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Mechtild Mertz, Suyako Tazuru, Shirō Itō, Cynthea J. Bogel

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MERTZ, MECHTILD
FRENCH NATIONAL CENTER FOR SCIENTIFIC RESEARCH : RESEARCHER, EAST ASIAN CIVILIZATIONS RESEARCH CENTER

TAZURU, SUYAKO
KYOTO UNIVERSITY : ASSOCIATE PROFESSOR OF WOOD ANATOMY AND CULTURAL PROPERTY SCIENCE

ITŌ, SHIRŌ
WAKAYAMA PREFECTURAL MUSEUM OF ART : DIRECTOR

BOGEL, CYNTHEA J.
KYUSHU UNIVERSITY : PROFESSOR : JAPANESE ART HISTORY AND BUDDHIST VISUAL CULTURE OF ASIA

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A Group of Twelfth-Century Japanese Kami Statues and Considerations of Material Intentionality: Collaborative Research Among Wood Scientists and Art Historians

MECHTILD MERTZ, SUYAKO TAZURU, SHIRŌ ITÔ, AND CYNTHEA J. BOGEL

Abstract

A collaboration between wood anatomists and art historians, this report investigates Japanese statues dating to the tenth to twelfth century now preserved in American, British, Canadian, and Japanese museums and private collections. This is the first article in any language concerning a “group” that at present comprises eighteen wooden icons we place in the genre of shinzō (statues of kami, i.e., divinities). They are related in terms of style, physical features including size and carving technique, and—the impetus for this study—rare wood choices. Some, perhaps all, are related in terms of provenance. A 1930 illustrated catalogue for an exhibition of Shinto statues and objects, the Shinzō shinki zuroku, describes two of the statues as the kami embodiments (shintai) of the historical figures posthumously known as Shōtoku Taishi and his consort. The Catalogue also notes that they are said to have come from a [Shinto] shrine in Izumo (northern Honshu) and are made of Japanese bigleaf magnolia (hōnoki / Magnolia obovata) or possibly ancient kusunoki (camphor wood). Over several years, working closely with institutions and owners—three right up until the month this report was written—wood samples of twelve of the eighteen statues were microscopically tested with the permission of the owners (all but two were tested by authors); four have been carbon-14 dated. The combined results of the tests are astounding. Ten of the twelve are made of magnolia (mokuren-zoku / Magnolia sp.), one of (sumomo-zoku / Prunus sp.), and one of Japanese chestnut (kuri / Castanea crenata). These woods are not as yet recorded for use in shinzō and as such represent a topic worthy of serious study. Carbon-14 dating confirms the dates as circa tenth to eleventh century (for three) and eleventh to twelfth century (for one). In addition to details about the choice of woods this study discusses the shinzō in terms of categorization, iconography, historical definitions and viewpoints, acquisition and provenance, and suggests avenues for further research among scholars and the institutions and individuals who care for the icons today. The authors hope that this article will facilitate further understanding of scientific research such as wood identification and dendrochronology, and its applications to the religious, historical, economic, ecological, and stylistic study of icons.

On Shinzō: Repositories for the Divinity

The two characters 神 and 像, meaning “god” and “image or statue” respectively, form the term for “deity icons,” in Japanese, shinzō, and in Chinese, shenxiang.
Japanese 神 is also pronounced “kami,” a term applied to a vast range of deities, spirits, and natural phenomena. In premodern China, Korea, and Japan, 神像 was a sweeping term that referred to a wide range of images of local gods and deities from many religious and ritual traditions but is not typically applied to images of Buddhist divinities. In Japanese, shinzō refers to statues of the kami, and the term butsuzō 仏像 to Buddhist statues. Each has its own distinct nomenclature and appearance and yet next to some kami representations statues of lesser Buddhist divinities such as female or male deva (henceforth “deva”) or guardian figures, even to a trained eye, the two can be difficult to differentiate—a point to which the statues featured in the present research will attest.

A history of shinzō can be supported by remains and records, but also bedeviled at every turn, since the relationships between Buddhist divinities and the powerful kami changed over time and were very localized and complex. A history of shinzō might include figures or symbols of kami in nature or at sacred sites, such as in stone niches or forests or within open air structures, but we can only hypothesize about these. There remain numerous archaeological finds of assorted anthropomorphic imagery on pottery or flat wooden shapes, usually painted, from the late seventh and eighth century that are not Buddhist per se, many of which were used for benevolent means (such as healing) but also for malevolent purposes. The relationship to contemporaneous notions of such talismans, effigies, or loci or conduits to kami, however, is unclear. Art historian Kageyama Haruki 影山春樹, writing in the 1960s and 1970s, understood them as prototypes of kami representations.² Regardless, it is important to keep in mind that although today seen as gentle gods, kami were once seen not only as very powerful, but also potentially violent and dangerous divinities that inhabited unseen places deep in the mountains, requiring ardent propitiation to keep safe the land and its inhabitants.³ Some of the most feared and respected, even ostracized, kami are found at the borders of territories controlled by different clans, or at the extreme edges of power centers, areas of influence that compete with notions about the Japanese imperial line, or areas influenced by “foreign” or competing gods—such as Izumo (a possible provenance for some of these statues) and the large island of Kyushu. Therefore, it should not be surprising that there exists a fluidity in the interpretation of the nature of kami over time and place, or at the same moment, and their diverse shintai 神体 forms. The term shintai or goshintai 御神体 refers to something in which a kami inhere, a temporary vessel for its nature. It is also thought that objects or places that attract kami are selected by humans or the kami themselves as shintai.

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1 The Sanskrit word deva (Jp. 天) denotes Indian gods of non-Buddhist origin. When referring to such deities in Japanese the character 天部 is added, rendering the designation tenbū 天部.


3 Satō, “Wrathful Deities and Saving Deities.”
This is a key concept in understanding the unusual choice of woods for the statues under discussion. Trees have long been associated with kami and are the primary medium for shinzō. Shintai can be a tree, stone, or a waterfall, for example, and it is also a respectful way to refer to the statues in which the divinity inheres. In premodern times, shinzō were less accessible for viewing relative to butsuzō—themselves not very accessible, but the hidden were venerated in myriad ways.

Many scholars note that representations of Japan’s divine kami were unnecessary or unthinkable until Buddhist icons became ubiquitous, which in turn stimulated a desire to create a material focus for worship of the kami, a “competition” model that can create unnecessary binaries. It is clear, however, from surviving late eighth-century and later records that kami were viewed by some as sentient beings who are suffering in their current form and who desire to take refuge in Buddhism. This suggests an emerging Buddhist-centric viewpoint of kami and a concurrent emerging and irresistible urge to “represent” in an environment brimming with representations of Buddhist deities as well as kami, both in proximity to temples in the Chinese style in new Chinese-style capitals and beyond. In ancient Nara 奈良 (Nara period, 711–784) shrine-temple complexes (jingūji 神宮寺, also jinganjī 神願寺) came later than in other parts of the realm, among them the eighth-century shrine-temple Usa Hachimangū Mirokuji 宇佐八幡宮弥勒寺 in Kyushu, Kehi Jingūji 気比神宮寺, Wakasahiko Jinganjī 若狭比古神願寺, and Tado Jingūji 多度神宮寺. The first records attesting to the creation of shinzō include Tado Jingūji. One reason for the representation of kami is a desire to see what one venerates, and as noted, it is strongly connected to the abundance of Buddhist icons by the eighth century in Japan, and the ritual needs of shrine-temple and temple-shrine complexes.

Strictly speaking, shinzō are best seen as temporary physical embodiments of kami and “representing” the maker, patron, or god’s intention—a form of “material intentional—ity”—a term contributed by Bogel. But the real thrust of this term comes with the knowledge we have gained through wood testing to understand the possible origins and meaning of shinzō made of magnolia and other uncommon kami statue woods. Although representation in paintings or sculpture often represents state/political and spiritual (if the two can be separated) intentions, material intentional—ity is central to this report. From human hair to fragrant woods and ephemeral materials such as paper to luxurious significations such as lacquer, materials are also spiritual. The data garnered by co-authors Tazuru Suyako 田鶴寿弥子 and Mechtild Mertz on the woods used for every statue in the group of eighteen discussed herein that was able to undergo testing is astounding and will, we hope, add to our understanding of not only this compelling body of work (whether it is a “group” or not remains to be proven) and to the material intentional—ity of butsuzō as well.

As we move through the details about a unique group of icons, including points ranging from the scientific and artistic to the situational and historical, or from the material to the numinous, it would serve us well to be cognizant of the truly limitless types of deities or spirits in Japan—and neighboring influences, namely the Chinese continent, the Korean Peninsula, and Southeast Asia—and their myriad origins and functions. There has been resistance in Japan to recognizing non-Japanese influences on the representation of what have long been venerated as the “indigenous” kami, in large part due to the associations between the imperial family and kami, and yet, kami veneration is dependent on external sources for both ritual content and appearance (as is the imperial family). The term 神 in China and Korea in premodern times was used for the spirits of the earth and many local gods. As is well known, these non-Buddhist deities entered Buddhism—with the Hindu gods a major import source. In Japan, we see a return of many local gods from foreign lands that entered Buddhism, including Kisshōten 吉祥天, guardian kings (shitenno 四天王), and dragon kings (ryūō 龍王), who also appear in the form of shinzō. Art historian Nagasaka Ichirō 長坂一郎 has shown that even the seated posture with one knee

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4 Itō Shirō briefly notes this, as does most of the literature on shinzō. Itō, Heian jidai chōkokushi, pp. 61–65.
5 Uejima, “State, Temples and Shrines in Medieval Japan,” pp. 14–19; Hardacre, Shinto, pp. 97–99; and Kochinski, “Negotiations Between the Kami and Buddha Realms.” Kochinski’s article takes up these four shrine-temple complexes.
6 Important studies that have presented new evidence for the woods used for Buddhist statues include Kaneko et al., “Nihon kodai ni okeru mokuchōzō no jushu to yōzaikan I” and “Nihon kodai ni okeru mokuchōzō no jushu to yōzaikan II”; and Tazuru et al., “Wood identification of Japanese Shinto Deity Statues in Matsunoo-taisha Shrine.”
up and one down, typical of one type of shinzō statue from the Heian 平安 (794–1185) period derives from a similar representation of non-Buddhist gods (神) at Chinese Buddhist cave sites, for example. By extension, the impetus for making statues of the kami is not the iconic tradition of Buddhism in Japan, as has long been asserted, but the iconic traditions of making local divinities in Korea and China and their impact on Japan. This fluidity need not be universalized or posited as something that negates the meaning of different ritual systems and beliefs, nor should the conflicts between “the gods that came first” and those that followed, but neither should the Japanese kami be essentialized or essentializing; nor binaries such as Buddhist and non-Buddhist or the state of the kami as numinous in a way that relates only to “Shinto” and not Buddhist concepts or the intentions of the viewer.

Such fluidity and concomitant complexity bear directly on representations of kami made from the latter half of the Heian period, when the statues featured in this study were made. By then shinzō were crafted to resemble courtiers, monks, men, women, animals, demons, bodhisattva, deva, guardians, beggars, old men, old women, foreign persons from far-away lands, and children. The earliest surviving shinzō are male and female, in court dress, old and young, or don simple robes and have shaven pates like monks. Examples include the triad at the temple Tōji 東寺 (Kyoōgokokuji 伽藍) featuring Hachiman 八幡, a god from Kyushu, and anonymous male and female forms held at the shrine Matsuno’o 松尾大社 松尾大社 (Matsuo) Taisha 松尾大社 上方, all in Kyoto. The latter two temples were patronized by the Hata clan 秦氏, who came to Kyushu from Silla 新羅 (Korea) by the late fifth century.

From the late eighth and ninth century, temples had structures or halls on site dedicated to the propitiation of the temple’s tutelary kami with shinzō enshrined, and some shrines had a Buddha statue enshrined. The tutelary kami statues are difficult to distinguish at times from butsuzō of lesser divinities, such as deva or bodhisattva. In the medieval period they are referred to as shugōjin 守護神 or gohōjin 護法神, “protecting gods” and “protectors of the Buddhist dharma.” At that time the term Shinto was not used as it is today to define a specific body of cultural practices juxtaposed with the Buddhist “religion” and other concepts that formed in Japan due to Western influence in the second half of the nineteenth century. Noting how difficult it must have been to create the appearance of kami, Itō Shirō 伊東史朗 writes about the strong Buddhist influence surrounding the production of the earliest shinzō. He refers to the earliest written record to a shinzō, a passage dating to 761 and found within the 801 Tado Jingūji garan engi shizaichō 多度神宮寺伽藍縁起資財帳 (Inventory and Account of the Sacred Origins of Tado Jingūji 多度神宮寺), a work about Ise Province that tells of “Tado daibosatsu” 多度大菩薩. “Great Bodhisattva” from this early usage referred not to the compassionate Buddhist divinity but to a “great kami awakened to the Way of the Bodhisattva.” Although we do not know what Tado Daibosatsu looked like, the title “Great Bodhisattva” also appears circa 781, when the kami Hachiman was honored with the title Gokoku Reigen Iriki Jintsū Daibosatsu 護国霊験威力神通大自在王菩薩 (“Great Bodhisattva of National Protection and Marvelous Spirit Power”).

Wood is the most common material by far for religious icons in Japan (others include bronze and lacquer) but for shinzō wood is used almost exclusively. Whereas the artisans of Buddhist statues made during the time when the statues discussed here were carved, i.e., the late Heian period (ca. 1068–1185), are frequently known, those for the kami were rarely named. Wood anatomists and art historians specializing in Japanese and Chinese materials and iconography and history have come together in these pages to narrate the story of how scientific analysis of the wood itself is probably the only thing that we can be sure about for most of the statues—and to explore where this secure standpoint can take us in an historical or religious study of the works. This research furthers our knowledge of how wood statue-making evolved in Japan and contributes significantly to our understanding of wood types used for Shinto icons. It reiterates the importance of wood identification for proper study of statuary and other objects for the fields of wood science, art history, Japanese religions, and regional studies.

7 Nagasaka, Shinbutsu shūgōzo no kenkyū, p. 268.
8 See Itō, Matsuo Taisha no shinjaku; and Keyworth, “On the ‘Shintō’ Statues of Matsuo Shrine.” The latter has an extensive biography.
10 For an overview of the history of wood research in Japan, and wood nomenclature, structure, grain, and more, see Mertz, Wood
Even more so than the study of Japanese Buddhist statues, the fact that shinzō are usually kept out of the public eye at Shinto shrines contributes to the understudied state of their materials. It is even possible to argue that more than Buddhist icons, due to their lesser exposure to tourism and museum exhibitions, shinzō impart a thick aura of distance from worldly matters. Furthermore, testing their wood is not welcomed by shrines and owners. Material analysis through scientific means helps to answer questions about how long ago and for whom, and about why these icons were made as well as of what and where, all questions that might otherwise be unresolvable. Important studies of shinzō to date are listed in the note here. We turn now to the wood discovery that stimulated this co-authored report.

“The Philadelphia Moment”: Piecing Together the Group of Eighteen Statues

The existence of a group of related shinzō statues—most of which were held in collections overseas—had been known among curators and other scholars, collectors, and dealers from the early twentieth century. (It should be noted that, until recently, collectors and dealers were occupations that overlapped considerably.) Clues indicating a group of sixteen statues first emerged at the Philadelphia Museum of Art in 2017. That year, two of the present report’s authors, Mertz and Tazuru, visited the museum to collect wood samples for microscopic examination within the context of a project on Chinese Buddhist sculptures. Samples extracted at that time from a Japanese statue known as “Crowned Male Deity in a Japanese Robe” (Hōkanwasō danshinzō 宝冠和装男神像, figure 10) yielded very surprising results. Scientific testing demonstrated that the statue was not cypress (Chamaecyparis obtusa, Jp. hinoki 檜), the principal material for religious icons in Japan from the Heian period. Nor was the icon sculpted from Japanese nutmeg (Torreya nucifera, Jp. kaya 柏), the next most common wood used in statue. Scientific analysis revealed that the statue at the Philadelphia Museum of Art was crafted from a species of magnolia wood (Magnolia sp., Jp. mokuren-zoku 本連属, モクレン属). The size of the statue suggests a high probability of Magnolia obovata (hōnoki 朴木 or ホオノキ), but other species such as Magnolia praeccisima (kobushi 辛夷) or Magnolia salicifolia (tamushiya 田虫葉) cannot be discounted.14

The use of magnolia wood for statue is exceedingly rare, hence the excitement. Of the 1,062 religious sculptures included within a 2012 database of published wood identification reports which span all regions and eras, only seven Buddhist statues are carved from magnolia wood.15 And of those seven magnolia statues, only two can be firmly dated to the Heian period, both of which were made in the Kanto region using assembled-wood construction (yosegi-zukuri 寄木造) rather than being carved from a single bole (bole meaning tree trunk), a technique known in Japanese as ichiboku-zukuri 一木造り and the method used for the eighteen statues under discussion.

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11 Guth Kanda, Shinzō; Kanagawa Kenritsu Rekishi Hakubutsukan, Kamigami to dea; Kyōto Kokuritsu Hakubutsukan, Kamigami no bi no sekai; Tō and Akagawa, Shinzō chōkoku jūyō shiryou shisai 3; Tō and Yahiro, Shinzō chōkoku jūyō shiryou shisai 4; Nara Kokuritsu Hakubutsukan, Shinbutsu shūgō tokubetsusen; Oka, Shinzō zoku no kenkyū; Osaka Shitsuru Bijutsukan and Mainichi Shinbunsha, Yamano Kamihokote Yoshino, Kumano, Kōya; Shimane Kenritsu Kodai Izumo Rekishi Hakubutsukan, Dai Izumo ten; Tōkyō Kokuritsu Hakubutsukan and Kyushu Kokuritsu Hakubutsukan, Kokuno daijinjaten; Vilbar and Carr, Shinto; and Yuhara, Bessatsu taiyō shinbunsha; and Traditional Woodworking Japan, pp. 7-40 in English and in Japanese, Mertz, Nihon no ki to dentō mokōgei, and Itoh and Yamada, Ki no kōkogaku.

12 Mertz and Itoh, “The Study of Buddhist Sculptures from Japan and China Based on Wood Identification”; Mertz and Itoh, “Analysis of Wood Species in the Collection”; and Tazuru et al., “Firaderufia bijutsukan ni okeru Chūgoku butsuzō no jushu shiki.”

13 The magnolia findings are reported in a 1963 article by wood and traditional woodworking specialist Kohara Ki no yasei shokubutsu: Mokuren (Vol. 1), p. 106. Fresh magnolia wood can sometimes be recognized by its greenish-grey color. Easy to split and carve, magnolia is often used in woodturning to create lacquered objects. In English see Mertz, Wood and Traditional Woodworking in Japan, pp. 59, 63, and 202.

14 Wood anatomist Itoh Takao 伊東隆夫 and archaeologist Yamada Masahisa 山田昌久 created the database. Itoh and Yamada, Ki no kōkogaku. The magnolia findings are reported in a 1965 article by wood architecture specialist Kohara Jirō 小原二郎. See Kohara, “Nihon chōkoku yōzai chōsa shiryō.”

15 Wood anatomy Takao Itoh 伊東隆夫 and archaeologist Yamada Masahisa 山田昌久 created the database. Itoh and Yamada, Ki no kōkogaku. The magnolia findings are reported in a 1965 article by wood architecture specialist Kohara Jirō 小原二郎. See Kohara, “Nihon chōkoku yōzai chōsa shiryō.”
Tazuru and Mertz informed art historian Itō of the extraordinary results, well aware of his interest and expertise in *shinzō* and previously in consultation with him. Itō, in turn, shared a list of sixteen works that he had thought about previously as a group of statues that were similar in date and style and therefore likely provenance. The contours of the group came into clearer relief still, and expanded, when Mertz identified a similar wooden statue in the private Gitter-Yelen Collection (figure 18), which had been offered at Bonhams international auction house in 2017.16

Available evidence led Itō to conclude that a group of sixteen related statues existed, now preserved in various museums or collections. Many of these had been documented in a series of surveys published in 1979 and 1980 in *Ars Buddhica (Bukkyō geijutsu)* by art historian Shimizu Zenzō 清水善三. Itō expanded on Shimizu's survey. With the addition of the Gitter-Yelen Collection statue (figure 18) and another statue purchased by the Sainsbury Center in Norwich, UK (figure 8), the total of known works we believe are from the same group, based on wood testing and style, now stands at eighteen.

In summary there are eleven statues dispersed across North America: ten in museums (Ontario, Philadelphia, Cleveland, Honolulu [3], Chicago [2], New York, San Francisco, Princeton) and one in a private collection (Gitter-Yelen); five in Japanese museums and private collections (Tokyo National Museum, Tokyo University of the Arts Museum; and one statue in the UK (Sainsbury Centre). There may be others, but our research has not brought any to light. The table at the end of this essay simplifies the material known for each of these statues and has columns for their names, home institution, provenance, sources, and other known and speculated information. Contrary to standard practice, the illustrations (figures) cited will not appear within the main body of text and not necessarily in order of mention. Rather, due to the large number of statues in the group, the authors wish to present them together in a specific order that corresponds to the useful table placed immediately before the eighteen statue illustrations and wood-related figures (19–23).

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16 Bonhams, “Lot 6150: A Large Standing Figure of a Shinto Deity,” https://www.bonhams.com/auctions/25784/lot/6150/.
17 Shimizu, “Amerika, Kanada ni aru Nihon chōkoku” (parts 1-3).

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Privacy, Provenance, and Science

The website of Bonhams describes “a group of unusually large Shinto deities that appear to have reached the United States in the 1950s through the Mayuyama Company [Mayuyama & Co.] and are thought to be associated with religious cults active in the region southwest of present-day Tokyo, centered on the Izu Peninsula.” Bonhams includes the statue tested in 2017 at the Philadelphia Museum of Art within this group.

The statement that the works originated from Izu Peninsula near Tokyo is, however, an unfortunate error. Rather, the provenance is possibly the Izumo 出雲 area, located on northern Honshu island, in Shimane 稲根 Prefecture, facing Ulsan and Gyeongju on the Korean Peninsula across the East Sea (the latter a great capital of Silla kingdom for over a thousand years, beginning in 57 BCE until the early tenth century) and home to the vast shrine grounds of Izumo Taisha 出雲大社, more properly known as Izumo Ōyashiro. The 1950s noted on the Bonhams page is a decade we have not confirmed, but acquisition dates for statues, most of which—if handled by Mayuyama—went through dealers both in Japan and in the U.S. before being sold to U.S. collectors or museums, indicate movement to the U.S. and within Japan during the 1950s and 1960s; neither can it be confirmed by us that the group was sold by Mayuyama (this is not to suggest that these two statements are in error, only that a source is not provided).

A 1966 publication edited by Mayuyama Junkichi 蕾山順吉, *Japanese Art in the West*, was a key source to the ongoing interest in an expanding group of *shinzō* that appeared to be connected to the seven illustrated in his book by those within and outside of Japan, as the two provenance columns in our table suggest.18 Mayuyama writes that the works illustrated are among his favorites and the photos are from his collection. In his 1988 book, *Bijutsushō no yorokobi 美術商のよろこび* (in English, *The Joys of Art*), Mayuyama writes that “2,123 pieces of Asian arts and crafts, most of them ceramics, had been handled by members of our staff during seventy years since the company was founded in 1905... I am proud to be an art dealer.”19
The euphemisms of the previous volume are gone, and it is reasonable to assume that he sold at least the seven shinzō statues that appear in *Japanese Art in the West*, and quite possibly many more in the group of eighteen.

The Art Institute of Chicago holds in its collections two of the eighteen statues under discussion (figures 4 and 13). The museum explains on their homepage they represent the Dragon King and the monk Hyeja, respectively, and that the two “originally belonged to a group of 12 Shinto deities (kami) believed to have come from the Izumo district on the north coast of the island of Honshū.” 20  “The group is believed to represent Shōtoku Taishi 聖徳太子 (574–622), his family, and his advisors,” the text continues. The Art Institute of Chicago does not specify which sources they consulted to posit a link with Shōtoku Taishi. Perhaps, like Itō, the research team was aware of two sculptures pictured in a 1930 publication, *Shinzō shinki zuroku 神像神器図録* (Illustrated Catalogue of Shinto Statues and Sacred Implements), henceforth *Catalogue*, said to represent Shōtoku Taishi and his consort (figures 1 and 2). 21  The description in the 1930 *Catalogue* is as follows:

1. Statue of Prince Shōtoku (Shōtoku taishi zō), magnolia wood carving, height 3 shaku 3 sun, collection of Mr. Maeyama Hisakichi.

   It is a statue 22  from a shrine in Izumo, 23  and is said to be the work of the prince (Taishi) himself. Also, it is known as an incarnation of Kannon Bosatsu. The wood used is conjectured to be magnolia (hō), but some propose that it is ancient camphorwood (kodai kusunoki 古代楠).

2. Statue of Lady Shōtoku Taishi (Shōtoku Taishi kohizō) magnolia wood carving, height 3 shaku 1 sun, collection same person as above.

21  Although the more common reading for 神器 is jingi, it is usually used to refer to the imperial “three treasures” of a mirror, sword, and jewel. As the exhibition was broader than a focus on the three we use an alternate reading for the characters, shinki.
22  The term goshintai 御神體 is used, which as noted, refers to something in which a kami inheres.
23  The characters 出雲 are used as phonetic equivalents for Izumo 萬, and 皆 are used as phonetic equivalents for Izumo 萬, which as noted, refers to 皆神. unpaginated, text section p. 2, plates 8 and 9. Note: alternative renderings of Ōirat sume include 橘大娘皇女 and 橘大郎.
seum. As he died in 1937 it is possible that the first two went to Mayuyama, but there is no evidence for this in circulation. The date that Maeyama gave the statue to the museum is not public to our knowledge.

These and other observations beg the question of whether eighteen is the likely final number for the group and whether there is a known iconographic precedent for eighteen related figures including Shôtoku Taishi and his consort, or whether it is likely a larger group based on established iconography. There is no easy reply, but based on Bogel’s assessment of the existing statues, the types of icons in this group, and certainly the number eighteen, do not correspond to a known iconography. Based on the well-known narratives of the prince’s life on folded screen paintings, handscrolls, or sets of paintings usually entitled something along the lines of Shôtoku Taishi eden (聖徳太子絵伝, Illustrated Biography of Prince Shôtoku) found in museums around the world, any number of “groups” could be extrapolated but there appears to be no set iconography for the choice of these eighteen or including these eighteen in Heian period sources or surviving art works. The sole basis for the Shôtoku designation is the source described above, the 1930 Catalogue.

It has been noted and will be further explained in the section “Eighteen Shinzō in Three Categories” below that there are prominent sculpture specialists who have designated figure 16, an icon of an Old Woman Deity from the Twenty-Eight Legion (Nijūhachī bushū 二十八部衆), a Buddhist assembly of a variety of divinity types that in Japan are associated with the Thousand-Armed Kannon (e.g., at Rengeōin 琵琶湖畔, today’s Sanjūsangendō 三十三間堂). This would imply that there were more statues in the group. There are divinities in the group of eighteen that find parallel in the Twenty-Eight Legion, but the authors remain unpersuaded by this iconographic designation, as well as to the idea that the eighteen under discussion here are Buddhist divinity representations, notshintai. We look forward to further discussion.

Wood in Ancient Japanese Statuary

Important studies of hinoki cypress and kaya woods include groundbreaking cooperative research projects between wood scientists and art historians specializing in religious sculpture. For example, two art history Buddhist sculpture specialists, Kaneko Hiroaki 金子啓明 and Iwasa Mitsuharu 岩佐光晴, worked with wood anatomists Noshiro Shuichi 能城修一 and Fujii Tomoyuki 藤井智之 and presented the results of their examination of the wood species of early Buddhist sculptures in three Museum publications (1998, 2003, and 2010).²⁶

In the earlier article the authors discuss the results of wood tests on sixteen Buddhist sculptures representative of the Nara period and two representative icons from the early Heian period, each made from a single bole. The team concluded that each statue was made of made of Japanese nutmeg (kaya),²⁷ correcting previous identifications as hinoki cypress.²⁸ The work of the Kaneko group stimulated a reevaluation of scholarly assessments of the woods used for ancient Japanese Buddhist wooden icons, which then affected scholarly assessments of wooden shinzō.

As explained in the first report (Museum 1998), camphorwood (Cinnamomum camphora, Jp. kusu 檜) was the primary wood used for Buddhist statuary in the seventh century, but during the eighth century, statues were mostly made of Japanese nutmeg or hinoki cypress. The team studied tiny wooden fragments from seven single-bole icons at Toshōdaiji 唐招提寺 and nine at Daianji 大安寺 as representative works of the Nara period, and for the early Heian period tested the main Yakushi Nyorai 獬師如来 icon at Jingoji 神護寺 in Kyoto and the same divinity from Gangōji 元興寺 in Nara. Each statue, microscopically analyzed, turned out to be Japanese nutmeg. Japanese nutmeg and cypress both served as substitutes for Indian sandalwood (Santalum album, Jp. byakukan 白檀), a wood highly valued in India (and beyond) and referenced in Buddhist scriptures as ideal for creating Buddhist images.²⁹

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²⁶ Kaneko et al., “Nihon kodai ni okeru mokuchōzō no jushu to yózaikan I” and “Nihon kodai ni okeru mokuchōzō no jushu to yózaikan II.” See also Mertz, Wood and Traditional Woodworking in Japan, pp. 17–18.
²⁷ On Torreya nucifera see https://conifersociety.org/conifers/torreya-nucifera/
²⁸ See for example Kohara, “Nihon chókoku yózai chōsa shiryō.” The science of microscopic wood identification has advanced considerably since Kohara’s pioneering work. Sampling method and location, for example, are now meticulously documented.
²⁹ Most frequently cited is the legend of King Udayana. “When Sākyamuni left the world to teach his mother in the Heaven of the Thirty-Three Gods, King Udayana of Kausambi missed him so much that he had a true likeness of the Buddha made out of the best sandalwood (Santalum sp., Ch. tanmu 檀木) available. Rösch, Chinese Wood Sculptures of the 11th to 13th Centuries, p. 172. An important new compendium of essays by Arunkumar
In most regions of China sandalwood is not indigenous and cannot be easily cultivated. Instead, cypress (Cupressus sp., Ch. baimu, Jp. haku or hakuboku 柏木) was burned as incense to purify, drive out evil, and communicate with the gods from at least the Tang 唐朝 (618–907) period. Ritual use in Japan of cypress as a substitute for Indian sandalwood is typically traced to the Chinese monk Jianzhen 鉴真 (Jp. Ganjin; 688–963).

Kaneko et al.’s second report (Museum 2003) considered single-bole statues from more northern regions of the archipelago where Japanese nutmeg does not grow. The team also extended their study to include not only single-bole sculptures but also statuary crafted from other techniques and materials such as dry lacquer and clay works with internal wooden frames (armatures) or a wooden core. The selected samples were microscopically identified as hinoki cypress, Japanese zelkova (Zelkova serrata, Jp. keyaki 楠), and foxglove (Paulownia tomentosa, Jp. kiri 槭). The study further concluded that Japanese nutmeg was used for single-bole sculptures in the Kinki region as well as in adjacent regions where the tree grows naturally. In areas where Japanese nutmeg trees do not grow (e.g., the Tohoku region of northern Japan), local species such as Japanese zelkova were used.30 Significantly, these findings also cast doubt on the previously accepted chronology that single-bole sculptures from the Nara and Heian periods evolved from wood-core dry-lacquer sculptures whose thick outer layers of lacquer as a technique receded over time.

**Wood Identification and Dating**

Scientific wood identification entails analyzing the characteristics of wood cells under a microscope. High levels of magnification reveal anatomical features specific to each genus, and in rare cases species, as assessed by a trained wood anatomist. In the present case, the authors or museum conservators took miniscule wood samples of less than 0.5 x 0.5 x 1 cm from the underside of nine sculptures (figures 3, 5, 6, 9, 10, 11, 12, 14, 18), typically from a hollowing or a crack. The samples were then sent to one of three wood anatomy laboratories: the Research Institute for Sustainable Humanosphere (RISH) of Kyoto University, Japan; the Forest Products Laboratory (FPL) of the Center for Wood Anatomy Research, USDA Forest Service, Madison, WI, USA; and the Jodrell Laboratory (JL) of the Royal Botanic Gardens, Kew, in London. Each lab possesses a large wood collection, or xylaria, and an extensive body of reference material.31

After soaking the samples in water to soften them, researchers at each lab prepared the microscope slides. First, they extracted thin sections by applying single- or double-edged razor blades in cross, radial, and tangential directions (approximately twenty μm thick). The sections were then heated on a hot plate with a mixture of glycerin and ethanol in a ratio of 1:1 to remove air bubbles and mounted on slides with the slide mounting medium gum chloral (a mixture of Arabic gum, and chloral hydrate). The slides examined in Japan at RISH were studied under an optical microscope (Olympus BX51) and photographed with a digital camera (Olympus DP70) (figure 19).

For extremely tiny samples of about 0.8 to 1 mm in diameter and 8 mm in length maximum, as seen on figure 20, author Tazuru performed the wood identification using synchrotron X-ray microtomographic imaging at the synchrotron SPring-8 in Hyogo Prefecture (figure 20). This extraordinarily advanced and rare method provides a high-resolution (0.472 μm/pixel) 3D image of the wood’s anatomical micro-structure from which the species can be determined (figure 21).

Microscopic wood identification does not yield information about the age of the wood. Dating wood can be accomplished by two methods: dendrochronology, which examines growth and measures tree rings; or radiocarbon or carbon-14 dating. The former method requires a surface large enough to permit scientists to observe a sufficient number of growth rings. Dendrochronology also involves reference work, that is, situat-

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31 For reference material the sample size is about 1–2 cm x 1–2 cm x 1–2 cm. The sectioning is done by a microtome. Such samples are mounted on glass slides and covered. The wooden cubes allow the three sections to be cut into transverse, radial, and tangential sections. Reference material samples are drawn from trees that have been botanically identified by its leaves, flowers, and fruits.
ing a sample within a master chronology composed of, for example, old living trees, extant building material, and excavated wooden remains that are specific to each wood species grown in a given geographic region. **Dendrochronology in Japan** is limited to three tree species: hinoki cypress; Japanese cedar or cryptomeria (Cryptomeria japonica, Jp. sugi 杉), hiba arborvitae (Thujaopsis dolabrata, Jp. hiba 檜 or asunaro 番柾); and umbrella pine (**Sciadopitys verticillata**, Jp. kōyamaki 高野檜).32

Radiocarbon or carbon-14 dating, the second method, was applied to three statues of the group of eighteen discussed in this report (figures 3, 8, and 18).33 A wood's radiocarbon age refers to the date when the tree was felled, not when the material from that organism was used. To account for seasoning (i.e., drying), processing, and carving, it is standard to add a period of fifty to one hundred years to a wood's felling date.

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### Discussion of the Wood Identifications of the Shinzō

Recalling that the 1930 *Catalogue* states that statue figures 1 and 2 came from a shrine in Izumo, and also that the wood for making the male and female deities is thought to be magnolia or camphorwood, we turn to a consideration of shrines and trees and kami to a consideration of shrines and trees and the synchrotron X-ray microtomography technique (figures 21 and 22); this was for the Male Shinto deity statue of the Honolulu Museum of Art (figure 9), and the “Crowned Male Deity Statue in a Japanese Robe” of the Philadelphia Museum of Art (figure 10).

The Sainsbury statue, the deva-like female deity statue, was also identified to genus level, *Prunus* sp. (*sumomo-zoku*). Four tree species belong to this genus, cherry (*sakura* 桜), plum (*sumomo* 梅), apricot (*ume* 梅), and peach (*momo* 桃). All these tree species flower in spring on naked branches, before the leaves open, the same as magnolia. The wood of *Magnolia* sp. and *Prunus* sp. are diffuse-porous, that is to say they show a very smooth surface. The wood is easy to carve. The growth rings are inconspicuous. *Magnolia* blooms

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32 Important Japanese dendrochronologists include Mitsutan Takumi 元村 Takeshi and Ōkōchi Takayuki 大河内隆之 in the Kinki area and Gyama Motonari 豊南敏盛 in the Tohoku area. These scholars established the master chronologies over two millennia through which ancient wooden relics can be dated. See Mitsutani, “Nenrinnei daihō to bunkazai”; and Mitsutan and Ōkōchi, “Nenrinnei daihō to saishin gōzō kiki.”


before the famous cherry (sakura) but at the same time or after the three.

The third species, the Japanese chestnut (Castanea crenata, Jp. kuri 栗) has quite conspicuous growth rings. While the wood of magnolia and Prunus sp. is diffuse-porous, or smooth, chestnut, however, is ring-porous and shows a distinct grain. That means on a cellular level, that in spring, when the growing season starts, the early pores have a larger diameter than during the rest of the growing season, when the pores become narrow. This leads to very conspicuous rings, visible on the statue’s surface. It is also to note that a conversion (seizai 制材) was practiced already in the Jōmon 縄文 period (10,000 BCE—800-400 BCE) by wedge-assisted longitudinal splitting, when the longitudinal saw was not yet introduced. The ōga 大鎚 (two-man frame saw), used for rift-sawing or longitudinal sawing, was only introduced to Japan from the fifteenth century on.

All three tree species, that were microscopically identified in this essay like Magnolia sp., Prunus sp., and Castanea crenata were likely grown on a temple or shrine precinct (keidai 境内), where the statues were “enshrined,” or nearby. It could be imagined that all ten magnolia statues come from one huge tree (figure 19). That tree was perhaps struck by lightning, and thus was provided by divine power. Therefore, it was highly suitable for carving into shinzō. The two other tree species, Prunus sp. and the Japanese chestnut, could have been entrained by the fall of the huge tree. These are of course hypotheses. What else do the three wood species have in common? They have an expressive flowering period in spring, and are useful timber trees. Magnolia shows conspicuous, beautiful flowers in spring (figure 23). Its big leaves were used for wrapping food, and its wood is suitable for turning and carving. The Prunus sp. group consisting of cherry, plum, apricot and peach, is also highly appreciated for their flowers in spring. The Japanese chestnut is highly appreciated for its edible sweet chestnuts, harvested in fall.

Bogel notes that last, but not least, there is an intriguing association between magnolia flowers and scent and the kami in the magnolia species that grows in warmer climes. A magnolia species named Magnolia compressa (Magnoliaceae, Magnolia genus), scientific name Michelia compressa (Maxim) Sarg, is a fragrant evergreen type magnolia; unlike broadleaf magnolia and others it is green all year round. The flowers appear against the green leaves. In Japanese it is called Ōga-

- Magnolia (Magnolia sp., Jp. mokuren-zoku)

Figures/statues 3, 4, 5, 6, 9 10, 12, 13 14, 18

The IAWA List of Microscopic Features for Hardwood Identification notes the following anatomical features for the genus Magnolia sp.:


- Prunus (Prunus sp., Jp. sumomo-zoku 李属)

Figure 8

The anatomical features of Prunus sp. are as follows:


36 Ōtsuki, Shinpen Daigenkai, entry pp. 315–16.
As with magnolia, Prunus sp. is a revered wood species in Japan as is demonstrated by the selection of wood species of the statues of the Matsuno’o Taisha, a sprawling historic shrine in the Western part of Kyoto. Eight of the eleven shinzō at Matsuno’o Taisha scientifically identified by Tazuru and Sugiyama (of Kyoto University) tested as Prunus sp.39 The figure 8 statue from the Sainsbury Centre mentioned above microscopically identified as Prunus sp. could be made of cherry, plum, apricot, or peach.40

- Japanese chestnut (Castanea crenata, Jp. kuri)

Figure 11.
The anatomical cell structure of Japanese chestnut, the wood used to craft the sculpture of the Youthful male Shinto deity statue held by the Princeton University Art Museum (figure 11), displays the following characteristics:

Growth ring boundaries distinct. Wood ring-porous, with vessels in dendric pattern.
Perforation plates simple and scalariform with up to ten bars.
Intervessel pits alternate, size medium or large.
Vascular or vasicentric tracheids present.
Axial parenchyma diffuse, diffuse-in-aggregates, or scanty paratracheal.
Rays exclusively uniseriate. All ray cells procumbent.41

Eighteen Shinzō in Three Categories

Itō has proposed a division of the eighteen shinzō into three categories: (1) eight major deities (shusaijin 主祭人); (2) three minor deities (haishin 配神); and (3) seven attendants or followers (jūsha 従者). It is of course that future finding may expand or contract this number. These are listed on the table immediately after the figure number and accession number, with the deity name preferred by Itō below the main classification names. To the right, in the third column, we list the name used by the museum or private owner for the work.

- Eight Major Deities, the Shusaijin

The subgroup of Major Deities is made up of eight sculptures. Three male and five female deities wear long robes to the ground, so that the tip of the feet or shoes can be seen. The female deities are dressed in a long-sleeved garment reminiscent of robes worn by female Buddhist deities in depictions of the heavenly realm and widely seen in kami statues, too. The male deities show their attributes, such as a beard or kesa while the female show hair knots. Female figures 2, 3, 6, 7, and 8 are similar in design. The 1930s Shinzō shinki zuroku catalogue assigned the designation of “Shōtoku Taishi’s consort” (hizō 妃像) to figure 2, which would have referred to Princess Tachibana no Ōratsume. Again, it is possible that the pair were venerated sometime before 1930 as such since the cult of Shōtoku Taishi was very widespread in the medieval period, but we cannot assign any further meaning to the Shōtoku Taishi and consort descriptions in the Catalogue than this.

Figure 3 is illustrated in Mayuyama’s Japanese Art in the West, which describes it as the figure of a female Shinto deity (the table gives all references). Radiocarbon dating in December 2021 determined that figure 3’s date ranges between 1079 and 1155, to which an additional fifty to one hundred years must be added. The institutions that house figures 6 and 7 put them in the same range based on style. Bogel notes that the style of figure 8 (made of Prunus species) differs in some distinct ways from others, based on photographs comparing the five. Final assessments depend on many factors, including close examination of the actual statue. All five female deity figures are between 93.9 (figure 2, 1930 using shaku and sun) and 97.8 cm (figure 6), which supports a common production site and time period and display.

Figure 6 (see also figure 19) is on loan to The Metropolitan Museum of Art in New York. Microscopic identification of the tangential section by RISH, plus the macroscopic photos by conservator Daniel Hausdorf of
the Met, both in 2022, confirmed the 97.8 cm statue was carved from magnolia. Remarkably, this dendrometric information allowed the repositioning of the statue in the original quartered log, in longitudinal and transverse planes, as shown in figure 19.

The male deity statues are three (more may have originally existed). Figure 1 is described in the 1930 Catalogue as having been called an incarnation (keshin化身) of the bodhisattva Kannon, an entirely feasible designation given its iconography; Itō of this research group prefers a simpler designation as “Male deity statue.” Both figures 1 and 2 are described in that text as being made of hō 朴, the Japanese bigleaf magnolia (Magnolia obovata, Jp. hōnoki 朴木, ホオノキ) or in the case of the male, magnolia or ancient camphor wood (kusunoki 楠). It is unclear to what the prefix “ancient” (kodai 古代) refers in this case. Given the results showing that of twelve statues tested ten are magnolia, the 1930s “guess”—or inherited knowledge from those who knew the mysterious provenance of the statues—is likely to be correct. The statues’ current owner is not known to us and permission to conduct microscopic wood identification is not possible. Figure 4 is currently held at the Art Institute of Chicago under the name “Shinto deity in the guise of the monk Hyeja.” Itō’s title of “Deity statue with the attributes of a Buddhist monk,” one of the most common “guises” for kami of shinzo, does not reference the monk Hyeja (Hyeja (?–623, Eji 慧慈 in Japanese). Likely added by owners prior to its entering the Art Institute of Chicago and based on the 1930 description for figure 1, Hyeja was one of two Korean monks who instructed Shōtoku Taishi from the Kingdom of Kōkuri 高句麗 (Kr. Goguryeo) arriving in Japan in 595. Figure 5 is a male divinity in a genre of what many scholars have referred to as the “foreign type” of shinzo; the Cleveland Museum of Art curator designates it simply as a “Deity,” aware of opinions that place it in the Twenty-Eight Legion divinity group alongside its typical shinzo carving and relationship to others in this group. It is illustrated in Mayuyama and is one of the ten certified as magnolia.

Wood testing could not be conducted at this time on the Asian Art Museum of San Francisco’s statue (figure 7), which we can only imagine will be magnolia. Figure 8, also a deva-like female deity statue, is preserved at the Sainsbury Centre in Norwich, UK, and bears a resemblance to figure 2. Both may be missing a topknot or double loop (Bogel); they are both ca. 94 cm. In 1998, Peter Gasson of the Jodrell Laboratory at Royal Botanic Gardens, Kew, microscopically identified the statue’s wood as Prunus sp. (Jp. sumomo-zoku 李属). Radiocarbon dating by accelerator mass spectrometry conducted in 1999 by the Oxford University’s Research Laboratory of Archeology and History of Art determined that the age ranges between 960 and 1040. In this case, too, fifty to one hundred years should be added to the result for a correct date calculation.

- Three Minor Deities, the Haishin

The subgroup of minor deities consists of three deities. All three are male. Two have the distinctly defined tummy area seen in male figure 5. Their garments differ, with trouser-like lower portions, and show more of the lower leg. Figure 9, Male deity statue in a Japanese robe, is held at the Honolulu Museum of Art. Like the other two figures at that museum (figures 12 and 14), it was a gift of Robert Allerton in the early 1960s. The wood identification of magnolia was made in 2021 by synchrotron X-ray microtomography imaging and it has a height of 113.0 cm, the tallest, but due to the tall hat. The hat is striking, as is the protruding belly and left arm raised—an iconography that we have not studied. We refer to figure 10, held at the Philadelphia Museum of Art, as the “Crowned Male Deity Statue in a Japanese Robe.” As noted, the results of its wood testing result of magnolia in 2021, also by synchrotron X-ray microtomography imaging, served as the impetus for the present research. The 99.1 cm statue wears a crown and a tunic that falls below the knees. Both figures 9 and 10 are illustrated in Mayuyama (pp. 23 and 24, see Table notes). Figure 11, the “Youthful male deity statue” (dōji-gyō shinzo 童子形像), rises 95.0 cm in height. His black painted hair is parted in the middle and extends in two thick ponytails nearly to his waist. The statue has been discussed in the superlative Cleveland exhibition catalogue on Shinto art by Vilbar and Carr as Wakamiya 若宮, the Young Prince—either the child of the principal kami of a shrine, or a representation of that deity’s renewed spirit, although they note in conclusion that although “Hachiman Wakamiya is the most likely candidate for the identity of this sculpture, its precise identity remains unclear.” As with many of the eighteen statues discussed here, Vilbar and Carr also note that the traces of the carving tools are not smoothed away.

42 Vilbar and Carr, Shinto, 169, photo on 169.
one of the hallmarks of shinzō. The sculpture is made of Japanese chestnut (Castanea crenata, Jp. kuri 栗), updating the visual assignment of zelkova in the Cleveland exhibition catalogue to the work before testing.

**Seven Attendants or Followers, the Jūsha**

All but two (figures 15 and 16) of the group of seven attendants or followers who protect the major and minor deities (figures 12 through 18) wear knee-length garments held by a belt around the waist. Otherwise, figure 15 is a guardian type figure and 16 a female deity with attributes of an old woman.

Figure 12, the second of three held by the Honolulu Museum of Art and gifted by Robert Allerton, stands 99.7 cm tall and features the priest Hōshi statue (Hōshi oshō zō 宝誌和尚像). Contrasting Mayuyama’s notation of hinoki cypress, our microscopic wood identification of 2021 indicates magnolia. The depiction of multiple faces is striking and also typical for portrayals of this priest—here in kami form. Figure 13, found in The Art Institute of Chicago, the “Dragon King” is represented as a youthful figure looking upward with the dragon attribute on his head, making it 102.2 cm tall. It is illustrated in Mayuyama and therein called the “Dragon Woman” (Zen'nyō ryūō 善女竜王). The Art Institute explains on its website that “the Dragon King, originally an Indian Hindu god, was gradually incorporated into the Buddhist pantheon. Veneration of this deity, who rules the seas, spread with Buddhism from India to China and, via Korea, to Japan; there the Dragon King was transformed into a Shinto god.” This statue was microscopically identified by the Forest Products Laboratory (Center for Wood Anatomy Research, USDA Forest Service) in Madison, Wisconsin as being made of magnolia. We identify figure 14 as a deity statue with demonic (yasha) attributes, Yasha-gyō shinzō 夜叉形神像, as does Mayuyama, where it is illustrated. Preserved at the Honolulu Museum of Art, it was also gifted to them by Robert Allerton. The museum provided us with a museum record notation stating that figure 12 was purchased from “Maruyama & Co., Tokyo;” Bogel notes this may be an error for “Mayuyama”; with all three statues gifted by Allerton, one can surmise that all three were purchased from Mayuyama, who illustrates all three in Japanese Art in the West. Figure 14 measures 99.7 cm tall and microscopic analysis conducted in 2021 determined it to be magnolia. The statue has been radiocarbon dated to 988–1026.

The authors have less information for the next three jūsha statues, all of which are in Japanese museums. Figure 15 is a deva-like male deity statue, which could represent Bishamonten 毘沙門天, but this is not certain. It is privately owned but on loan to the Tokyo National Museum and is dated by the museum based on style to the twelfth century. We do not have its exact height size. Wood testing is rarely carried out on religious statues in the Japanese museums and that is so far the case for figures 15, 16, and 17. Figure 16 is female deity statue with the attributes of an old woman (rōjūzō 老女像). This genre is part of various Buddhist deity groups such the Twenty-Eight Legion noted earlier. They are not unknown in shinzō examples. Preserved at Tokyo National Museum, the statue rises 97.4 cm high.

Figure 17 is a deva-like male deity statue, a standing icon with monk attributes (Sōgyō ryūzō 僧形立像), preserved in the University Art Museum at the Tokyo University of the Arts. It dates from the twelfth century, and its size is 97.0 cm. On their homepage the statue is described as maybe being made from birch (Betula sp., Jp. kaba 梓). This observation was probably done by naked-eye observation, and cannot be confirmed. Figure 18 of the group is a deva-like male deity statue held today in the Gitter-Yelen collection. The statue’s height is 101.0 cm, due in part to its wild standing hair. It was offered for sale by Bonhams auction house on March 15, 2017 without a sale. The webpage notes that the figure’s naked torso is “simply carved with a slightly protruding belly, the suggestion of a cloak-like garment around the shoulders, and the skirt indicated by three folds in relief and augmented by a few simple lines extending to just above the knees. The back is almost smooth except for lines below the collar and above the skirt, and the feet bear traces of dark pigment indicating shoes.” The face conveys ferocity with arched brows. It was identified by RISH in 2022 as being made of magnolia. The similarity with the flaming hair to that of priest Hōshi (figure 11) suggests that this statue also belongs to the category of attendants.

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43 Mayuyama, Japanese Art in the West, 22–23, 342.
44 https://www.bonhams.com/auctions/23784/lot/6150/?category=list
Conclusions: Material Intentionality

The eighteen Shinto statues form a group unified by physical attributes including style, size, construction by a single bole of wood (ichiboku-zukuri), remaining marks of the carving tools and — our most robust research effort — the use of distinctive types of wood. The reasons for the use of magnolia, Prunus sp., or chestnut are unclear, but we have offered suggestions to the extent possible. All of this combines to point to the ways in which religious arts may convey their “intention” through materiality. The statues date to the Heian period as far as we can test, judge, or receive information, and we have a tantalizing lead that they may come from a shrine in the Izumo region.

As for the iconography, we have omitted a discussion of shinbutsu shūgō 神仏習合 in direct terms because this so-called (and unfortunately so) “synthesis” of Buddhist and kami veneration is well considered in the literature. Itō has proposed that the group of Buddhist figures (honjibutsu) and deities originating from them are “suijakushin 垂迹神 or suijaku kami. Kami were understood as the origin figures of deities, are called “honji-suijaku 本地仏” and deities originating from them are “suijaku man-dara (mandala) 垂迹曼荼羅, one type of multi-deity representation of which there are many examples in painting but none in sculpture. According to this “philosophy” regarding kami — one that came into formal expression during the Heian period — like the Daibosatsu designation noted in this report, honji-suijaku thesis puts forth that various Buddhas, the source or origin figures of deities, are called “honjibutsu 本地仏 and deities originating from them are “suijakushin 垂迹神 or suijaku kami. Kami were understood as the local Japanese manifestations (suijaku) of eternal Buddhist figures (honjibutsu).

Most of the provenance records for these statues, now scattered across various museums in the United States, Japan, Canada, and the United Kingdom most of the provenance records have been considered (less so for those in Japan) and it is likely that research in the Mayuyama Co., Tokyo archives or further discussions with dealers and museums in Japan will provide further provenance information. If so, it will tell us more about their acquisition history, but not their iconography, alas. At the same time, discussions about icons that were moved, sold, stolen, or traded after the forced separation of shrine and temple and the destruction of their “goods” and prohibition of certain “rituals” is a very sensitive topic, especially when it comes to the current trustees for these materials.

The group may well may have included more deity statues. In the present study we have been concerned primarily with the material used to make the shinzō under discussion — namely, wood — and with sharing the results of scientific study and its possible implications for shinzō scholarship. It would be exciting to be able to prove that this group was created for a particular donor or for a specific purpose — or even that the group is complete at eighteen. For the time being, we look forward to further collaborations among ourselves and others.

Reference List


46 Sekiguchi, Masayuki, “Suijakuga Nihon no bijutsu no. 274.”

SPRING 2022 JOURNAL OF ASIAN HUMANITIES AT KYUSHU UNIVERSITY 141
十世紀の彫刻

Itō Shirō. "Jūseiki no chōkoku" Nihon no 木と文化財

Itō Shirō. "Matsuo Taisha no shinkage" "Ki no kōkogaku,

Itō Shirō and Akagawa Kazuhiro. "Shinzō chōkoku jūyō" "Shinto: A History"

Itō Shirō and Y ahiro Izumi. "Shinzō chōkoku jūyō" "Shintō bijutsu no kenkyū" "Heian jidai kōki no chōkoku shinkō to bi no 木の考古学"


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<tr>
<th>Fig. #</th>
<th>Access. #</th>
<th>Deity group (created by Itō Shirō)</th>
<th>Statue description / name</th>
<th>Country, owner, &amp; object provenance information</th>
<th>Medium, Source (if not owner)</th>
<th>Dimensions</th>
<th>Date (source)</th>
<th>Notes, additional provenance information, and sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1952.228</td>
<td>Male deity (shusaijin 主祭人)</td>
<td>Male deity statue (Danshinzō 男神像)</td>
<td>Current designation by owner unknown</td>
<td>&quot;Possibly Japanese bigleaf magnolia (fūkuj)</td>
<td>H ca. 99.9 cm</td>
<td>12th c. (?)(Shinzō shinki zuroku)</td>
<td>1930, pl. 8</td>
</tr>
<tr>
<td>3</td>
<td>1954.573</td>
<td>Female Shinto deity (Tenbugyō joshinzō 天部形女神像)</td>
<td>Deva-like female statue (Joshinzō 女神像)</td>
<td></td>
<td></td>
<td>H 100 cm</td>
<td>1000s, Heian period (museum)</td>
<td>Mayuyama 1966, p. 24, pl. 48</td>
</tr>
<tr>
<td>4</td>
<td>L.2012.3.3</td>
<td>Female Shinto deity (Tenbugyō joshinzō 天部形女神像)</td>
<td>Female Shinto deity</td>
<td></td>
<td></td>
<td>H 97.8 cm</td>
<td>1000–1200 (museum)</td>
<td><a href="https://www.metmuseum.org/art/collection/search/76086">https://www.metmuseum.org/art/collection/search/76086</a></td>
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<tr>
<td>5</td>
<td>1952.228</td>
<td>Female Shinto deity (Tenbugyō joshinzō 天部形女神像)</td>
<td>Female Shinto deity</td>
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<td></td>
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<tr>
<td>6</td>
<td>2002.22</td>
<td>Female Shinto deity (Tenbugyō joshinzō 天部形女神像)</td>
<td>Female Shinto deity</td>
<td></td>
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</tbody>
</table>

**Notes:**
- Modern equivalents for the traditional measurements of shaku 尺 and sun 寸 are 30.30 cm and 3.03 cm respectively.
- The precise equivalents in 1930 (date of source) were not researched.
- Carbon-14 dating was performed by Paleo Labo Co., Ltd., Toda City, Saitama Prefecture, Japan, unless otherwise indicated.

**Provenance:**
<table>
<thead>
<tr>
<th>Fig.</th>
<th>Access.</th>
<th>Deity group</th>
<th>Statue description / name</th>
<th>Statue name used by museum or owner</th>
<th>Country, owner, &amp; object provenance information</th>
<th>Medium, Source (if not owner)</th>
<th>Dimensions</th>
<th>Date (source)</th>
<th>Notes, additional provenance information, and sources</th>
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</thead>
<tbody>
<tr>
<td>7</td>
<td>B65278</td>
<td>Major deity</td>
<td>Female Shinto spirit</td>
<td>USA. Asian Art Museum of San Francisco. Gift of Mrs. Herbert Fleishhacker. Statue transferred to this Museum from the Fine Arts Museums of San Francisco in 1969. Donated to the latter in 1948. History prior to 1948 unknown.</td>
<td>Wood with traces of pigment</td>
<td>H 97 cm  W 21.6 cm  D 12.1 cm</td>
<td>1100–1200</td>
<td>(museum)</td>
<td><a href="http://searchcollection.asianart.org/view/objects/asitem/19409/0?t:state:flow=737b23c4-3ffd-46cc-a95a-4a927b0ed50">http://searchcollection.asianart.org/view/objects/asitem/19409/0?t:state:flow=737b23c4-3ffd-46cc-a95a-4a927b0ed50</a></td>
</tr>
<tr>
<td>8</td>
<td>1146</td>
<td>Major deity</td>
<td>Female Shinto spirit</td>
<td>USA. Asian Art Museum of San Francisco. Gift of Mrs. Herbert Fleishhacker. Statue transferred to this Museum from the Fine Arts Museums of San Francisco in 1969. Donated to the latter in 1948. History prior to 1948 unknown.</td>
<td>Prunus sp. with white plaster and faint traces of polychromy</td>
<td>H 94 cm  W 21.6 cm  D 12.1 cm</td>
<td>960–1040</td>
<td>(Carbon-14 dating, +/- 50–100 years)</td>
<td>(10th–11th c.)</td>
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</tbody>
</table>

| 14    | 1964–3210.1| Attendant/ follower (jūsha 従者) | Male Shinto deity | USA. Honolulu Museum of Art, Gift of Mr. Robert Allerton, in honor of the fiftieth Wedding Anniversary of Mr. & Mrs. Theodore A. Cooke | Magnolia (Magnoliaceae, Jp. mokuren-zoku 木蓮属) | H 99.7 cm | 988–1026 (Carbon-14 dating, +/- 50–100 years) | museum | 12th c. | Provenance: museum has only the credit line Shimizu 1979 (1), p. 111


| 17    |          | Attendant/ follower (jūsha 従者) | Standing statue with monk attributes (僧形立像) | Japan. Tokyo National Museum 東京国立博物館, Gift of Mr. & Mrs. Theodore A. Cooke | Birch wood (museum) | H 95 cm | 12th c. (museum) | 12th c. | No scientific testing has been done. Birch unlikely (authors) | https://images.dnpart.com.jp/ia/search?filterText=TUA000242

| 18    |          | Attendant/ follower (jūsha 従者) | A large standing figure of a Shinto deity | USA (New Orleans). Gitter-Yelen Collection, Formerly Howard Hoelsa collection. | Magnolia (Magnoliaceae, Jp. mokuren-zoku 木蓮属) | H 101 cm | Late 10th c., Carbon-14 (not by Paleo Labs) (museum) | 10th–11th c. | Carbon-14 dating was performed by Paleo Labs Co., Ltd., Toya City, Saga Prefecture, Japan, unless otherwise indicated | https://www.bonhams.com/auctions/23784?categoryId=last

**KEY: RISH: Research Institute for Sustainable Humanosphere, Kyoto University, Japan
PG: Peter Gasson, Jodrell Laboratory, Royal Botanic Gardens, Kew, UK
*Modern equivalents for the traditional measurements of shaku 尺 and sun 寸 are 30.30 cm and 3.03 cm respectively.
The precise equivalents in 1930 (date of source) were not researched.
*Carbon-14 dating was performed by Paleo Labs Co., Ltd., Toya City, Saga Prefecture, Japan, unless otherwise indicated
Figure 1. Private collection, 12th c., Magnolia obovata (unconfirmed).

Figure 2. Private collection, 12th c., Magnolia obovata (unconfirmed).

Figure 3. Royal Ontario Museum, 957.228. Ca. 1079-1155, Magnolia sp.

Figure 4. Art Institute of Chicago, 2002.22. 11th–early 12th c., Magnolia sp.
Figure 5. Cleveland Museum of Art, 1954.373. 1100s, Magnolia sp.

Figure 6. The Metropolitan Museum of Art, L.2012.3.3. 1000-1200, Magnolia sp.

Figure 7. Asian Art Museum of San Francisco, B69S36. 1100-1200, Magnolia sp.

Figure 8. Sainsbury Centre, 1146. Ca. 960-1040, Prunus sp.
Figure 9. Honolulu Museum of Art, 1964-3311.1a-b. 12th c., Magnolia sp.

Figure 10. Philadelphia Museum of Art, 1965-25-1a, b. 11-12th c., Magnolia sp.

Figure 11. Princeton University Art Museum, 2006.84. 12th c., Castanea crenata.

Figure 12. Honolulu Museum of Art, 1960-2788.1. 12th c., Magnolia sp.
Figure 13. Art Institute of Chicago, 1957.242. 11th–early 12th c., *Magnolia* sp.


Figure 15. Tokyo National Museum, 12th c. (?), wood.

Figure 16. Tokyo National Museum, Coll. No.C-1113. 12th c., wood.
Figure 17. Tokyo University of the Arts, Coll. TUA000242 # 338. 12th c., wood.

Figure 18. Gitter-Yelen Collection. Late 10th c., Magnolia sp.

Figure 19. Image created using current dendrometric information for statue designated as fig. 6, allowing the repositioning of the statue in the original quartered log in longitudinal and transverse planes. CAD image by C. Lavier, Centre de recherche et de restauration des musées de France (C2RMF). The underside of the statue (photo right) shows that it must have come from a quarter of a log of about 45 cm diameter and (photo left) one meter high. Photographs by C. Lavier, with permission. Statue: Private collection, on loan to The Metropolitan Museum of Art, New York (L.2012.3.3), with permission.
Figure 20. Microstructure of *Magnolia* sp. or mokuren-zoku, by observation under the microscope (Olympus BX51, Japan). Left, transverse section; center, radial section; right, tangential section. Test on sample from fig. 12. Photograph by Tazuru Suyako.

Figure 21. Pseudo-sections constructed from the datasets obtained through the synchrotron X-ray (SRX-ray) experiment at SPring-8 (Harima, Hyogo Prefecture) of *Magnolia* sp. or mokuren-zoku. Left, transverse section; center, tangential section; right, radial section. Test on sample from fig. 9. Photograph by Tazuru Suyako. Note: Micrographs of the deity statues will be available in the future in the RISH database.
Figure 22. Scene of the experiment at Beamline20XU, SPring-8. A tiny wood sample (0.5 mm x 0.5 mm x 7 mm) was fixed on the sample holder and a total of 1,800 transmitted images were recorded on a high resolution camera. Photograph by Tazuru Suyako.

Figure 23. Magnolia tree in bloom in the Kyoto Imperial Palace (Kyōto Gosho 京都御所). Kyoto, March 25, 2022. Photo by Judith Clancy, with permission.