

writing and thought viewed as a whole. She discusses the relationship of mathematical thinking to other forms of Sanskrit learning, orality, exposition, the role of commentaries, and the concepts of proof, truth and validity in Indian mathematics, where contemporary understandings have evolved considerably in the light of the much wider range of works available for study today than in the past.

Chapter Seven is devoted to the unique work of Mādhava of Saṅgamagrāma in the fourteenth century and his brilliant students and successors in the Keralan School of mathematics. This exposition is followed by a discussion of the famous transmission of Indian numbers to the West through Bishop Severus Sebokht in 662 CE, and the engagement of Islam with Indian mathematical ideas in the Middle-East and later in India itself.

The book closes with a slightly miscellaneous chapter on continuity and change in the modern period, that is nevertheless full of fascinating observations and exposition about topics from early modern prosopography to Leonhard Euler's attempts to clarify aspects of Indian mathematics and the controversies between Puranic and astronomical world-views. Plofker ends with a list of major questions about Indian mathematics that remain unanswered, each of which would be material for several PhD theses. "Imagine not being able to answer such questions in the case of, say, Hellenistic or Islamic or early modern Latin mathematics", Plofker laments.

The book is beautifully typeset (TeX), and it is a relief to read a book with footnotes actually at the foot of the page. The bibliographical cross-referencing system is idiosyncratic for a book in the humanities, but quickly becomes familiar. The Sanskrit is throughout accurate and typos are almost completely absent.

This book will revolutionise the secondary accounts of Indian mathematics written by generalist historians of science in future textbooks. With support, it can also act as the foundation for university courses. It illuminates and coordinates a great deal of fresh material as well as information previously buried in specialist publications, tying everything together in a coherent historical narrative. While specialists will enjoy the mathematical examples that punctuate the book, it is not necessary to be good at maths to get a great deal of historical insight from this book into India's intellectual tradition of mathematics. Plofker's accessible narrative style means that this is also the book about mathematics in India for the rest of us.

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SONG BLUE AND WHITE PORCELAIN ON THE SILK ROAD. By ADAM T. KESSLER. pp. 587. Leiden, Brill, 2012.

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Adam Kessler's book on blue-and-white porcelain of the pre-Ming (1368–1644) period is a serious and provocative work. It is clearly a study with many years of research behind it, and it is a study that all scholars of Chinese porcelain, and some in the Chinese art field, especially art that has come to our attention through excavation sites, will have to reckon with. It is a book with a bold thesis that is argued through a long and detailed text and copious notes.

The thesis is invoked by the title and clearly stated in the first paragraphs of the introduction: imperial blue-and-white porcelain, long associated with the Yuan dynasty and specifically the kiln site at Jingdezhen, may date to the pre-Yuan period. In north China this could be the Jin dynasty

(1115–1234) and in the south it could be the Southern Song (1127–1279), but from a time and place before Mongol rule of China that began in the 1260s and ended in 1368. Much of the evidence for re-dating thirteenth- and fourteenth-century ceramics comes from excavation sites.

The book is divided into an introduction and four chapters. The introduction summarises previous studies that have raised the issue of whether blue-and-white porcelain might pre-date the Yuan period (1271–1368): R. L. Hobson in 1926, E. Zimmerman in 1930 based on a vessel said by C. T. Loo to be from a Song site; K. Aga-Oglu in 1949; Chen Wanli in 1959 and 1963; Cecilia and Leandro Locsin in 1968 based on material in the Philippines; Lee Yu-kuan in the 1970s through the 1990s; and Kessler himself. Each of these studies and others that have considered a pre-Yuan date for blue-and-white porcelain to be impossible have made their claims alongside the linchpins, as Kessler rightly writes, of this type of ware, the pair of large vases in the Percival David Collection in London dated by inscriptions to 1351.

The author's first evidence to support the need for re-evaluation of blue-and-white ware comes from finds in Ejina, known variously by the several who have explored and excavated this region in the Ordos of Inner Mongolia today as Edzin-gol, Hei(shui)cheng, and Khara-Khoto, the "black city" visited by Marco Polo and excavated by Petr K. Kozlov in the early decades of the twentieth century. Khara-Khoto had two major periods of occupation, the Xi Xia (Tangut) period of 1038 until destruction by the Mongols in 1227 and then the Mongol period through the Northern Yuan dynasty (1368–1388). Kessler argues that the blue-and-white found at Ejina is pre-Yuan, because the Mongols did not hold blue-and-white in high enough esteem (an argument that will come up again) to have imported it there, because examples of blue-and-white found during excavations of 1983–1984 were at a Yuan site on top of Xi Xia ruins, and because the Khara-Khoto examples are different from pieces certain to be Yuan from other sites in Inner or Outer Mongolia such as Khara-Khorum.

The longer second chapter focuses on Jin-period sites where blue-and-white ceramics have been excavated. First is Yanjialiang in Baotou, Inner Mongolia where coins corroborate that excavated material is dated before the Yuan period. Kessler compares pieces from there with porcelain uncovered at Baita Village that scholars have assessed to be Yuan based on stylistic evidence. This juxtaposition of an excavation site with dated coins or inscriptions, historical facts concerning the location, porcelain with longstanding pedigrees in major collections, and newly identified pieces is central to Kessler's discussion and conclusions about the dates of all blue-and-white. Judicious judgment is clear on both sides of this issue. The porcelain and other excavated objects have to be considered individually, as do their sites. Chinese ceramics is a connoisseurs' and collectors' field, both groups passionate about their assessments. It is different from other art subfields of Chinese art in which scholarship alone often determines a correct answer; rather, it is a field in which feel, weight, glaze, and quality of a vessel have driven opinions and the market for centuries. Perhaps the vigour of Kessler's writing is because he anticipates that long-held views that he begins to refute in this chapter will not be released easily.

Yanjialiang is west of Jining, the site to which Kessler turns next. Jining has been considered the source of pedigree Yuan ceramics, a few pieces as seminal as the Percival David vases. Kessler does not re-date every piece from this Onggut site to the Yuan dynasty, but he emphasises that a few key pieces, such as the Longquan twin fish basins, are Song. It is standard for older works of art to be buried with or become part of hordes or just found alongside later ones. Still, Kessler uses the existence of likely pre-Yuan finds at Jining and Yanjialiang to mount evidence for earlier dating of other vessels found at those sites heretofore widely considered to date to the Yuan dynasty because of what was uncovered around them. The sites in question are: Linxi and Dayingzi in Chifeng; Dingxing and Daoding in Hebei south of Beijing; Huocheng in Xinjiang; and a few places in Beijing. The most provocative information regards the site Houyingfang, since its excavation in 1965 and 1972 considered to be a mansion of the Yuan capital Dadu. Using historical treatises and poetry Kessler argues that

Houyingfang is the Jin summer palace Wanninggong, and if so, the blue-and-white found there would pre-date the Yuan dynasty.

Kessler then turns to the core of his argument, the 300-page third chapter that reviews kiln sites and excavation sites that surely are pre-Ming but cannot necessarily be dated to Yuan. He begins as the book began, with a survey of scholars and connoisseurs who have considered the same questions, and those who have believed that blue-and-white is a Yuan phenomenon. He briefly returns to the David vases, and then to finds in Anhui province, at Shexian and in Anqing, and then to the subject of the *shufu* mark. Long considered a key identifier of Yuan imperial porcelain, Kessler, emphasising that the marking has always been problematical, contends that porcelain marked *shufu* may have been carried out of China in the Southern Song dynasty. Other interesting sections in this chapter are justification that blue-and-white in the Dantu county horde, found south of Zhenjiang in Jiangsu, and the horde in Hangzhou may date to the Song dynasty; that peacock-glazed porcelains found in Hangzhou surely are pre-Ming and may date before the Yuan period; that just as bronze vessels in archaic shapes have been recognised through scholarship as Song, porcelain examples in the same and other archaic shapes should also date to the Song dynasty; and that blue-glazed *jue* with gold-painted designs and blue-and-white porcelain with gold designs from the Baoding horde and found in Mongolia may date to the Song dynasty. Vessels found in hordes that may deserve re-evaluation are listed on a chart from pp. 307–312. The hordes raise the logical question of whether they were buried before the Mongol invasions. The author refers to this kind of negative evidence, also used in discussion of porcelain finds in the Philippines in the 1960s, as a “blinker view”.

Ever mindful of what he considers an over-emphasis on evaluating all blue-and-white porcelain alongside the David vases, Kessler turns to another major source of ceramics, the shipwreck at Sinan off the coast of South Korea, whose pieces have been considered almost as pedigree as the two in the David collection. The author suggests that even though the objects found under water may well date from 1310–1323, there is no proof that identical objects did not exist before the year 1323. He then takes on fundamental questions of blue-and-white porcelain: the origins of underglaze and cobalt blue, the use of kaolin, and whether the word *qingbai* was used before 1214; and famous pieces such as those with five-claw dragons in Kansas City, Taiwan, on the Maritime Silk Road, in the Topkapi Saray, and in Fustat. There follows an interesting section on misconceptions of blue-and-white such as that large plates have to date from the Yuan period because they are what foreign merchants in China ate on, and they are what Mongols used in communal feasts. The chapter ends with discussion of textual descriptions of porcelain used at court in the Song and a few summary statements from scholars who agree that blue-and-white was not an invention of the Yuan dynasty. There follow two appendices, one on a blue-and-white porcelain found in a Yuan tomb in Wengniute in Inner Mongolia and the second on the Yuhuchun wine vases. The final short chapter deals with cobalt blue, both chemical tests and interpretation of Chinese records and scholarship to consider its relation to blue-and-white porcelain, the Jingdezhen kiln site, and if its use can confirm a pre-Yuan date for so many of the pieces long believed to date to the Yuan dynasty.

Although the tone of this book sometimes comes forth as argumentative, most will agree that careful attention must be paid to the context and dating of all archaeological finds among which blue and white porcelain heretofore automatically dated as Yuan have been found. Furthermore the possibility that this celebrated ware might well have been created in at least some quantity prior to the Yuan dynasty deserves serious consideration. Century-old ideas about China and her art are difficult to challenge. Like most other Chinese objects, porcelain must be re-evaluated in the light of archaeology. And indeed, archaeology, the field behind this book, is likely to present the definitive answer. In November of 2012, after *Song Blue and White Porcelain on the Silk Road* had gone to press, an article in the most widely circulated Chinese archaeology periodical *Wenwu* argued for the Yuan origins of Chinese blue-and-white porcelain, with evidence from West Asian to support this thesis.¹ The date

and place of origin of blue-and-white porcelain are not yet proved, but anyone who engages with this topic henceforth will not be able to consider it without assessing the argument and documentation in this book. nssteinh@sas.upenn.edu

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FRIENDS OF SIR ROBERT HART, THREE GENERATIONS OF CARRALL WOMEN IN CHINA. By MARY TIFFEN. pp. xviii, 333. Belfast, Tiffania Books in association with Queen's University, Belfast, 2012. doi:10.1017/S1356186313000357

This book is a labour of love, in which Dr Mary Tiffen, a distinguished scholar of socio-economic development in Africa and the Middle East, tells the story of her family's engagement with China during the 19th and early years of the 20th centuries. Dr Tiffen recounts this story in considerable detail, highlighting the relationships that several of the women of her family enjoyed with the redoubtable Sir Robert Hart, Inspector-General of the China Maritime Customs Service. Hart was one of the most effective 'China helpers' in the late Qing period, and the service he led was one of the most powerful vectors of modernisation within China as she attempted to reform in the face of the often hostile Great Powers.

Dr Tiffen paints a portrait of Hart as a complex man driven by a powerful Protestant work ethic, who endured constant struggles between his sexual needs and his conscience. Hart noted in his diary on 1st July 1876 that "sexuality is my great temptation". The author depicts Hart's often lonely life, marked by frequent bouts of depression, and his attraction to intelligent young women. This latter led to the remarkably intimate correspondence Hart enjoyed with the daughters and wives of his staff and associates – relationships that Hart accepted were within 'the bounds of friendship'. Hart's unsatisfactory relations with his wife and with his children, both legitimate and illegitimate, are explored by Dr Tiffen sympathetically. Hart's conflicting emotional issues led him use the "opium of work to combat his loneliness and sadness".

Hart's work in China is described effectively, demonstrating his efforts in removing obstacles to commercial development – attempting to end the system of internal taxes on trade, creating a modern postal service, and promoting China's unity in the face of the encroaching Great Powers. And all this as the weakness of the Qing dynasty became ever more apparent.

The more important aspect of this book is to provide the reader with a description of the social history of middle-class British life in the Victorian and Edwardian age, both at home and abroad. This was a world in which family connections were paramount, women were clearly second-class citizens and illegitimacy was a disgrace. One is reminded of the perils of widowhood, and how near to the edge of 'respectable' society so many middle-class families existed.

For this reviewer the passages of most interest are those dealing with the Sino-French War of 1884 and the Boxer Uprising in 1900. British observers described the French victories as not battles but butchery – "very sickening to see and amongst all those looking on the only feeling was one of intense pity and disgust". Hart said of the actions of the French navy that they were "a series of wilful, unnecessary, because unfair, and wicked murders". Of the Westerners in China only the officers of the US Navy greeted the successes of the French with acclaim – perhaps they remembered Lafayette.

The eye-witness reports of the Boxer Uprising are of a kind typical of most contemporary accounts, both in their attitudes toward the Boxers and toward the various contingents sent to suppress the