln site, Yaozhou Kiln Museum. Photo by the author.

Fig. 12. Yaozhou greenware fragment showing a white layer of anorthite crystals at the body-glaze interface, Northern Song (960–1127) or Jin dynasty (1115–1234), Yaozhou Kiln Museum. Photo by the author.

By contrast, the bodies of these wares appear and feel significantly more accomplished. This improvement was achieved through the proper grinding, refining, and mixing of clays which were pulverised, screened through fine-mesh sieves, and reduced to slip consistency. To reduce the clays to such a fine powder, the chaser mill (fig. 11) was introduced, marking another important technological advance in Yaozhou ceramic production.

The laboratory analyses carried out by the RLAHA also revealed an important feature that is easily detectable with the naked eye on many olive-green Yaozhou wares, namely the presence of a white layer between the body and the glaze (fig. 12). This had traditionally been interpreted as a coat of white slip. Detailed analysis, however, demonstrated that it is a layer of anorthite crystals that grow at the body-glaze interface during prolonged firing at high temperature in a calcia- and alumina-rich environment—conditions that were readily achieved in coal-fired kilns owing to the long soaking periods necessary to equalise kiln temperatures.[12] From a practical and aesthetic perspective, the formation of this anorthite layer had far-reaching consequences, as its whiteness effectively rendered both the application of a white slip and the search for a pale-firing body unnecessary. The appearance of this layer during the Northern Song

[12] During this extended high-temperature phase, the body and glaze have sufficient time to interact. Specifically, the glaze penetrates the body, creating an alumina-rich basal zone at the interface. It is within this zone that anorthite crystals are able to grow.

period, when coal had become the primary fuel, should be understood not as an intentional decorative feature, but as a fortuitous by-product of firing practices adopted for other reasons.

The Last Innovation: the 'Moon-White' Glaze

The final major innovation discussed here is the development of the so-called 'moon-white' glaze, which appeared at Yaozhou at the very end of the Northern Song period. This glaze is translucent and pale green and is usually applied to vessels with plain surfaces (fig. 13). Because of its translucency, the moon-white glaze may initially evoke the bluish celadons of the Five Dynasties period, raising the question of whether Yaozhou potters consciously looked back to earlier technology.

I would argue that this was not the case because by the late Northern Song period, the Yaozhou kilns were firmly committed to coal firing, and because the visual appearance of moon-white glazes tends to be softer in texture and to shift towards green rather than blue, although they occur in a wide range of shades.

Analytical data indicate that the iron and titanium contents of moon-white glazes are low, comparable to those found in Five Dynasties bluish samples.[13] However, moon-white glazes are more viscous, which means that they could be applied in thicker layers. To achieve the pale colour and soft visual effect characteristic of this variety in coal-fired kilns, Yaozhou stokers only partially reduced the kiln atmosphere and allowed the kiln to cool more slowly. Under these conditions, tiny bubbles and micro-crystals remained trapped within the glass matrix, producing translucency.

The less intense reducing atmosphere also had a discolouring effect on the body, which nonetheless displays lower iron and titanium contents. This indicates that to produce moon-whitewares, Yaozhou potters deliberately sought out purer raw materials. The fact that they were able to do so suggests that such materials were available, even if they had not been consistently accessed.

The question remains as to why Yaozhou potters chose to develop this new variety at this particular moment. I would argue that the answer lies primarily in changing taste. By the end of the 11th century, plain, translucent, bluish Ru wares had captured the attention of the literati and, shortly thereafter, that of the emperor himself.[14] In response to this shift in aesthetic preference, the Yaozhou potters sought to adapt their production in order to intercept that segment of the market.

Fig. 13. Yaozhou 'moon-white' censer, Jin dynasty (1115–1234), height 12.2 cm, Yaozhou Kiln Museum. Photo by the author.

It is important to recall that the Yaozhou kilns operated as commercial enterprises, much like those at Ding, Linru, and even Qingliangsi. Their success depended on their ability to respond to market demand as well as to technological opportunity. In this context, the development of moon-white glazes can be understood as a strategic adaptation rather than as an isolated technological experiment. It is also no coincidence that Jun ware appeared at roughly the same time, namely at the very end of the Northern Song period.

The Yaozhou moon-white variety continued to be produced during the Jin period with great success. However, it did not replace the vividly decorated olive-green type. Just as the latter, when it became dominant in the 11th century, did not eliminate the production of plain wares, so moon-white celadon existed alongside other types rather than supplanting them. This coexistence of multiple varieties underscores the flexibility and responsiveness of Yaozhou production.

The Concept of a Signature Product

This brings us to the second major issue addressed in this paper: the concept of the signature product. When the term 'Yaozhou ware' is used today, the image that most readily comes to mind is that of vessels with

[13] Wang Fen *et al.* 2009, p. 347; Wood 2023, p. 53.

[14] Rastelli 2021, pp 225–8.

Fig. 14. Yaozhou blackware bowl with russet streaks, Northern Song (960–1127), diameter 14.4 cm, Yaozhou Kiln Museum. Photo by the author.

Fig. 15. Yaozhou russet-ware bowl, Northern Song (960–1127), diameter 11.4 cm, Yaozhou Kiln Museum. Photo by the author.

vividly decorated surfaces under an olive-green glaze. This association is now deeply entrenched in both scholarly literature and museum practice. However, as the preceding discussion has shown, the Yaozhou kilns produced a wide range of celadon types over time and, importantly, produced different types simultaneously.

While working on the Yaozhou volume for the Shang Shan Tang Collection,[15] I was tempted, for the sake of brevity, to label the type characterised by carved or impressed decoration beneath an olive-green glaze as the 'typical Yaozhou greenware'. Yet this immediately raised the question: typical for whom? Typical for modern scholars and collectors, because since the late 1950s this variety has been closely associated with Yaozhou? Typical for consumers in the 11th and 12th centuries? Or typical for the potters themselves?

Archaeological evidence indicates that once the Yaozhou kilns specialised in celadon at the beginning of the 10th century, greenware became their principal product. At the same time, however, other ceramic genres continued to be produced, most notably blackwares and persimmon-red wares (figs 14 & 15). The consistently high quality of these genres suggests that they were not marginal or experimental products, but rather integral components of Yaozhou production. This observation invites a reassessment of how the output of the Yaozhou kilns has been categorised and valued.

If one considers the development of Yaozhou celadon in historical perspective, it becomes clear that the Five Dynasties period represents a particularly significant moment. During this phase, Yaozhou potters created a genuinely new product that was clearly distinct from Yue greenware. The sophistication of glaze preparation during this period, as investigated by Nigel Wood, demonstrates that Yaozhou potters were already highly advanced and technologically ambitious after a relatively short history of ceramic production, and particularly of celadon manufacture.[16]

Seen from this perspective, the Five Dynasties celadons may represent a more important turning point in the history of the Yaozhou kilns—and indeed in the broader history of Chinese ceramics—than the later, more widely celebrated olive-greenwares of the Northern Song period. In technological and aesthetic terms, these Five Dynasties celadons anticipate later celebrated wares such as Ru and Guan.

Why, then, are the Five Dynasties celadons not commonly regarded as the signature product of the Yaozhou kilns? The answer lies not in their intrinsic qualities, but in perception. This perception is layered and historically constructed, shaped by centuries of interpretation, misinterpretation, and changing taste. In this regard, exhibitions of the Shang Shan Tang Collection in Chicago, Venice, and Hong Kong have played an important role.[17] Alongside outstanding examples of the so-called signature Yaozhou celadons, these exhibitions presented a significant number of Five

[15] Rastelli 2023.

[16] Wood 2023.

[17] Art Institute of Chicago 2019; Rastelli 2023; Mori 2023.

Fig. 16. Yaozhou greenware dish, Northern Song (960–1127), diameter 12.8 cm, © Shang Shan Tang Collection.

Fig. 17. Lacquered dish, Northern Song (960–1127), unearthed at Yangmiao, Huaian, Jiangsu province, Nanjing Museum, Photo by the author.

Dynasties wares, together with blackwares from the Tang dynasty and russet-wares from the Song period, displayed side by side, thus offering a broader and more immediate understanding of the diversity of the Yaozhou production.

The development of the vividly decorated olive-green type certainly represents another crucial moment in the history of the Yaozhou kilns, particularly in view of its enormous influence on celadon production both within and beyond China. During the Northern Song period, numerous new kiln centres were established, including those at Linru and Qingliangsi. The Yue kilns, which had dominated celadon production for centuries, adopted the Yaozhou style, as did the Longquan manufactories, and even kilns in Goryeo (918–1392) Korea.

It is indisputable that the vividly decorated variety was the dominant type during the 11th and 12th centuries. However, it is equally important to recognise that plain wares continued to be produced throughout this period (fig. 16). Alongside these, other varieties in entirely different colours were also manufactured. The continued presence of blackwares at Yaozhou is not surprising, given that blackware had been the principal genre produced during the Tang dynasty. Blackwares with russet streaks of various kinds, including hare's-fur and oil-spot effects, as well as plain russet-wares, represent the northern response to Jian ware, which had become highly sought after with the development of tea culture. The Ding kilns also produced black and russet wares of exceptionally high quality.[18] The fact that Ding potters chose to conceal their refined white porcelain bodies beneath dark glazes reveals the high esteem in which blackwares were held at the time.

Ceramics vs. precious materials

Black and russet glazes have often been compared to lacquer (fig. 17), just as green glazes have frequently been said to evoke jade. Implicit in such comparisons is the notion that ceramic vessels were cheaper substitutes for objects made from precious materials such as gold, silver, jade, or lacquer. While it is undeniable that many ceramic forms derive from metal prototypes, it would be misleading to regard ceramics simply as inferior versions of intrinsically valuable materials.

The fact that ceramics were produced in large quantities does not imply that they were cheap or intended merely to imitate more desirable but unaffordable objects. When poets compare ceramics to silver or jade, they are not suggesting inferiority. On the contrary, they are expressing admiration for the visual qualities of ceramic vessels, qualities so striking that they evoke associations with precious materials. Such comparisons are, in effect, praise of the potters' technological achievements.

This observation underscores the importance of understanding ceramic technology as an essential component of ceramic appreciation. Kiln centres such as Yaozhou were commercial enterprises that catered to the entire spectrum of the market. At the same time, the highest-quality products of leading manufactories were of exceptional refinement. Those who could afford such wares did not acquire them as substitutes for silver, jade, or lacquer, but because they sought fine ceramics in their own right.

[18] Indeed, prior to the archaeological discoveries at Huangbaozhen, northern russet-wares were often attributed to the Ding kilns.

Future Research

Questioning the notion of a signature product and examining it in relation to time and to the full output of a kiln centre is not relevant only to Yaozhou. Similar considerations apply to other major manufactories, such as Ding, and perhaps even more so to Qingliangsi, which is often associated exclusively with Ru ware, despite the fact that Ru was only one of several ceramic varieties produced there.[19]

It is time to revise the way ceramic production from the early 10th to at least the end of the 13th century is studied. In considering this period, it is essential to take into account the entire production of individual kiln centres and to situate them within the wider network of kilns active at the same time. Equally important is the need to consider the broader social, economic, political, and religious contexts in which ceramic manufacture took place and vessels were used.

Archaeological excavations conducted over the past fifteen to twenty years have revealed a far more complex ceramic landscape than was previously recognised. The discovery of kiln centres such as Zhanggongxiang and Donggou in Henan province—sites unrecorded in contemporary textual sources yet capable of producing wares of outstanding quality—has fundamentally altered our understanding of ceramic production during this period. Future research would also benefit from a more systematic investigation of the economic impact of ceramic manufacture, including questions of pricing, distribution, and consumption.

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[19] Rastelli 2021, pp 222–3; Qin 2015.

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