



# Dating the Belitung Shipwreck

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In an ideal world, all major archaeological discoveries would be found as intact gatherings of material at uncompromised sites. Like modern-day time capsules, they always would include lengthy inscriptions chronicling the circumstances that surrounded their assembly, relevant dates, and lengthy biographies of the individuals involved. All objects would carry dated inscriptions noting their place of manufacture, value, owner, and reason for inclusion. In such an academic dream, these records also would name people, places, and things that were well known from other historical texts, allowing researchers to build broad historical narratives that would situate finds within certain contexts and interpretive frameworks. Of course, in reality, very few finds come close to these ideals. The scientific excavation of pristine planned burials such as tombs—which conform to established social or ritual norms and often contain significant epigraphic data—can make it easier for scholars to understand the circumstances of a particular site, but such instances are rare.<sup>1</sup>

The ninth-century shipwreck found off the coast of Belitung Island near Sumatra represents the reality rather than the ideal. Not an intentional burial, the wreck likely was an accident, probably a terrible tragedy for all involved. The ship carried neither lengthy inscriptions nor written documentation concerning its material contents, passengers, ports of call, or ultimate destination. In addition, since such commercial undertakings went almost completely unnoticed in historical sources of the period, there are no contemporary texts that directly relate to the voyage. Absent significant epigraphic evidence, our understanding and interpretation of this seminal archaeological discovery must stem from careful study of the materials recovered, comparisons with related objects from other dateable archaeological contexts, and a broad understanding of historical events of the period.<sup>2</sup>

## Absolute and Relative Dates

Despite the difficulties of underwater excavation, the recovery team was able to salvage nearly 60,000 objects, chiefly the cargo, minus liquids and possibly some of the organic materials, which were lost to the sea, as well as objects completely encased in lime or coral at the site. (For more details on the cargo and the excavation, see Michael Flecker's essay in this volume.) Other recovered items represent the practical objects needed for the voyage and the personal possessions of the crew, merchants, and any other passengers on board. Since this was a trade ship, it is generally believed that most of the items found at the site were produced shortly before sailing. (The ship also carried at least some antiques. One of the two dated objects recovered from the site is a bronze mirror created in 759, long before the ship took sail [see fig. 26].

On typological grounds, one other mirror can be dated almost one millennium earlier than the voyage [see fig. 27]. The presence of these antiques on the ship remains a mystery.)

Many Chinese coins were recovered, but while they are often useful for dating archaeological discoveries, they do not really help in this instance. The 208 coins found at the site belong to two categories: Most (199 examples) are of the same type, although they are in two sizes; these are stamped *Kaiyuan tongbao* (circulating treasure of the new beginning) and were minted beginning in 621, at the very start of the Tang dynasty and most likely prior to 845, for there is no character or mark on the reverse, a feature that appeared after that time.<sup>3</sup> Nine coins are stamped *Qianyuan zhongbao* (heavy treasure of the Qianyuan Era). These were minted from 758, the first year of the Qianyuan era (758–59). The *terminus post quem* (or point after which the group must date) provided by the coins is therefore 759, the same year as the dated mirror.

There have been attempts to date the wreck scientifically through radiocarbon dating.<sup>4</sup> Three organic samples from the wreck—a piece of aromatic resin, star anise (fig. 11), and a section of the wooden chock (wedge) that was located beneath the keelson of the ship—were sent to Waikato University, New Zealand, for radiocarbon dating. The resin and star anise were specifically selected as cargo items that would not have been “old” before they were loaded onto the ship. The outer growth ring area of the chock was selected as the “youngest” timber from the ship and, therefore, the closest in age to the built vessel.

As it turns out, the ship’s timber provided the most recent date. The star anise sample was too small to reduce the error range to that of the timber and the resin, but it was basically consistent with the timber. The resin presented an enigma, for it seemed to be substantially older than the two other samples. Rather than a harvested piece of resin, this could have been an old piece collected from the forest floor. This hypothesis is consistent with the fact that only a few chunks were recovered from the wreck, rather than any cargolike quantity. Furthermore, the resin, one of the only non-Chinese artifacts on the wreck and an item usually imported into China, was already steeped in mystery. In hindsight, the resin was a poor choice for carbon dating.

The 1 sigma<sup>5</sup> radiocarbon dates for the three samples are as follows:

Aromatic resin	680 to 780
Star anise	670 to 890
Ship’s timber	710 to 890

Given the broad ranges represented by these data, scholarly attention has focused on an otherwise unremarkable Changsha bowl (fig. 12), the later of two precisely dated objects found on board. (The other is the bronze mirror mentioned above; see François Louis’s essay in this volume.) Changsha ceramics are known to have been produced during the ninth century, with the earliest confirmed date being 838. Decorated like hundreds of others before the piece was fired, the bowl on the ship was inscribed on its outer wall near the foot. Although the short text is partially illegible, it ends with a date that appears to read *baoli ernian qiyue shiliu ri*, which corresponds on the Chinese calendar to a specific summer day in 826: the sixteenth day of the seventh lunar month of the second year of the reign of the emperor Jingzong (reigned 824–27). Some scholars have embraced this singular piece of evidence and used it to assign the entire wreck to the third decade of the ninth century. The date written on the bowl, 826, is indeed consistent with the highest probability radiocarbon dates.

It is important to remember, however, that dated objects like this bowl—and the material discussed above—simply provide a *terminus post quem*. Arguing that the bowl may not be the latest object on the ship, some specialists have used typological and style-based chronologies, defined by a range of dated and dateable excavations in China over the past five decades, to assign the contents of the wreck to a somewhat later period. Thus, a number of the authors contributing essays for this catalogue on specific portions of the cargo find a closer relationship

**Fig. 25** Submerged underwater for centuries, this storage jar eventually became an integral part of a coral formation.

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**OPPOSITE, LEFT TO RIGHT**

**Fig. 26** This bronze mirror, one of the two dated objects recovered from the shipwreck, was created in 759, long before the ship set sail. Cat. 290.

**Fig. 27** On typological grounds, the smaller mirror can be dated to the Han period, almost 1,000 years earlier than the voyage. Cat. 289.



between these goods and objects dateable to the 840s. Regina Krahl in particular—making use of the well-established evolutionary sequence for the green wares produced at the Yue kilns in Zhejiang province—argues persuasively for the later date. Additional studies of this type should help date the voyage more precisely within the second quarter of the ninth century and address the question of why at least one group of Changsha bowls may have been a decade or more old when they were loaded onto the ship.

### Impact on Chronologies

The wreck is the largest gathering of Tang objects yet discovered, and its date will refine relative chronologies for a variety of ceramic wares and metalwork. It thus will influence the periodization of objects found in other contexts not only in China but also in Southeast and West Asia. Since many of the comparative objects mentioned in the essays in this catalogue come from undated or poorly documented sites, the accurate dating of the shipwreck is extremely important, contributing to the understanding of material culture across Asia.

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## ABOUT THIS BOOK

Twelve centuries ago, a merchant ship—an Arab dhow—foundered on a reef just off the coast of Belitung, a small island in the Java Sea. The cargo was a remarkable assemblage of lead ingots, bronze mirrors, spice-filled jars, intricately worked vessels of silver and gold, and more than 60,000 glazed bowls, ewers, and other ceramics. The ship remained buried at sea for more than a millennium, its contents protected from erosion by their packing and the conditions of the silty sea floor. *Shipwrecked: Tang Treasures and Monsoon Winds* explores the story of both the sailors and the ship's precious cargo through more than 400 gorgeous photographs and essays by international experts in Arab ship-building methods, pan-Asian maritime trade, ceramics, precious metalwork, and more.

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