

@ 2021 Department of Japanese Studies Vol.1, No.1, January 2022 Inaugural Issue, pp. 333-356 ISSN:2789-3014 http://doi.org/10.55156/jjsem.dec2118

'Takaukibori' Technique in Makuzu Kôzan's Ceramic Art: Transformation of Traditional Japanese Aesthetics of Meiji Era

Dilruba Sharmin*

Abstract - This paper examines the transformation of pottery art during Meiji Japan by discussing a unique technique called 'Takaukibori' created by Makuzu Kôzan, an official potter of the Japanese Imperial householdAgency. The ceramic art of the Meiji era was the turning point of Japanese individualism, and this paper will discuss one of the examples of that creation with other classifications. Makuzu Kôzan was a Kyoto native who started his early career in the Gion area but soon moved to Yokohama. In 1876, he broke into the international scene when his work was featured at the Philadelphia world's fair. Makuzu's move from Kyoto to Yokohama—from the tranquillity of the old capital to a turbulent port city—shaped his approach to ceramics. Makuzu decorated the surface of his artwork with depictions of both natural flora and fauna and therianthropic figures in a way quite different from any previously produced works of Japanese art. He had created the unique and artistic technique in a ceramic decorative style known as 'Takaukibori' or 'Sculptural Relief'. This decorative technique is visible as a three-dimension style, and its intangible beauty has gained popularity worldwide. That being the case, Makuzu's work never imitated Western models, and he has been most appreciated for his willingness to burrow into the surface of his ceramic ware, not just work around it. This essay will discuss how Makuzu Kôzan's experiences across the Meiji transition shaped his art and how his work influenced unique forms of Japanese ceramic art and aesthetics more broadly.

Keywords Ceramic art · Japan · Meiji · Taisho · Makuzu Kôzan · Yokohama port, and Kyoto · 'Takaukibori' Technique · Cultural heritage ·

1. Introduction

Japan's ceramic art originated from the prehistoric Jomon period and continuously upgraded with the influence of neighbouring countries and the

^{*} Assistant Professor, Department of Japanese Studies, University of Dhaka, Dhaka, Bangladesh. Email:dsharmin.jsc@du.ac.bd

quality of Japanese potters' individualism. Understanding any Japanese specialised ceramic genre about the Japanese pottery generation and traditional ceramics is no easy task.

With the advent of the classical period, Japan entered a new era of pottery art called the glazed technique, and numerous excellent styles have been invented. In medieval times, Japan saw the multi-technique in pottery production with the development in kiln technology. By the twelfth century, several pottery streams had sprung up in Japan associated with specific areas or soils with significant characteristics. Sometimes it was affiliated with a family name or person. There is main six pottery traditions in Mediaeval Japan; Bizen (present-day Okayama prefecture), Seto (Aichi), Shigaraki (Shiga), Tamba (Hyogo), Echizen (Fukui), Tokoname (Aichi). These six traditions are known as 'Rokkouyo' and are famous in the 12th century. The names of a few other genres are also known as Karatsu (present-day Saga), Hagi (Yamaguchi), Iga (Mie), Mino (Gifu), and Kyo-yaki (Kyoto). Kyo-yaki has been influenced the lifestyle of Kyoto-people from the Edo period to till present.² Besides these, the Gifu region was also presented some other pottery traditions, named 'Shino', 'Oribe', Setoguro', and 'Ki-seto'. Each classical and medieval Japanese ceramic style has its unique qualities and characteristics appearances. The birth of the overglaze technique in Japan was made in the middle Edo period and continuously developed with many new kilns. The end of the isolationist policy or 'Shakoku' (closed country) in 1853³ and the restoration of imperial rule in 1868 marked the official beginning of the modern Japanese era. 4 By the end of the 1860s, rapid modernisation, the 'civilisation and enlightenment policies' of the Meiji authority, and the samurai class and feudalism abolishing the modern economic system and open exchange with Western nations affected the traditional system of ceramic production.⁵ The 'opening' of Japan, triggered by American Commodore Mathew C. Perry in 1854, initiated the rapid industrialisation that transformed Japan in the subsequent decades. Specifically, Perry's arrival in Japan and the signing of the Kanagawa Treaty in 1854 aided in the reversal of the previous Edo period's (1603-1868) policy of isolationism from foreign trade relations.⁶ Naturally, patronage from the

¹ Faulkner, R. (1995). *Japanese studio crafts: tradition and the avant-garde*. University of Pennsylvania Press, 23.

² Matsuo, A. (2014). Suzuki Osamu, Sodeisha and ceramic identity in modern Japan. Ceramics Art and Perception, 3-7.

³ Piquero-Ballescas, M. R. (2017). Book Review: Reluctant Intimacies: Japanese Eldercare in Indonesian Hands. DOI: 10.1111/imre.12367

⁴ Sims, R. (2019). *Japanese Political History Since the Meiji Restoration*, 1868-2000. Springer, 10-13.

⁵ Huffman, J. L. (2010). Japan and imperialism, 1853-1945. Association for Asian Studies, Incorporated.7-9, 12-13.

⁶ Ibid, 7-9

daimyo class ceased, and a new foreign market demanded Japanese ceramic wares. Afterwards, numerous decorative styles and production techniques were introduced in the Meiji era, and the Japanese ceramic industry gradually gained popularity inside and outside of Japan.

This research explores the changing aptitude in Japanese ceramics with the work of Makuzu Kôzan (1842-1916), more specifically, how Japanese ceramic art represents a reinterpretation of tradition and modernity in the Meiji and Taisho era, that will be discussed. Moreover, in this aspect, a unique technique called 'Takaukibori' will be examined on the view of Kôzan's supremacy. The present research work has been divided into six major sections. The first to third sections would deal with the introductory information, objectives, and literature review for the research. The fourth section will discuss the informational background of Makuzu Kôzan, his family, early career, and his idea development. The fifth and sixth sections will analyse the development that characterises the transformations of the Kôzan's ceramic arts from the early- Meiji period until the turn of the century. The central component of Kôzan's work in contemporary design will be analysed with examples in segment seven. Kôzan's work will discuss the point of individualism, which represents the transitional characteristics of the Meiji period in this part of the paper. A conclusion remarks will present as a final part of the last section. The artwork of Makuzu Kôzan represents the distinctiveness of medieval Japan's ceramics technique as a whole, and this paper will discuss his individualistic creation with the analysis of a featured technique called 'Takaukibori'.

Makuzu Kôzan's family name was Miyagawa Toranosuke. He was born in a potter's family in 1842 when Japan was ruled by Tokugawa/ Edo authority (1868-1912). Soon after, the country saw the 'Meiji Restoration' or 'Reform of Meiji era', which played a significant role in the modernisation of Japan. The Meiji era was critical in Japanese history for political and social reform. It is the era of great innovation in technology and design, as Japan has started to absorb new knowledge from the West and review its traditional values. It was the time to establish numerous museums, art galleries, private exhibitions, and much prefectural art and craft exposition. All in all, it is the period of Japan's final passage for uplifting its own status.

Kôzan's work provides insight into the development of the ceramic arts in Japan as they transformed from domestic tea wares to export wares and, ultimately, the objects of modern artistic expression and creativity. He had appointed as an artist to the Japanese Imperial householdfrom 30 June 1896 till his death on 24 May 1916. Imperial Household Agency of Japan has officially appointed great artists known as 'Imperial Household Artist' or 'Teishitsu Gigei-in' in Japanese. This prestigious appointment was first started in 1890 when Japan was under Meiji rule and was discontinued to the end of World War II. Great artists are still designated s'Living

National Treasure' in Japan. Kôzanwas one of the outstanding potters of the Meiji Era. His early career was nourished with the long line history of Kyoto ceramics and, at that time, high-fired ceramics and porcelain wares produced in Kyoto. The Kyoto ceramic style originated in the 17th century and was typically painted with overglaze enamel pigments. Kyoto ware is still famous for its colourful decorated ceramics today. Kôzan always wanted to introduce a new design or style, and finally, he successfully established the Japanese ceramic artwork with the same height as Western ceramics or more than that.

2. Objectives

The objective of this study will produce concrete data of Makuzu Kôzan's artwork, significantly how his experiences shaped Japanese art into a new dimension with more aesthetic aspects. The research question is discussed in two specific objectives, which are as follows:

First, what motivation inspired Kôzan to create his nature-based high relief '*Takaukibori*' technique? Kôzan's background, family, childhood education, early career, and establishment in a new city 'Yokohama' will be discussed as a background.

Second, is Kôzan's artwork, especially the '*Takaukibori*' technique, imitated from western style or an original creation? As Japan was changed in political vision and mission after the Meiji restoration and many aspects of western culture were shaped the Japanese new concept in that era, the influence of western artwork in Kôzan's creation should be discussed in detail. Undoubtedly, his art style is a valuable resource for pre-modern Japan, which has brought Japan to the forefront of aesthetics.

Kôzan's artwork is not only esteemed for Japan, and it is a milestone of ceramic decoration of the pre-modern world where the surrounding natural features were noticeable instead of abstract-only symbols.

3. Literature review

In order to accomplish the objectives of this paper and produce a conclusive perception, data was collected from other past works, including books, Book Reviews, and reports from some renowned Museums. The two very informative sources for this research are two books: (a) 'Master Potter of Meiji Japan: Makuzu Kôzan (1842-1916) and His Workshop' written by Moyra Clare Pollard, who is Curator of Japanese Art at the Ashmolean Museum and an associate member of the Faculty of Oriental Studies, (b) bridging East and West: Japanese Ceramics from the Kôzan Studio: Selections from the Perry Foundation, written by Emerson-Dell, K. in 1994. She is a prominent art historian and a museum

specialist. To understand Kôzan's ceramic style and decoration technique, both sources are very informative and historical data providers. Clare Pollard and Emerson-Dell highlighted the technical aspects of Kôzan's artwork and its tremendous impact on the Japanese Ceramic Industry. In both writings, Kôzan's career history and achievements were delicately discussed.

In the same way, this research is primarily based on Kôzan's aesthetic art-works discussion and latterly classified those into six categories. It is significant to classify an artist work for further understanding, especially an artist like Makuzu Kôzan, but similarly, it is imperative to know his work individually. Mainly, the '*Takaukibori*' technique should be analysed to perceive his creation deeply. This research will provide an opportunity to learn more about Kozan's art style and to facilitate research by categorising his impeccable creations.

4. Background of Kôzan's ceramic work

4.1 Kôzan's family background and early life

The Makuzu line potters perhaps came from a long line of potter's genre who had their kiln at *Makuzogahara* in Kyoto from the late 18th century. Makuzu Kôzan was the fourth son of a Kyoto potter named Miyagawa Chozo (1797-1860) and an eleventh-generation potter in the Miyagawa lineage.⁷ He was born in Makuzugahara, a village of Kyoto, and Kyoto was the ancient capital of Japan and still attracted by travellers for its natural and heavenly beauty. His father was also an expert potter of Kyoto who learned the skills of pottery production from Aoki Mokubei (a celebrated potter-literatus, 1767-1833) and was exceptionally competent at making Ninsei-style tea-ware.⁸ Who was Ninsei, or why did Mokubei follow his style? The ceramic ware of Nonomura Ninsei is known as the turning point of the Kyoto ware in the mid-17th century. He is granted the 'father of Kyo-yaki' or Kyoto pottery and mentors for numerous future ceramic artworks in Japan.

Chozo opened a new kiln in Makuzugahara at Higashiyama in Kyoto after completing his apprentice period from Mokubei. He produced Chinese and Japanese stoneware and porcelain associated with sencha-style tea wares. Yasuino-Monzeki, a well-known retired priest of the Shingon Buddhist sect, gives this artistic name 'Makuzu' to Chozo and later, the pottery was known as 'Makuzu ware'. ⁹ The record of this potter's family is very confused. It is said that the first

⁷ Tamaki, B. W. (2003). Master Potter of Meiji Japan: Makuzu Kôzan (1842–1916) and his Workshop, *Journal of Design History*, Volume 16, Issue 4, Pp. 349–351,

⁸ https://www.suntory.com/sma/exhibition/2016 1/display.html

⁹ https://research.britishmuseum.org

original potter of this genre was a Samurai and was born in Kyoto in 1797 and probably named 'Yukansai'. His grandson 'Chokansai' was established a kiln near the compound of Chion-in temple located at Higashiyama-Ku in Kyoto.¹⁰

Chozo's son Miyagawa Toranosuke (latterly Makuzu Kôzan), studied pottery techniques from the early stage of his childhood with the supervision of an expert Japanese artist Taiga IV who worked at a local Japanese painting school. This type of school was starting to establish in the late Edo period, and the type was known as 'Bunjinga'. Why did Chozo take Taiga IV as a teacher of his son? Taiga IV was the eldest son of Geppô, who came probably from Samurai descent and later became a priest of the Tendai Buddhist sect. From a young age, Geppô was studied with Ike Taiga, a good painter in the Ike no Taiga (1723-1776) potter's genre and famous in the Edo period for painting and calligraphy. If Geppô's son Taiga IV was appreciated as an educator and mentor. At just nine years old, Kôzan began his artistic endeavours, which later influenced the impeccable decoration of his ceramics.

In their early career, Kôzan had made tea wares and devoted them to painting, poetry and ancient traditional Japanese and Chinese ceramic study. In 1860, Kôzan had to take the family business early because his father and brother had been no longer alive. Tea utensils were his starting point. The popularity of the tea-ceremony or '*Cha-no-yu*' was increased in the early Edo period, and tea-ware production was increased. Before this time, daimyo was paid for exquisite imported Chinese lacquer-ware to enhance the lavishness of tea ceremony activities. As tea culture tastes shifted in the 16th century, the Japanese elite began to enjoy simpler, austere works known as 'Rakuware', associated with poetry.

In the late 1860s, Kôzan got many reasonable teaching offers from renowned ceramic artists; one from Igi Nagato of Igi family, a chief retainer of Bizen domain located in Okayama prefecture to help continue his private practice kiln at Mushiage, which Makuzu Kôzan accepted in 1867. Igi Nagato was not only a ceramic artist; he was the chief mentor of the Okayama Han or domain (estate of a daimyo/ feudal lord) and tea ceremony master. Makuzu Kôzan started to work at Mushiage, located in Setouchi city in Southern Okayama and worked there for two years. At that time, he primarily produced 'matcha-yaki' or green tea-wares in both porcelain and stoneware. He used two kinds of stoneware clay at Mushiage; a soft pale red clay and hard grey-white clay.¹³

¹⁰ Gorham, H. H. (2012). Japanese & oriental ceramic. Tuttle Publishing.

¹¹ Beerens, A. (2006). Friends, acquaintances, pupils and patrons: Japanese intellectual life in the late eighteenth century: A prosopographical approach (p. 320). Leiden University Press, pp-61.

 $^{12 \}quad https://www.suntory.com/sma/exhibition/2016_1/display.html$

¹³ Pollard, M. C. (2002). *Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop.* Oxford University Press, USA.

His Mushiage artwork closely resembled his father, Chozo's *Makuzugahara* artutensils. He is thought to have returned to Kyoto in 1870 and soon after invited by a Satsuma domain elder, Komatsu Tatewaki, to renew the kilns in *Naeshirogawa* near Kagoshima in Kyushu.¹⁴

4.2 Establishment of ceramic workshopand winning prizes

Makuzu Kôzan was shifted to by the invitation of a Tokyo merchant named Umeda Hannosuke, Yokohama was interested in exporting Satsuma ware. At that time, Yokohama was a place that would quickly emerge as the centre of Japanese trade with Europe and America. 15 At the age of twenty-nine, Kôzan established a kiln in Yokohama in 1870 and Umeda's brother-in-law, Suzuki Yasubei, helped a lot in this establishment. He provided economic support for the kiln structure. Kôzan had to deal with some problems; one is suitable soil for pottery, and the other is suitable workers. To solve the worker problem, he brought four apprentices from Kyoto in 1872. However, gradually Kôzan had recruited many local people to expand his workshop. At that time, there was no kiln in Yokohama and no mentionable ceramic tradition. A new generation of ceramic and decoration techniques in Yokohama by Kôzan's mentorship. Unfortunately, their kiln caught fire and caused much damage in 1876. Kôzan later spent his own pocket money to bring everything back to workable and ended the partnership with Suzuki. Kôzan started his new kiln in the Nishiota area of Yokohama and took the name 'Ota'. The ceramic ware produced from "Ota' was known as 'Otaware'. At that time, famous Satsuma ware was encountered problems for export as antique. 16 During the Meiji Restoration, the old rules were considerably revised and at the same time, subsidies were being provided for the development of the pottery industry. Kôzan was one of the forefronts to mentor the industrial expansion policy, called 'Shokusan Kogyo' or 'Encouragement of new industries'.¹⁷ The contributors of 'Shokusan Kogyo' mainly were government officials and its adherents called 'Protectionists'. This new concept was the slogan for new industrial policy.¹⁸ In the following years, Kôzan continued to exhibit widely at international and domestic venues, and his work continued to garner prizes.¹⁹ The first international exhibition that Kôzan has participated in was the Vienna International Exposition of 1873, and then he attended the 'Philadelphia

Conant, E. P. (Ed.). (2006). Challenging past and present: the metamorphosis of nineteenth-century Japanese art. University of Hawaii Press.

¹⁵ https://www.jstor.org/stable/1316181

Pollard, M. C. (2002). Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop. Oxford University Press, USA. 20, 25, 93.

¹⁷ Ibid, pp. 20, 25, 93.

¹⁸ https://ci.nii.ac.jp/naid/110001212395/en#cit

¹⁹ http://kagedo.com/wordpress/g/makuzu-kozan-i-porcelain-hydrangea-vase/?

Centennial Exposition' in 1876.²⁰ This exhibition was celebrated the 100 years of American cultural and industrial progress and host to 37 nations and countless industrial exhibits occupying over 250 individual pavilions, in which one was by Kôzan.²¹ In 1877, he won the 'Ryûmon Imperial Award' at the 1st National Industrial Exposition, located in Uno in Tokyo city. This national exhibition was promoted by Toshimichi Okubo, the first minister of the Ministry of Home Affairs of Japan. The last and most serious armed uprising against the new Meiji government was called Seinan Civil War or the 'Satsuma Rebellion'. In 1882, Makuzu Kôzan formally made his adopted son Miyagawa Hannosuke (Hanzan, 1859–1940) head of the family business, though both continued to collaborate until the death of the Kôzan in 1916. Hannosuke was known as Makuzu Kôzan II and possessed unique ceramic production. Hannosuke's father was Chohei, an inheritor to the house and Kôzan's first cousin. Chohei died shortly after Kôzan's father (Chozo). Then Makuzu Kôzan was thought to marry Chohei's widow and adopted Hannosuke as their son.²² It seems that he was a celebrity potter, a family man, and cordial hearted person. The beauty of his mind is reflected in his work. Kôzan's artwork won a gold medal at the 'Paris Exposition Universelle' to use an exceptional transmutation glaze in 1889. After four years, a pair of elaborate stoneware vases won an 'Honorary Gold Medal' in Chicago's 'Columbian Exposition (1893).²³ In the Paris Exposition in 1900, Kôzan was again nominated for grand Prix winner, though Japanese ceramics did not achieve fair comments as a whole.²⁴ Makuzu Kôzan became an Imperial artist (*Teishitsu Gigeiin*) in 1896, and in the later years, he was awarded prizes at both home and international exhibitions. The Kyoto potter Makuzo Kôzan, a true nature lover and art creator, had started winning high recognition in the artist world.²⁵ Makuzu's Yokohama business was lost by bombing in the wartime of 1945.

Hisako Sakamoto. (2011). Philadelphia World Exposition and Makatsuyaki. In Japan Design Society Research Presentation Conference Summary Collection Japan Design Society 58th Research Presentation Conference (pp. 58-58). Japan Design Society.

https://glenngleason.typepad.com/life_work_and_the_pursuit/2009/01/centennial-exhibition-of-1876-excellence-at-its-finest.html

Hagen, L. M. (2012). Exemplifying the Modern Spirit: Japanization and Modernization in the Ceramic Art of Miyagawa Kozan (1842-1916), Shirayamadani Kitaro (1865-1948), and Itaya Hazan (1872-1963) [Master's thesis, University of Cincinnati]. OhioLINK Electronic Theses and Dissertations Center. http://rave.ohiolink.edu/etdc/view?acc num=ucin1337717171

Peleggi, M. (2002). Lords of Things: The Fashioning of the Siamese Monarchy's Modern Image. Honolulu: University of Hawaii Press. https://doi.org/10.1515/9780824863388

Jennifer Harris, 2012, The Formation of the Japanese Art Collection at the Art Gallery of South Australia 1904-1940: Tangible Evidence of Bunmei Kaika, Volume 1, an unpublished Thesis. University of Adelaide.

²⁵ https://research.britishmuseum.org/

On the other hand, Kôzan's Kyoto business was continued by an employee of Chozo, Zen-o Jihei Kosai (1846–1922). He took the name Miyagawa Kosai and continued making the traditional tea utensils. Through many sacrifices, the family survives and continues to make traditional ceramics.

5. Kôzan's aesthetic ceramic work: Early, mid and late development

During the Tokugawa period (1600-1868), the ceramic industry benefited from the greatly increased consumer market, which resulted from the stable social condition of the Tokugawa regime. Feudal lords in many Buddhist temples and a growing number of affluent merchants provided patronage for kilns during the Tokugawa period. Decorated and colourful tea wares became popular within feudal lords and the newly developed wealthy merchant class. This class practised 'tea ceremony', a process of drinking tea.

The late 17th century saw the development of Kyo-yaki-over glazed enamelled earthenware of Kyoto. At this time of the Japanese ceramic era, exclusive ceramic art specialists gained fame; for example, Nonomura Ninsei, Ogata Kenzan, one century later, Okuda Eisen (1753-1811), Aoki Mokubei (1767-1833). The ceramic artwork of these centuries was heavily influenced by Chinese porcelain. Also, porcelain export trade from Arita (a porcelain production place in Saga prefecture) faced competition with Chinese porcelain in the late 17th and European porcelains in the mid-18th century. So, under pressure to survive in the domestic market and handle overseas, many potters were trialling for new items. Many artworks and artists came under threat with the increasing westernisation during the Meiji era (1868-1912). In that time, daimyo or the local lord of the inhabitants, gradually broke away, and many famous artists lost their source of income. Satsuma ware was the leading item for trade to the West. We know that the Meiji period promoted industrialisation, and the slogan was 'enriching the nation and strengthening the army' (fukoku kyohei). At that time, the government strongly encouraged manufacturing industry and international commerce so that Japan could protect Western domination and protect its independence and win equality with the leading nations of the West.

In the early Meiji period, most court nobles had left Kyoto because of the relocation of the capital from Kyoto to Tokyo. Also, the anti-Buddhist movement that forced temples and shrines to fall into decline was a dominant factor for their shifting. Potteries began turning to foreign countries to promote Awata ware for new markets. Many artworks by renowned Japanese potters can still be found in foreign private and museum collections.

Following the family tradition, Kôzan started his early career with the conventional tea-ceremony utensils, and tableware isboth at the 'Chion' in the

temple at Kyoto and the private provincial kiln in Mushiage in Bizen. In 1852, there was a total of thirteen active potter's families active in the Kiyomizu-Gojozaka area of Kyoto; there was a sudden fall in demand for Kyoto ceramics, and within only twenty years, the number of potter's families had fallen to a mere six. ²⁶ Market condition for Ceramic business certainly reflected the thought of Makuzu Kôzan to shift from Kyoto to Yokohama; also seems to have been released partly from the family financial problem that was emerging after the death of his father and brother. In 1871, he left the family business to establish his ceramic kiln in Yokohama's treaty port.

In Yokohama, Kôzan manufactured export quality stoneware, which was stylistically known as Satsuma ware and originated in the late 16th century. The Satsuma ware was initially prepared by Korean potters who came to Japan as war prisoners by the Satsuma daimyo, Yoshihiro, in around 1589.²⁷ All ceramics produced in the Satsuma domain in Kyushu was called Satsuma ware. Makuzo focused on the Satsuma-style stoneware, one of the western collectors' favourite items, characterised by a white clay body with a cream-coloured look, crackled glaze decoration with overglaze enamels, and gold designs (Nishikide) of flowers, birds, landscapes and figural scenes.²⁸ The Satsuma produced by Makuzu gained colossal popularity and was manufactured for both export and domestic market. He played a part in the grand 'old Satsuma' design of the early 1870s as many western commentators described him as a counterfeiter of 'old Satsuma'. Art historian John Clark suggested that cross-assimilation and cultural exchanges played a considerable role in reassessing and interpreting Japanese art and discourses.²⁹ In the mid-1870s, Kôzan developed an elaborate style of stoneware characterised by high-relief figures of birds, plants, animals, insects with extraordinary details. Kôzan's hometown Kyoto and its natural environment was influenced his artwork.

Makuzo's inspiration for inventing a new technique was necessary for that period because 'kinrande' decoration used in Satsuma ware and was a popular ceramic item at overseas trade was an imitated one. 'Kinrande' means 'gold brocade', and this porcelain style originated in the Song dynasty (960-1279 AD) and was very popular in China during the Ming dynasty (1368-1644 AD). At that time, Western demand for Satsuma ware faded, and Kôzan tried to follow the West's Late-

Pollard, M. C. (2002). Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop. Oxford University Press, USA.

²⁶ Nakanodo, K. (1984). Kyoto no yogeishi. Kyoto: Tankosha. 103.

Conant, E. (2006). Challenging Past and Present: The Metamorphosis of Nineteenth-Century Japanese Art. Honolulu: University of Hawaii Press. https://doi.org/10.1515/9780824840594

²⁹ Clark, J. (1995). Yôga in Japan: Model or Exception? Modernity in Japanese art 1850s-1940s: an international comparison. *Art History*, 18(2), 253-285.

Victorian vogue for the ornamentation and the bizarre or unusual decorative inventions.

Makuzu Kôzan began experiments on various types of glazes and underglaze techniques, emulating Chinese Qing porcelain since around the 1880s. He produced diverse glaze decorative wares, including underglaze blue, underglaze red, celadon glaze, *yohen* glaze and crystal glaze. Gradually Makuzu kiln started to produce porcelain rather than other clay works. Kôzan was a creator as well as a researcher in his field as he devoted himself to advent new techniques in ceramics after handing over the management of his kiln to the son-in-law and heir Hannosuke in 1882, who has been introduced afterwards as the name of Miyagawa Kôzan II (1859-1940).

Kôzan's under-glaze decorative wares were also highly prized at the Paris World Exposition in 1889, the World's Columbian Exposition in 1893 and many other similar events held domestically and overseas. Usually, under-glaze decoration uses pigments rich in oxide and fuse with the glaze when the object is fired in a high-fired kiln. Using this type of oxide, the ceramic surface possesses a different and more beautiful surface after firing. More accurately said, under-glaze is a decoration process in which painted decoration is applied to the object's surface before it is covered with a transparent ceramic glaze and fired in a kiln. Kôzan's ceramic kiln initially produced the brightly enamelled and gilded Satsuma-style stoneware, which was popular in the West at that period. His style includes delicate tea sets and gourd-shaped vases decorated with feathery pine trees and peonies.

Kôzan's new aesthetic style took place in the form of sleek porcelain vessels by the late 1880s, for which he is now best known as a ceramic's artist. His new accomplishments help him get a prestigious post by the then government. In 1896, Kôzan was appointed as the 'Artist of Imperial Household', making him the leading authority on the Japanese ceramic's world. Through his official involvement, Kôzan was still actively participated in the research of various decorative techniques. Makuzu Kôzan passed away on 20 May 1916, leaving behind his unique creations that remain a milestone in Japanese ceramics history.

6. Diversification of Kôzan's artwork

The fantastic artwork of Makuzu Kôzan can be divided into six significant styles based on shapes and unique techniques, representing the transformational change in ceramic decoration in the mid to late Meiji period. His aesthetic artwork was

³⁰ https://www.suntory.com/sma/exhibition/2016 1/display.html

expressed in numerous household objects used as Japanese utensils; Vase in different shapes and sizes; Tea Bowl; Pot in different shapes; Incense container, and Water Jar. Based on the technique and shape of the utensils, Kôzan's artwork could be divided primarily into following divisions:

- (A) Traditional tea utensils belong to the glazed technique: In their early career, Kôzan produced stoneware's of thinly potter tea bowls of various shapes, often closely resembling Chozo's Makuzugahara versions. Naturally, the father's work will influence his son. At that time, tea-ceremony was famous as a social ceremony and an aesthetic creation of individual artists. So, he was devoted to creating numerous utensils for tea ceremonies. Kôzan's other creation is *sencha* steeped-tea ceremonial utensils popular in the 'Bakumatsu' or the final years of the Edo period. Many tea bowls were made in traditional sets with fixed shapes and motifs based on themes such as the twelve months of the year or the five main annual festivals. These mainly were covered with pale greenly-yellow ash glaze, painted in iron-brown and over-glaze enamels.
- **(B)** *Kyusu* with foliage design: Another well-known technique of Kôzan's early artwork is a porcelain teapot or Kyusu with foliage design in 'sometsuke' underglaze blue and white style, dated in 1966.³¹ 'Kyusu' is a Japanese term for green tea drinking utensils. The typical shape for Kyusu has a handle on the side though it can have a handle over the top or on the back. Other stoneware items include incense boxes, tea caddies or *chairs*, and water containers, which strongly influence his father's artwork. However, the range of intricate decorative styles used by Kôzan was extensive, and he was locally renowned for his skill with complex glazes. Assistant Mori Koshu (1858-1921) called him 'kusuri no kamisama' or God of glazes.³²

An early-stage creation of Kôzan is a 'mizusashi' or 'water container' used in the tea ceremonies. This stoneware was decorated with the design of a goose against the moon. Now it is exhibited in the Kanagawa Prefectural Museum of Cultural History, Japan. Exploring the reasons for the success of Kozan's style of art, it can be seen that it was not only versatile but also had an awareness for an artistic look and aesthetic design.

(C) Traditional *Satsuma* style vase belongs to *nishikide* or brocade patterned technique: When Makuzu Kôzan shifted from Kyoto to Yokohama, the early focus of his Yokohama workshop was to produce Satsuma-style stoneware, which

³¹ Pollard, M. C. (2002). Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop. Oxford University Press, USA.

Pollard, M. C. (2002). Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop. Oxford University Press, USA,14.

is characterised by its white clay body and cream-coloured, crackled glaze decorated with over-glaze enamels and gold-designed flowers, birds, landscapes, and figural scene. What is Satsuma style? In the late 16th century, Korean potters established many kilns in the Satsuma province in Kagoshima prefecture. The aesthetic wares produced in Satsuma province were known as 'Satsuma ware'. Satsuma-ware was classified into two types; 'Hon Satusma' and Kyo-Satsuma. The ceramics produced in the Satsuma domain is known as 'Hon Satsuma'. On the other hand, the ceramics produced in Kyoto by the potters sent from Satsuma as part of cultural exchange are called Kyo-Satsuma.³³

Satsuma wares were among the earliest Japanese ceramics to attract overseas consideration once Japan emerged from Shakoku or isolation. During the Bakumatsu period, the ruler of Satsuma, the powerful Shimazu Daimyo, had gained political and economic autonomy to act independently. In 1867 were able to send a display of local artwork under their name to the Exposition Universelle held in Paris that year. Demands from a Western buyer for 'Satsuma ware' were soon forthcoming, and Satsuma workshops responded by increasing their production.³⁴ With the popularity rise, workshops in various parts of Japan began to produce Satsuma.

The style of gorgeous Satsuma ware, recognised worldwide, did not develop until the mid-19th century and soon caught on with collectors in Europe. As a result, lively export trade and tremendous production were started. Satsuma was hybrid porcelain because it fired at a lower temperature, less than 1200 degrees Celsius, but possessed a highly fired glass.

Around the 1870s, when Kôzan started a new workshop and embarked on a creative new technique, a high decoration of gold enamel over-glazing used on Satsuma ware, and called 'nishikide'. One example of Kôzan's 'nishikide' style artwork is shown in Figure 3, which is decorated with designs of warriors in over-glazed gold enamels. In this technique, production cost was high because of the use of gold. Ceramics of this genre gradually lost their popularity in the late nineteenth century. However, a class of artisans still retains an interest in Satsuma ceramics, and as a result, this genre continued to exist until the end of the twentieth century. Even today, Satsuma Ceramics is being produced in a limited way.

(D) Porcelain vase of *Takaukibori* **technique:** The sculptural relief artwork of Kôzan follows a technique known as '*takaukibori*', where he decorated the surface of the ware with real looking three-dimensional high-reliefs of animals.

³³ https://www.asahido.co.jp/en/knowledge/about kyoyaki kiyomizuyaki/

³⁴ Conant, E. P. (Ed.). (2006). Challenging past and present: the metamorphosis of nineteenth-century Japanese art. University of Hawaii Press.

He decorated ceramic artwork with various motifs - birds such as quails, hawks and pigeons; plants such as cherry blossoms, lotuses and grapes; animals including cats and bears; and even demons and personified frogs.³⁵ His creation, adorned with animals, birds, and other flora and fauna, was meticulously represented to produce the natural feeling.³⁶ Makuzu Kôzan was not only a ceramist; he created an excellent high-relief sculptured technique and decoration of Ceramic art.

One of his unique creations of this technique is a lidded porcelain bowl, which is aloft by a pair of demons and crowned by a hawk gripping a white dragon in its talons. The bowl itself contains surface decoration and possess similarities with Satsuma ware. This sculptured incense burner was dated as c. 1870-90 CE [Figure 4].

Another large Brown-glazed footed vase with crab sculptural relief, which Kôzan created in 1881, is an excellent example of his love for high relief work. The vase has featured a pair of lively crabs entangled near its lip. This vase is unique in its colour contrast and decoration style. Another example of Kôzan's relief sculptured vase is polar bears inside an icy cave [Figure 5].³⁷

Figure 6 shows two excellent examples of the Takaukibori Technique, where high relief sculptural birds and black bears are created with the natural environment and the flavour of Satsuma style gold enamelled surface. Here, the overall expression of figural creation belongs to expert knowledge and aesthetic ideology.

(E) Traditional under-glazed stoneware vase with *Nanban* (southern barbarian) style: In the Japanese ceramic study, '*nanban*' means to the unglazed pottery. This pottery style was introduced into Japan from the southern Asian parts of Indochina, Siam and the Philippines, and the southern parts of China and maybe from the Indian sub-continent.³⁸ The oldest known 'nanban pottery' in Japan arrived from foreign countries during the latter half of the 16th century. Some scholars suggested that this 'nanban' style was not from Southern Asia but instead in South China and arrived in Japan indirectly via these various countries. The true origin is uncertain. On the other hand, 'nanban' art refers to 16th and 17th century's Japanese art influenced by traders and missionaries from Europe and specifically from Portugal. The term 'nanban' is a Sino-Japanese word (in Chinese *Nanman*) that refers to the peoples of South Asia and Southeast Asia.³⁹

³⁵ https://www.suntory.com/sma/exhibition/2016 1/display.html

³⁶ Hidehiro Yoshida. (2012). Yokohama Makuzu Yaki that supported the opening of the country ~ Visit Miyagawa Kozan Makuzu Museum ~. Ceramics, 47 (2), 114-115.

³⁷ https://commons.wikimedia.org/wiki/File:BLW_Vase_in_the_form_of_Two_Polar_Bears_inside an Icy Cave.jpg

³⁸ http://www.yoyokaku.com/Nakazato.htm

Okamoto, Y. (1972). The namban art of Japan (Vol. 9). New York: Weatherhill/Heibonsha.

During the 'nanban trade period', 1543 CE, to the first Seclusion Edicts of 'isolationism' in 1614, the word took on a new meaning to designate the Portuguese. Portuguese first arrived in 1543 and later other Europeans. This 'nanban' term also refers to paintings Europeans brought to Japan. One example of Kôzan's Nanban style is an under-glazed stoneware vase with handles in the shape of shrimp or prawns, dated in 1916 CE; its height is 32 cm. This simple but elegant vase reminds us of the shape and colour of traditional Japanese earthen vessels, which were common during the Nara period to the Muromachi period. It especially reminds us of the Shigaraki Jar style.

(F) Stoneware vase with *Fuki-e* or the blow painting style:Known as one of the most creative ceramists, around the 1880s, Kôzan started experimenting with new chemical colours from the West in the format of his porcelain glaze. New colours allowed him to create an under-glaze design that appeared bright, smooth and glossy. He even invented his receipt of cobalt blue to achieve a much brighter yet softer shade, as an event on this vase. To create a landscape that is realistic and dimensional more common in the western painting, he was inspired by the native Japanese ink painting technique developed around 1900 by Yokoyama Taikan (1868-1958) and Hishidan Shunso (1874-1911) called *Morotai* (Hazy style) and used cobalt blue on the porcelain-like ink on paper. Kôzan developed another new technique called fuki-e, demanding and uniquely featured in the works of Kôzan studio. The vases are decorated in a full circle of the continuous landscape, which unconventionally climbed the shoulder to reach the mouth rim, another characteristic of the Kôzan's work. It was signed underneath in the artist's seal.

Kôzan's under-glazed blue, brown, and pink coloured painted style vases owned great fame to the world. For example, an under-glaze white and blue decorated vase may be created to the end of Makuzo's life circa 1910-1916. With a relatively large size, this vase is decorated with underglaze cobalt blue using the fuki-e technique (the blow painting) to achieve the striking dimensional misty winter landscape. The pine trees with upright trunks and down-sweeping branches appear receding into the depth of the mist, forming a visually unending forest.

(G) Underglaze polychrome porcelains with multi glazing technique: As nature possessed a critical position, a different aspect of natural scene and flora and fauna took place as painted features of Kôzan's artwork. With the development of the monochromes, Kôzan was also producing decorated underglaze polychrome porcelains, which became the 'trademark' of his studio. These artworks were decorated with natural plants, fish, landscapes.

A porcelain bowl with floral design in underglaze blue and over-glaze enamels, probably created in 1878 preserved in Glasgow Museum, is an excellent example of these features. The lower half of this porcelain ware depicts the natural

environment with Japanese Matsu-no-ki (pine tree) painted yama (hill). As well as working in Satsuma style, Saikumono and porcelain, from 1877, Kôzan experimented with the manufacture of cloisonné enamel. This medium had become highly popular in the West since the Meiji period. We know that ceramic glaze is an impervious coating of a vitreous substance that has been fused to a ceramic surface through firing. The purpose of glaze is to serve the colour to pottery and decorate and waterproof the artwork's condition. Makuzu Kôzan used a multi-decorative method in his artwork, and he used both under-glaze and overglaze in single porcelain. Underglaze is a popular decorating method. The painted decoration is first applied to the surface, then it is covered with transparent ceramic glaze and fired in a kiln at high temperature. Over-glaze is a method of decorating pottery, where the coloured decoration is applied on top of the fired and glazed surface of the pottery. Then second firing at a relatively low temperature using a muffle kiln occurs.

In the late 1980s, Makuzu Kôzan has started sophisticated glazed porcelain. In one vase, an exquisite technique called 'raised decoration (moriage)' was applied where some lily flowers are shown by using layers of slip built up on the clay body under the glaze. Kôzan achieved the Western critic's admiration for his artworks, which never forgot the Japanese essence.

7. Takaukibori-technique: Master potter's originality

Makuzu Kôzan is famous for his unique art forms called '*Takaukibori*' or 'Sculptural relief'. Experts sometimes believe that Kôzan were designed this style to appeal to Western visitors in Japan. In this decorative style, he introduced a three-dimensional decorative aspect and added realistic gestures of animals, birds and insects, which is the high-relief format in the sculptural formation. It looks like the animals are coming out of the ceramics or walking on it. No one else has done such a vibrant, colourful and naturalistic work of art before him. His childhood was bound with beautiful surrounding nature, which affected his creation. Ever since he grew up in the beautiful nature of Kyoto, he has been learned to create earthenware pots and decorate them with natural colours and objects. His father's contribution in this regard was immense who was himself a potter and creator of art. Kôzan's '*takaukibori*' technique received worldwide applause, and the admiration helped his art form become known as the Makuzuware. Makuzu Kôzan was not only a true artist. He was a researcher who knew the mysteries of glaze and understood its proper application.

Kôzan's work had multidimensionality that helped him be at ease with discoveries. For example, early in his life, Kôzan made many pots in the Satsuma ceramic style, which gave him the ability to innovate in the 'takaukibori' style.

Satsuma ware requires high production costs because it uses gold and threedimensional shapes. On the contrary, these mediums were used in Kôzan's ceramics, have in moderation and used to reduce construction costs. He creates dimensional characters; for example, raptors and pigeons, bears and cats, goose and hawks, crabs. Not only the animals and birds, but he also used the botanical element spontaneously. The botanical elements were cherry blossoms and grapes, camellia with leaves, and flowering tree branches as a three-dimensional motif. Besides these fictional creatures such as oni or yokai (demon or ghost), anthropomorphic frogs were used frequently as motifs for his ceramic's artwork. Ongoing experiments and a deep understanding of the glazing technique achieved technical sophistication. In the early 20th century, there was a substantial change in the shape and decoration of his artwork, which sometimes reflected Western influences. After a long history of glaze research and perfection in previous works transformed his interest into a flat, soft, colourful, transparent design. Western influence and sometimes Chinese Qing dynasty-oriented design greatly influenced Kôzan's artwork, e.g., dragon motifs from the Qing dynasty were a vibrant element for Kôzan's invention. However, it should be strictly established that Kôzan's artwork was striving for continual development and his every artwork presents aesthetic and abstract appealing in its overall appearance.

8. Conclusion

This paper attempts to identify the development of a world-famous potter's artwork, from its origin in traditional Kyoto tea utensils to its final stage modern over-glazed sculptural and natural represented artwork. His artwork gained popularity in Japan around the late 1900s, and the creator, Makuzu Kôzan, was an expert on some new ceramic techniques. He experimented with new colours and compositions of modern glaze and also design. Kôzan's enthusiasm for modern Japanese ceramic artwork and making a bridge between East and West is praised worthy. He avoided blind imitation of western styles though his work was highly receptive to Western-style. He always believed in the preservation of 'Japanese taste' as being 'the most suitable for the foreign market'. He did not become complacent after the success in Paris and continued to seek new ways of developing his creativity to gain the foreign market more effectively. Makuzu Kôzan implied numerous decorations and glazing techniques in ceramic production and achieved many national and international prizes. This research established that the ceramic artwork of Makuzu Kôzan featured nature as a primary decoration motif and tried to blend the entire contemporary pattern based on own ideology with a native Japanese essence.

概要:

本研究では、宮内庁の公認陶芸家である眞葛香山が創作した「高浮堀」と呼ばれる独自の技法を考察することにより、明治時代の陶芸の変容を検証します。明治時代の陶芸は日本の個人主義のターニングポイントでしたが、本稿ではその一例を紹介します。

眞葛香山は京都出身で、祇園でキャリアをスタートさせましたが、直後に横浜に移住しました。1876年、彼の作品がフィラデルフィア万国博覧会で紹介された際、彼は国際的なシーンに参入しました。京都の静けさから荒れ狂う港町横浜へと、移り住んだ眞葛は、陶芸へのアプローチを形作りました。

頃葛は、これまでに制作された日本美術作品とはまったく異なる方法で、自然の動植物と獣人の姿の両方を描いて作品の表面を装飾しました。 彼は「高浮**彫**」または「彫刻的レリーフ」として知られる磁器装飾様式によって、ユニークで芸術的な技法を作成しました。この装飾技法は立体的なスタイルとして見え、その無類の美しさは世界中で人気を博しています。

以上のように、眞葛の作品は、西洋の型を模倣することなく、磁器の形成だけではない陶磁器の表面を掘り込む熱意が最も高く評価されています。

この研究論文では、明治初頭における眞葛香山の生い立ちが彼の芸術を どのように形作ったか、そして彼の作品が日本の陶芸と美学の独特の形態にどのように広く影響したかについて説明します。

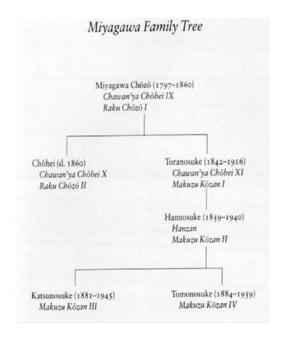


Figure 1: Miyagawa Family tree.

Source: Pollard, M. C. (2002). *Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop*. Oxford University Press, USA, pp-119.



Figure 2: Traditional Tea utensils belong to the glazed Technique



Figure 3: Kōzan's Satsuma style vase belongs to the nishikide technique. Source: http://jameelcentre.ashmolean.org/collection/4/867/872



Figure 4: Porcelain incense burner of Takaukibori Technique by Makuzu Kōzan. Source:https://www.artnews.com/art-news/reviews/the-god-of-glazes-a-centennial-retrospective-of-ceramicist-miyagawa-kozan-7500/



Figure 5: Two porcelain vases of Takaukibori Technique by Makuzu Kōzan. Source:https://www.artnews.com/art-news/reviews/the-god-of-glazes-a-centennial-retrospective-of-ceramicist-miyagawa-kozan-7500/



Figure 6: Porcelain vase of Takaukibori Technique by Makuzu Kōzan.

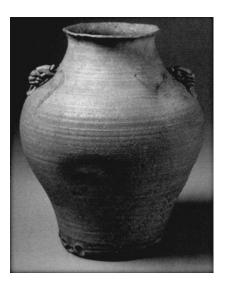


Figure 7: Traditional under-glazed stoneware vase with Nanban style. Source: http://www.artnet.com/artists/miyagawa-makuzu-kozan-ii/nanban-style-floral-vase-with-shrimp-shaped

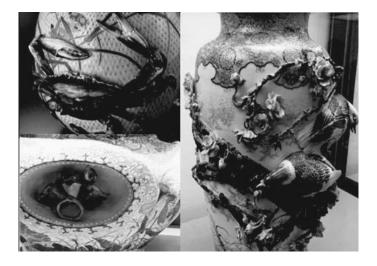


Figure 8: Kōzan's 'takaukibori' Style.
Source:https://orientalsouls.com/blog/japanese-art/the-king-of-modern-sculpture-japans-greatest-potter-makuzu-kozan/

Acknowledgements-I would like to express my special thanks and gratitude to Professor Dr Abul Barkat, Founder Chair, Department of Japanese Studies and the Editor of this journal- the *Journal of Japanese Studies: Exploring Multidisciplinarity (JJSEM)*, for his unparallel knowledge and superb skill displayed in the publication of this journal. I am indebted to the reviewers for their substantive feedback and suggestions.

References

- Beerens, A. (2006). Friends, acquaintances, pupils and patrons: Japanese intellectual life in the late eighteenth century: A prosopographical approach (p. 320). Leiden University Press, pp-61.
- Conant, E. (2006). Challenging Past and Present: The Metamorphosis of Nineteenth-Century Japanese Art. Honolulu: University of Hawaii Press. https://doi.org/10.1515/9780824840594
- Clark, J. (1995). Yôga in Japan: Model or Exception? Modernity in Japanese art 1850s-1940s: an international comparison. Art History, 18(2), 253-285.
- Hagen, L. M. (2012). Exemplifying the Modern Spirit: Japanization and Modernization in the Ceramic Art of Miyagawa Kozan (1842-1916), Shirayamadani Kitaro (1865-1948), and Itaya Hazan (1872-1963) [Master's thesis, University of Cincinnati].
 OhioLINK Electronic Theses and Dissertations Center.
- Hidehiro Yoshida. (2012). Yokohama Makuzu Yaki that supported the opening of the country ~ Visit Miyagawa Kozan Makuzu Museum ~ Ceramics, 47 (2), 114-115.
- Faulkner, R. (1995). *Japanese studio crafts: tradition and the avant-garde*. University of Pennsylvania Press, 23.
- Matsuo, A. (2014). Suzuki Osamu, Sodeisha and ceramic identity in modern Japan. *Ceramics Art and Perception*, 3-7.
- Piquero-Ballescas, M. R. (2017). Book Review: Reluctant Intimacies: Japanese Eldercare in Indonesian Hands. DOI: 10.1111/imre.12367
- Sims, R. (2019). *Japanese Political History Since the Meiji Restoration*, 1868-2000. Springer, 10-13.
- Huffman, J. L. (2010). *Japan and imperialism, 1853-1945*. Association for Asian Studies, Incorporated.7-9, 12-13.
- Tamaki, B. W. (2003). Master Potter of Meiji Japan: Makuzu Kôzan (1842–1916) and his Workshop, *Journal of Design History*, Volume 16, Issue 4, Pp. 349–351,
- Gorham, H. H. (2012). Japanese & oriental ceramic. Tuttle Publishing.
- Pollard, M. C. (2002). *Master Potter of Meiji Japan: Makuzu K- ozan (1842-1916) and His Workshop*. Oxford University Press, USA.

Conant, E. P. (Ed.). (2006). Challenging past and present: the metamorphosis of nineteenth-century Japanese art. University of Hawaii Press.

Hisako Sakamoto. (2011). Philadelphia World Exposition and Makatsuyaki. In *Japan Design Society Research Presentation Conference Summary Collection Japan Design Society 58th Research Presentation Conference* (pp. 58-58). Japan Design Society.

Peleggi, M. (2002). Lords of Things: The Fashioning of the Siamese Monarchy's Modern Image. Honolulu: University of Hawaii Press. https://doi.org/10.1515/9780824863388

Jennifer Harris, 2012, The Formation of the Japanese Art Collection at the Art Gallery of South Australia 1904-1940: Tangible Evidence of Bunmei Kaika, Volume 1, an unpublished Thesis. The University of Adelaide.

Nakanodo, K. (1984). Kyoto no yogeishi. Kyoto: Tankosha. 103.

Okamoto, Y. (1972). Thnamban art of Japan (Vol. 9). New York: Weatherhill/Heibonsha.

https://www.suntory.com/sma/exhibition/2016_1/display.html

https://research.britishmuseum.org

https://www.suntory.com/sma/exhibition/2016_1/display.html

https://www.jstor.org/stable/1316181

https://ci.nii.ac.jp/naid/110001212395/en#cit

http://kagedo.com/wordpress/g/makuzu-kozan-i-porcelain-hydrangea-vase/?

https://glenngleason.typepad.com/life_work_and_the_pursuit/2009/01/centennial-exhibition-of-1876-excellence-at-its-finest.html

http://rave.ohiolink.edu/etdc/view?acc_num=ucin1337717171

https://research.britishmuseum.org/

https://www.suntory.com/sma/exhibition/2016_1/display.html

https://www.asahido.co.jp/en/knowledge/about_kyoyaki_kiyomizuyaki/

https://www.suntory.com/sma/exhibition/2016_1/display.htm

https://commons.wikimedia.org/wiki/File:BLW_Vase_in_the_form_of_Two_Polar_Bears_inside_an_Icy_Cave.jpg

http://www.yoyokaku.com/Nakazato.htm