

Introduction of the European Peep-box and Development of Visual Culture in the 18th Century Japan*

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■ ABSTRACT ■

During the Edo-period [江戸時代 1603-1867], Japan accepted the modern western science and culture while trading with Holland since 1609, and also through the influx of optical instruments in the 18th century the *culture of viewing pictures* began to be developed. Especially, the peep-boxes and their pictures had been imported from China and Holland since the mid 1750s when they were flourished. The peep-box was rapidly and widely spread. Soon after, the peep-boxes and pictures had begun to be produced in Japan (megane [眼鏡] and megane-e [眼鏡繪]) since 1770s when the early visual culture settled down in Kyoto and Tokyo etc. The visual culture developed with the peep-box contains two remarkable factors in the cultural history of the 18th century Japan. First, the peep-boxes became the *popular device of visual entertainment*, and opened the first phase of the modern visual culture before the advent of photography and cinema in the mid and end of the 19th century. Secondly, the peep-box played a role of an *educative media* as a ‘window to the unknown world’ in the 18th century Japan, by showing various pictures of many European cities. Through the peep-box pictures the ‘western images’ were spread and knowledges of Japanese about the west increased, although

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they were recognized just as ‘Holland’s images’ without differentiation in each country.

Key Words

peep-box, perspective view, optique, optical instrument, visual culture

1. Japan Contacting with Europe in the 17th and 18th Century

Since the end of the 16th century, western civilization and culture had been introduced in East Asia (China, Korea, Japan) more than in the past as they started increasingly contacting with European countries. While East Asia was generally in a closed period at that time, Europe was in the Age of Exploration entering to an unknown world. Europe was also in the Period of Scientific Revolution when science rapidly made a progress after the period of Renaissance. Afterwards, merchant ships and Catholic priests from Europe came to East Asia on the purpose of trade and missionary work.

Around this time, Japan began to trade with European countries. In the early Edo-period [江戸時代 1603-1867], Japanese government supported a policy of trading and accepting European science as well as culture and art even though it prohibited the western religion (Catholic) in 1613. Since then, various kinds of cultural items and artefacts had been introduced to Japan. Among them were included the optical instruments such as *the peep-box, an optique of watching pictures in the box*.

Invented by scientists utilizing a broad range of scientific knowledges (esp. physics and optics), the peep-box was the device that people were able to look pictorial images through a small lens. In addition, it was used as a visual entertainment on the street and was very popular from the early 18th century to mid-19th century in Europe. During this period,

the peep-box showed wonderful, interesting, and attractive images on landscapes in many of European cities as well as spectacles including earthquake, fire or volcano explosion, and presented visual pleasure (Schaulust) to people of a wide range of classes.

It also served as an educative media that conveyed a set of knowledge about the distant places where people in the 18th century were not able to easily travel to. Hence, the peep-box played a role of a “window to the world”¹⁾ making it feasible to inform them about unknown places. Viewed in this aspect, the peep-box was “the artefact in the context of Enlightenment in the 18th century”²⁾. In addition, according to a German researcher studying an optical device named Bodo von Dewitz, it was regarded as “the first popular media which began to satisfy desires toward education and entertaining fantasy till 1800”³⁾. Thus, as a visual device of popular entertainment and education with interesting pictures, the peep-box was considered as a significant optical instrument for people in the 18th and 19th century in Europe.

Since it was introduced to Japan from the early 18th century, the peep-box had left a remarkable impact in the field of culture and art (painting and engraving). In Japan, many types of the peep-box had been manufactured, and the visual culture began to rapidly and widely expand. Hence, it has been an interesting subject to investigate not only how and what types of the European peep-boxes were introduced to Japan but also which influences and changes they brought about in culture and art at that time through the history of culture.

This paper focuses on the influx of the European peep-boxes and the early development of visual culture in Japan. This study is meaningful

1) U. Hick: *Geschichte der optischen Medien*, München, 1999, p. 223.

2) *Ibid.*, p. 222.

3) B. v. Dewitz: “Eine mobile Bilderwelt. Der Guckkasten als Bildmedium der Aufklärung im 18. Jahrhundert”, in: B. v. Dewitz · W. Nokes (eds): *Ich sehe was, was Du nicht siehst!*, Köln, 2002, p. 81.

in identifying the development of visual culture in East Asia after western science and optical instruments were introduced. However, it was difficult to develop the research due to lack of proper literatures because no academic study on this theme — also no research on the peep-box — has been conducted in Korea until now. As a result, related literatures do not currently exist in Korea. Furthermore, most of the references in Japan are not interpreted into English or other languages. However, relatively many of the related records have been preserved so that we are capable of tracing the development phases of the peep-boxes in Japan. Under these circumstances, it is intended to mention here that this paper was written by relying on the English and German literatures as well as the informations of Kobe City Museum [神戸市立博物館].

2. Influx of Western Science and Optical Instruments in Japan

2-1. Historical Background

During the Edo-period (1603-1867), Japan traded with China [Ming 明 · Qing 清], Korea [Chosun 朝鮮] and Ryukyu Kingdom [瑠球, now Okinawa 沖縄]. However, Japan still maintained by and large a close-door policy. On the other hand, before the Edo-period, Japan opened a port in the southern area, Nagasaki [長岐] in 1571, and traded with China and Portugal and Spain, followed by Holland since 1609. Particularly trading with China, the biggest trading nation at that time, not only Chinese goods but also European items including scientific books and instruments as well as artefacts such as optical devices and copperplate/woodblock prints etc were imported.⁴⁾

4) Katsumori Noriko [勝盛典子]: “Nagasaki trade in the Edo period”, in: *The 18th-19th Century Japan through Her Painting and Prints: Meeting with the West*, Seoul, 2011, p. 36.(국문 번역 제목, 가쓰모리 노리코, 「에도시대의 나가사키 무역」, 『근대 일본이 본 서양』)

After Japan's feudal government Tokugawa [徳川] ordered to prohibit christianity in 1613, the trade was restricted to a small site in Nagasaki, Dezima [出島]. Since 1641, only Holland was recognized as the unique European country for the trade. Hereafter, Japan continued to trade with Holland for approximately 220 years until 1859 via the merchant ships of the Dutch United East India Company [東印度會社 Vereenigde Oost-Indische Compagnie].⁵⁾ Meanwhile, western science and culture were widely accepted resulting in 'prosperity of western studies' [洋學] in the ruling period (1716-36) of the 8th Shogun [將軍] Tokugawa Yoshimune [徳川吉宗] who was relatively generous to foreign policy.⁶⁾

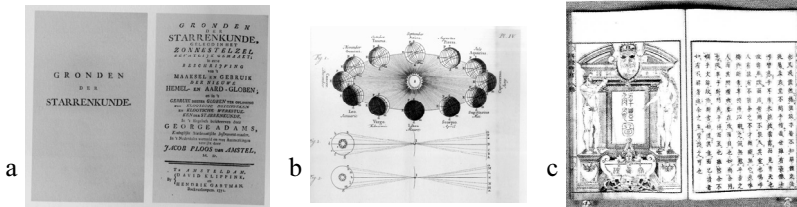
At that time, science and culture from Holland were called as 'rangaku' [蘭學, Holland studies]. However, the term actually meant to study western science (especially natural science) and culture as well as arts. According to a Korean historian named Lee Min-Ho, "rangaku was based on the contents of natural science as a product of western society in the pre-modern age, that was distinguished from feudal thought and spirit..."⁷⁾, and contained the concept of *modernity* in itself including the reformation of the traditional society. In this historical background, not only astronomy (heliocentric theory etc), geography, biology, medicine with scientific instruments such as world map, telescope, globe, and clock. However, other beneficial and practical knowledge for the real life was also introduced to Japan.

5) Ibid.

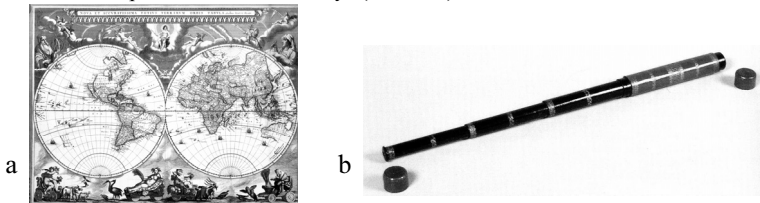
6) Oka Yasumasa [岡 泰正]: "In Search of Modernity of Visual Perception", in: *The 18th-19th Century Japan* ∙ ∙; op. cit., pp. 16-17.(국문 번역 제목, 「視覺의 近代를 찾아서 - 日本 洋風畫 小史」, 『근대 일본이 본 서양』)

7) Lee Min-Ho [이민호]: *History of Cultural Conflict and Trade between Far East and Western World*, Paju, 2009, p. 218.(원제, 『동서양 문화교류와 충돌의 역사』)

[Figure 1] Western science books introduced to Japan in the 18th century
a <New Celestial and Terrestrial Globes>, 1770 (Amsterdam)
b Illustration on the revolving of sun and planets, 1770 (Amsterdam)
c Rangaku, the first book of western medicine, 1774 (Japan)



[Figure 2] Scientific instruments introduced to Japan in the 17~18th century
a World map, 1664 (Amsterdam)⁸⁾
b Telescope, late 18th century (Holland)



Among the aforementioned scientific instruments, the world map brought a significant turning point of the previously acknowledged East Asia-centered view of the world in Japan by suggesting the vast outside but also unknown world in East Asia. In addition, the telescope was an instrument that observed the universe for the first time in East Asia. This indicates that both instruments had an important meaning since they greatly widened the visual field of East Asians in the 18th century and provided them an opportunity to understand the broad ‘other world’.

8) This map was manufactured by the Dutch cartographer, Joan Blaeu (1596-1673), and released in 1648 in Amsterdam (1st edition) with the title <Nova et Accuratissima Terrarum Orbis Tabula>.

2-2. Influx of the Peep-box

The peep-boxes had been introduced to Japan since the early 18th century from both China and Holland. Although it was uncertain from when they began to appear in Japan, several researchers recorded that the peep-boxes could be traced since the late 1710s. According to a researcher of the U. S. named Richard Balzer, the very early peep-box in Japan dated back up to 1718:

By 1718 there is commentary in Japan that, “One must see the devilish pleasure of the peeping machine for a sen (1/100 a yen). One can have a thousand gold pieces worth of play.” The Japanese connected many of these early machines with the West, and particularly Holland, referring to the optiques as ‘Holland Machines’ and the prints as ‘Red Hair Ukiyoe’.⁹⁾

In relatively recent paper in 2005, a Japanese researcher of the optical instruments in Edo-period, Maki Fukuoka mentioned, similarly like Balzer’s opinion, that “the device was available in Japan as early as 1717”¹⁰⁾. Besides, it was said that the peep-boxes from China were imported earlier than from Holland.

After European peep-boxes were introduced to China before 1750, peep-boxes and their pictures began to be manufactured at Suzhou [蘇州, 江蘇省]. According to a Japanese art historian named Oka Yasumasa [岡 泰正], these Chinese peep-boxes and pictures made after European models were delivered to Kyoto [京都] between 1751 and 1764 via the Chinese trade office [Tang-kan, 唐館]¹¹⁾ in Nagasaki. The ‘real’ European

9) R. Balzer: *Peepshows: A Visual History*, New York, 1998, p. 21. The source of the cited sentences: Kobe Museum Catalog, Kobe, 1984, p. 9.

10) Maki Fukuoka: “Contextualising the Peep-box in Tokugawa Japan”, in: *Early Popular Visual Culture*, Vol 3. No. 1 (May, 2005), p. 17.

11) Oka Yasumasa [岡 泰正]: “Ukie and Megane-e”, in: *The 18th-19th Century Japan*; op. cit., p. 113.(국문 번역 제목, 「우키에(浮繪)와 메가네에(眼鏡

b, a woodblock print by Ishikawa Toyonobu [石川豊信 1711-85], is a “market scene” with a peep-box in mid 1750s where several peoples are gathered around the device with triple peeping lenses and two women are operating pictures.¹⁴⁾ From these pictures we can notice that many viewers were looking into the lenses of the new device.

Since the mid 1750s, the peep-boxes attracted an interest of many people in Kyoto [京都] followed by in Tokyo [東京]. Hence, Maki Fukuoka maintains that the peep-boxes “became an increasingly popular segment of the entertainment culture in major cities of Edo (Tokyo), Kyoto, Osaka and Owari (Nagoya) from the 1760s to the early 1830s.¹⁵⁾ Started as a visual device of high value for rich class, the peep-boxes had been spread in a wider range of classes, and then, Japanese manufacturers began to produce them *in Japanese style* for domestic consumers. The ‘Japanese peep-boxes’ made in this manner were called as ‘megane’ [眼鏡] or ‘nozoki megane’ [覗眼鏡] etc. and the pictures for the box as ‘megane-e’ [眼鏡繪].

3. The Peep-boxes and their Pictures in Edo-Period

3-1. Types of the Peep-boxes

This section intends to examine the types of the peep-boxes that were imported and produced in Japan. However, it is difficult to suppose the European peep-boxes between 1750 and 1770 in their early phase because they are currently not preserved. On the other hand, it is feasible to access to the peep-boxes and pictures manufactured in Japan after 1770s. Hereupon, it is necessary to briefly mention the peep-boxes in the 18th century Europe in order to verify what types were imitated or newly created in Japan.

13) T. Screech: *The Lens within the Heart*, Honolulu, 2002, p. 123.

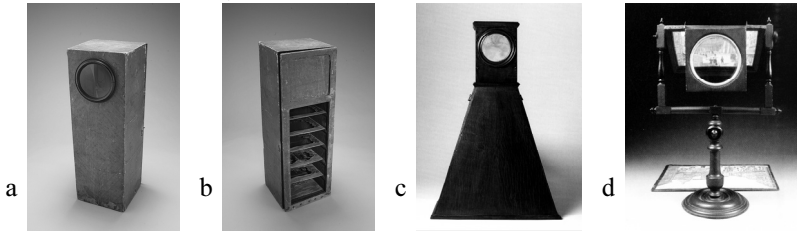
14) Th. Ganz: *Die Welt im Kasten*, Zürich, 1994, p. 84.

15) M. Fukuoka: “Contextualising the Peep-box in Tokugawa Japan”, op. cit., p. 17.

In Europe, there were two major types of the peep-boxes. The first one was the *reflex type* [反射式] with a lens and a mirror set that viewed the reflected image on the mirror inside the box, and the second one was the *direct viewing type* [直視式] that directly viewed the image inside the box without mirror.¹⁶⁾ In the figure 4 the three forms of the reflex type are suggested.

[Figure 4] European peep-boxes of the reflex type

a, b ca. 1750, Germany c ca. 1750, Holland d ca. 1790-1800, Holland



The above reflex type, a-b and c that were widely used in Europe are not currently extant in Japan according to my current investigation. It is not obvious whether either the mirror-reflex types were not introduced to Japan or disappeared without being manufactured due to difficult viewing after being introduced. What is currently preserved in Kobe City Museum is the d that one directly views the image reflected on the mirror from the outside without box and is so to say, an ‘open form’. It was called as zograscope in English that was more widely known as L’optique in France and Holland.

16) Concerning this type of categorization please refer to the following literatures: R. Balzer: *A Visual History*, pp. 28-31. G. Füsslin etc: *Der Guckkasten*, pp. 15-17. Oka Yasumasa [岡 泰正]: “After-Experience of the 3D World Edo-men [江戸人] Surprised”, “Miniature 3D Television of the 18th Century that included the real Ukiyo-e”, in: *The Visual Revolution* ∴; p. 27, 29.(국문 번역 제목, 「에도인(江戸人)이 놀란 3D 세계를 추체험!」, 『視覺革命! 異國と出繪った江戸繪畫』)

[Figure 5] L'optique (zograoscope),
1780s-90s, France



[Figure 6] Ukiyo-e, 1765-70¹⁷⁾



L'optique on the left was called as ‘nozoki megane’ [覗のぞき眼鏡] in Japan¹⁸⁾. Such a device was told "to be introduced to Japan by ships at least between 1764 and 1772"¹⁹⁾ and also "to exclusively view megane-e [眼鏡繪]"²⁰⁾. The woodblock print on the right is the work by a well-known ukiyo-e [浮世繪] artist named Suzuki Harunobu [鈴木春信 1725-70] in 1765-70. It depicts how the girl views and enjoys the picture of the device. Thus, ukiyo-e of that time was the valuable cultural document since it recorded the situation of how the peep-box was accepted and enjoyed at that time.

The form of the more widely and generally used peep-boxes both in Europe and Japan was the ‘direct viewing type’ which was called as “nozoki bako” [覗のぞき箱子] in Japan. It is because this type was more convenient for viewer to look into pictures in the box through a magnifying lens.

17) This is the color woodblock print by Suzuki Harunobu [鈴木春信 1725-1770] and one of the series <Damagawa River of Goya>[高野の玉川]. in: *The 18th-19th Century Japan*...; op. cit., p. 124; *The Visual Revolution*...; op. cit., p. 26.

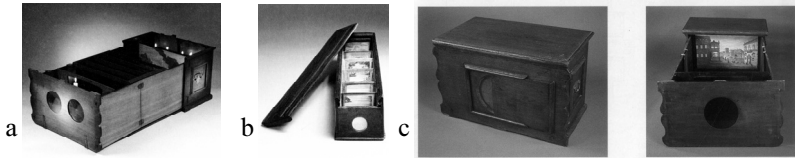
18) Oka Yasumasa [岡 泰正]: “After-Experience of the 3D World Edo-men Surprised”, in: *The Visual Revolution*...; op. cit., p. 27.

19) Ibid.

20) Ibid.

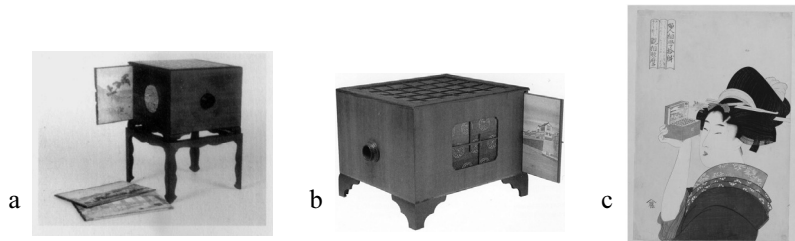
Moreover, this type could provide the day & night effect of the image using bright-dark lighting, which enhanced visual pleasure even more. The next figure shows three kinds of this type produced in Holland etc.

[Figure 7] European peep-boxes of the direct viewing type
a ca. 1720, Holland b ca. 1760, Holland c 18th century, production country unknown



This direct-viewing type was easily accepted in Japan, and then, slightly modified forms were made since 1770s. Below are several peep-boxes of this type produced in Japan and related ukiyo-e works are suggested.

[Figure 8] Japanese peep-boxes of the direct viewing type and ukiyo-e in the late 18th century²¹⁾



The peep-box a was made with four legs and in a particular structure that inserted pictures into the side wall instead of the back of the box. In the book of Kobe City Museum, it is only described as “the device of viewing megane-e”²²⁾. Hence, it is not possible to know more precisely

21) This is a color woodblock print by Kitakawa Utamaro [喜多川歌麿 1753-1806]. The original title is <Woman looking into a picture-show box>[婦人相學十体かはゆらし相]. In: *The 18th-19th Century Japan*...; op. cit., p. 129.

about this peep-box; the production year and place etc are not exactly described. The peep-box b also with unknown year of production is a hand-carried ‘small portable type’. So to say, it is a mobile peep-box that one could see and show the peep-box pictures everywhere. This miniature type was comparable with an ‘optical toy’ produced later in the 19th century Europe and also was one of the Japan’s own models.

The picture c, ukiyo-e, produced in 1792-93, depicts how a pretty girl views the inside of the portable peep-box. According to the explanation of the source book of Kobe City Museum, it is told that “a girl with beautiful hair style watched the scene with a bridge supposed as the Ryogoku-bridge in Tokyo [兩國橋, 東京] opening her left eye a little bit”²³⁾. Thanks to this ukiyo-e work, “an important proof of indicating the existence of the miniature toy,”²⁴⁾ in 1790s, we are currently able to presume the past situation related to the peep-boxes.

The next direct viewing type (figure 9a), made with much effort by coloring the wood, was a “device equipped with uki-e drawing boards”²⁵⁾. *Uki-e* [浮繪] indicates the pictures (mostly hand-made drawing/watercolor, copperplate/woodblock print) that were produced in later 18th century. It was strongly influenced by the western one-point-linear perspective. In the beginning period (1750s to 1770s), uki-e was used without distinction with the substantial name of the peep-box’s picture, megane-e [眼鏡繪].

22) Lee Joong-Hee: “Situation of Accepting Foreign Painting Styles in the Edo-period”, in: *The 18th-19th Century Japan*...; op. cit., p. 31.(원제, 이종희, 「에도시대 외래화풍의 수용상황」, 『근대 일본이 본 서양』)

23) Oka Yasumasa [岡 泰正]: “Utamaro’s Portrait Ukiyo-e proving the Fashion of the Ultra-small size Nozoki Megane”, in: *The Visual Revolution*...; op. cit., p. 28.(국문 번역 제목, 「超小型 노조키메가네(のぞき眼鏡)의 유행을 증명하는 우타마로(歌麿)의 인물화」, 『視覚革命! 異國と出繪った江戸繪畫』)

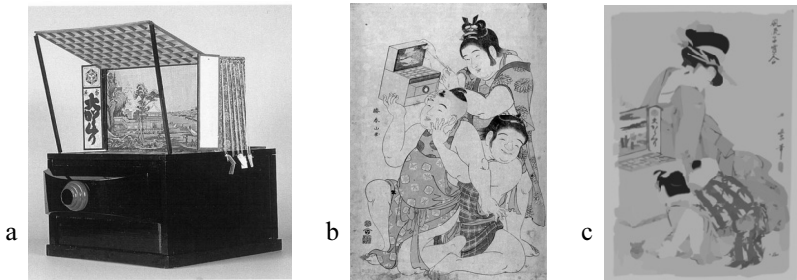
24) Ibid.

25) The Uki-e works installed in this box were the woodblock prints by Utakawa Toyoharu [歌川豊春 1735-1814] and Kitao Masayoshi [北尾政美 1764-1824]. In: *The 18th-19th Century Japan*...; op. cit., p. 128.

In addition, the uki-e pictures were inserted into the peep-box and later, uki-e was developed to *ukiyo-e* [浮世繪] that was well known as the representative art (mostly color woodblock print) in the Edo-period after about 1800s.

The black peep-box (figure 9a), produced between 1770 and 1790, had an additional function known to be a "function of viewing pictures in the box by dropping them and pulling the string attached to the box up and down"²⁶). As an advanced form, this type had a few advantages to continuously show multiple pictures and also to represent the bright-dark images from the top to the bottom of the picture. This is the same function of day & night effect in the European peep-boxes.

[Figure 9] Japanese peep-box of the direct viewing type and ukiyo-e
 a peep-box, ca. 1772-89 b ukiyo-e, ca. 1790, c ukiyo-e, ca. 1800



According to the source book of Kobe City Museum, this black peep-box was “not actually used but utilized as a sophisticated toy after imitating and reducing the size of what was used for the promotion at that time”, and was “a toy used by the working class”²⁷). The uki-e on the box was

26) Oka Yasumasa [岡 泰正]: “Miniature 3D Television of the 18th Century that included the real Ukiyo-e, in: *The Visual Revolution*...; op. cit., p. 29.(국문 번역 제목, 「實物の 우키요에(浮世繪)를 끌어들인 18세기의 미니어처 3D 텔레비전」, 『視覺革命! 異國と出繪った江戸繪畫』)

27) Ibid.

made by Utagawa Toyoharu [歌川豊春 1735-1814] who was a well-known uki-e/megane-e artist at that time, and the title of it, <Holland Snowy Scenery>[阿蘭陀雪見之図],²⁸⁾ was written on the right side of the box. Furthermore, six more pictures were installed in the box by another artist. Therefore, one could successively view eleven pictures with lighting effect depicting the attractive landscapes in Kyoto and Tokyo, so-called, the ‘famous site uki-e’ [名所浮繪].²⁹⁾ Hereupon, it is obvious to confirm that one could enjoy viewing a series of pictures with lighting effect through the Japanese peep-boxes produced between 1770s and 1790s.

The two ukiyo-es above express a scene enjoying pictures with the Japanese peep-box of direct viewing type. The ukiyo-e b³⁰⁾ is a color woodblock print by Kasugawa Shunzan [勝川春山 1726?-1793] produced around 1790. In this print, a woman standing behind two boys is pulling the string of the small peep-box, and two boys are viewing with great pleasure rotating the device in turn. The ukiyo-e c³¹⁾ is a color woodblock print by Kitagawa Utamaro [喜多川歌麿 1753-1806] around 1800 in which a seemingly mother is pulling the string up and down, while two children are absorbed in looking into the box.

Thus, the three Japanese peep-boxes (megane) and three ukiyo-es enable to assume the situation of production and reception of the device in later 18th century. At that time in Japan, the peep-boxes were manufactured in various forms and attracted the interest of wide range of people including not only the rich but also the working class as well as juveniles and adults, men and women. In this manner, it showed that many of them delightfully enjoyed viewing visual images through the device. Hereupon, it can be maintained that the peep-box was accepted as a popular entertainment

28) Ibid.

29) Ibid.

30) This work is ‘untitled’ [無題]. R. Balzer: *A Visual History*, New York, 1998, p. 60.

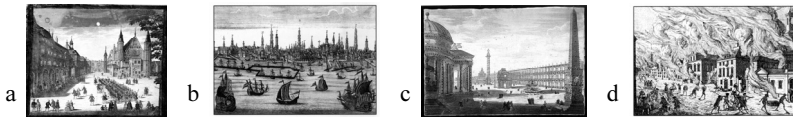
31) No title of this work is suggested. Th. Ganz: *Die Welt im Kasten*, p. 74.

in the Japanese society of the 18th century, and thereby, the visual culture based on the peep-box was widely diffused in later 18th century, like in most European countries of that period.

3-2. Production and Dissemination of the Peep-box Pictures

In later 18th century in Japan, the peep-box pictures were actively produced, as the peep-boxes flourished at that time. In Europe, the peep-box picture, called as ‘vue d’optique’ in French, simply meant the ‘view/picture of optique.’ Similarly, the peep-box picture was called as ‘megane-e’ [眼鏡繪] or ‘nozoki megane-e’ [のぞき眼鏡繪] just as the meaning of ‘peep-box picture’ literally or ‘picture inserted to megane [眼鏡]’ in Japan. Below is the figure 9 showing several European peep-box pictures in the 18th century in order to compare them with the Japanese megane-e.

[Figure 10] European peep-box pictures in the 18th century
 a Hague, ca. 1700 (with day & night effect) b Amsterdam, ca. 1760
 c Rome, 18th Century d New York, ca. 1780 (with lighting effect)



The pictures a, b, and c represent the city landscapes (veduta) with large-scale events, and the picture d depicts a big fire occurred in the city (New York) with a dramatic change of lighting. Thus, showing gorgeous scenes or large-scale natural disasters in many of the regions in western countries, the peep-boxes stimulated the interest and curiosity of viewers. Afterwards, the peep-boxes presented sceneries of distant and exotic countries (India, Africa etc.) from the European point of view. As a result, “the pictorial world of the peep-box as colorful conglomeration of events and landscapes”³²⁾ expanded the visual field of viewers contributing to

the *Enlightment* of the people prior to the modern period.

In terms of aesthetics, the peep-box pictures contained the linear perspective with one vanishing point around the middle of the picture (the central perspective). Actually, the English term of the peep-box picture, ‘perspective view’, indicates the reflection of the linear and central perspective that were prevailed in the field of arts in the 18th century of Europe. Pictures in a long and dark peep box, placed in the shape of stage settings of the play, were “expressed in lightly distorted and a little bit extended perspective”³³⁾ and emphasized the illusionality of the pictures. The pictures of peep-box were not the artwork of highly recognized painters but merely practical works to be seen in the device. Therefore, the method of engraving was usually used to produce many pictures with cheap price. In the beginning, the copper plate print, and then, the woodblock print was preferred.

Like in Europe, most of the Japanese peep-box pictures, megane-e, were produced by the copperplate print, and later, by the color woodblock print. However, megane-e was not produced by entirely imitating the European models in the beginning (1750s). Because the peep-box pictures produced at Suzou [蘇州, 江蘇省] in China were introduced earlier than the European pictures, and these ‘Chinese peep-box pictures’ influenced on the early megane-e in Japan. Besides, Dutch/European peep-boxes later imported and pictures made by the copperplate and colored with hand were the highly valued items. Hence, the woodblock prints and hand-painted pictures made in China were generally used as the substitute.³⁴⁾

In this background, the Chinese peep-box pictures based on the traditional Chinese/East Asian painting [中國畫/東洋畫] were influential in the early

32) D. Rauschgatt: “Guckkasten – Miniaturen der Schaulust”, in: E. Kieninger · D. Rauschgatt (ed): *Die Mobilisierung des Blicks*, Wien, 1995, p. 24.

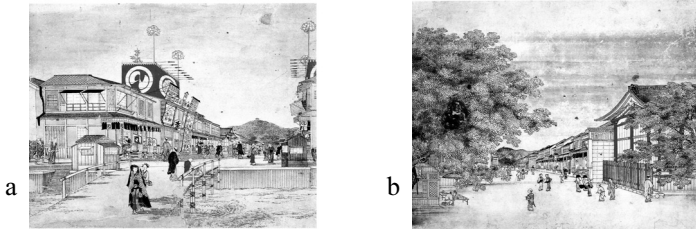
33) Th. Kaufhold: *Camera Obscura*, Essen, 2006, p. 36.

34) Oka Yasumasa [岡 泰正]: “In Search of Modernity of Visual Perception”, op. cit., p. 17.

megane-e. This phenomenon is clearly revealed in the works by Maruyama Okyo [円山応挙 1733 – 1795], the first generation artist who drew megane-e in Kyoto [京都] in 1750s. The pictures below are his hand-painted megane-e [肉筆 眼鏡繪].

[Figure 11] Maruyama Okyo's megane-e in 1750s

a <Shizo Bridge with Surroundings>[四條橋之居] b <Motels in Gion>[祇園御旅所]



The megane-e a and b depict the downtowns in Kyoto. These pictures show that the western one-point-linear perspective was roughly applied on the ground of the Chinese/East Asian traditional painting. Hereafter, so-called the ‘Chinese style megane-e’ was largely distributed in Kyoto in 1750s.

The ‘western style megane-e’ was realized by artists in the next generation. One of them was Utagawa Toyoharu [歌川豊春 1735-1814] who worked in Edo and produced megane-e and uki-e as well in 1760s (he is also the artist of the uki-e installed in the black peep-box, the figure 9a.). As Toyoharu was able to access to the European peep-box pictures directly imported from Holland, the perspective was correctly and thoroughly applied on his megane-e/uki-e that represented European city landscapes (veduta) like Florence, Venice and Rome etc.

[Figure 12] Toyoharu's megane-e <Holland Grand Canal>, 1764-89



[Figure 13] Visentini's copperplate print <Grand Canal>, 1742



Toyoharu's megane-e on the left made with woodblock print, <Holland Grand Canal>,³⁵⁾ was based on the copperplate print <Grand Canal>³⁶⁾ on the right side created by the Italian painter named Antonio Visentini (1688-1782).³⁷⁾ Nonetheless, Toyoharu's megane-e was not completely made by imitating the Italian copperplate. It rather added trees between the buildings on the left and reduced the shadow of the gondola and buildings on the right side. Therefore, it is confirmed that he presented 'simplified' depiction while trying to realize *japanization* of the original European picture.³⁸⁾ Hence, it is noticeable how the megane-e artist in the second generation named Toyoharu slightly transformed and somehow modified the European peep box pictures in the period, 1760s to 1780s. Such Toyoharu's attempt is seen as an advance towards the development of the Japanese peep-box pictures.

35) The real title is <Uki-e Holland. Grand Canal with Rings of Francaino Bell>[浮繪 紅毛フラスカイノ漆万里鐘響図]. Ibid., p. 17.

36) The real title is <Il Canal Grande verso nord-est della Croce fino a San Geremial>.

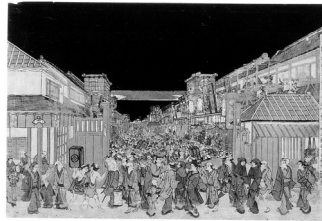
37) This copperplate print was also made after the original oil painting by the well-known landscape painter of Venice in the 18th century Italy, Antonio Canaletto (1697-1768).

38) Oka Yasumasa [岡 泰正]: "Appearance of Venizia's Grand Canal in Ukiyo-e of Edo-period", in: *The Visual Revolution*...; p. 62.(국문 번역 제목, 「베네치아의 大運河가 에도(江戶)의 우키에(浮繪)에 등장」, 『視覺革命! 異國と出繪った江戸繪畫』)

One more noticeable point in Toyoharu's megane-e is that he titled his work as <Holland ... Grand Canal>, even though he obviously drew the landscape of Venice in Italy. This is because "in Edo-period all the novelties as western things were reconized as 'Holland's' [阿蘭陀]"³⁹). Accordingly every western images appeared as Holland's at that time in Japan.

Afterwards, Toyoharu took one more step forward producing the megane-e that expressed splendid landscapes in Japan between 1780s and 1800s. Here, it is remarkable that the pictures of Japanese resources were added in the western views. Toyoharu's next megane-e made by the color woodblock print (figure 13) depicts the night street at a brothel area named Sakai-cho [堺町] in Tokyo. In this megane-e, the lighting effect was possible by the bright-dark transition of the lanterns in the hands of people on the street.⁴⁰

[Figure 14] Toyoharu's megane-e <Sakai-cho in Tokyo>, 1780s-1800s



Considering this megane-e (1780s-1800s) with the aforementioned pictures of the black peep-box (1770s, figure 8a), it is evident that 'Japanese peep-box pictures' with domestic attractions had begun to be produced and utilized since 1770s. This indicates that these Japanese peep-box pictures

39) Oka Yasumasa [岡 泰正]: "Imaginative Picture of Ruined Rome depicted in Ukiyo-e", in: *The Visual Revolution* ...; p. 63.(국문 번역 제목, 「우키에(浮繪)에 묘사된 로마 폐허의 상상도」, 『視覺革命! 異國と出繪った江戸繪畫』)

40) Th. Ganz: *Die Welt im Kasten*, p. 85.

co-existed with them in the western images since 1780s, and people could enjoy diverse views on Japan and Europe. In this development, it is noticeable that the *process of japanization* of the peep-box had been developed since 1770s and the visual culture based on the peep-boxes had settled down in Japan only approximately 20 years after being introduced. This can be acknowledged as a very rapid change.

4. Cultural and Artistic Changes after Influx of the Peep-boxes

Japan was able to absorb and accept the western science and culture while trading mainly with Holland since 1609 during the entire Edo-period. New scientific knowledge and instruments of the Scientific Revolution in Europe could be introduced under the name of rangaku [蘭學], and the peep-boxes imported from 1710s caused to develop the *culture of viewing pictures* through optical instruments for the first time in Japan. As the peep-boxes became the device of popular entertainment, the peep-boxes and their pictures began to be produced in Japan since 1770s, and the Japanese peep-boxes with pictures, megane-e [眼鏡繪]/uki-e [浮繪] depicting domestic views, could be considered as the process of *japanization of the western visual culture* brought with the peep-box. In this visual culture, the three phenomenon were remarkable in the culture and art of the 18th century Japan.

First of all, the peep-boxes opened the first phase of modern visual culture in Japan as they became a popular device for the visual entertainment. Considering that the photography arrived in Japan in 1840s, a period approximately only 40 years after the peep-box was flourished, it could be regarded as the preliminary stage before the beginning of the modern visual culture.

Secondly, the peep-box pictures played a role of an *educative media*

functioning as a ‘window to the unknown world’, Europe, by showing many pictures on European cities with wonderful views and events. However, diverse images on European cities were not differentiated in each country but were entirely recognized as ‘Holland’s images.’ Obviously, the reason for that must be related to lack of knowledge on the western world in the 18th century Japan. As a result, it is said that “by spreading the ‘Holland’s views’, famous sites in Europe were permeated into the eyes of common people and at the same time … people purchased these imagined *the west* they had never been”⁴¹⁾.

Thirdly, due to the European peep-box pictures the artistic changes are noticeable in paintings and prints. The western one-point-linear perspective, although it was not firstly introduced by the European peep-boxes, was widely accepted in the Japanese peep-box pictures. And as the demand of the peep-box pictures was increased in later 18th century Japan, the picture production by the copperplate and multi-color woodblock print, was facilitated. It is not deniable that the peep-box pictures contributed to development of the print in the 18th century.

In conclusion, it is clear to maintain that Japan achieved successfully the first phase of the modern visual culture after the influx of the peep-box from China and Holland. Furthermore, this stage on the development of the visual culture can be understood as a cornerstone before the advent of photography and cinema in the mid and end 19th century.

41) Oka Yasumasa [岡 泰正]: “Spreading Holland Images”, in: *The Visual Revolution*…; p. 64.(국문 번역 제목, 「流布되는 ‘오란타’(阿蘭陀)의 이미지, 『視覺革命! 異國と出繪った江戸繪畫』)

❖ Bibliography

- 이민호, 『동서양 문화교류와 충들의 역사』, 파주: 한국학술정보, 2009.
- 이중희, 「에도시대 외래화풍의 수용상황」, 『근대 일본이 본 서양』, 28-33. (서울대미술관 전시회 도록, 日韓對譯, 고베시립미술관 소장품 전시회 2011. 4. 20.~5. 29.)
- 가쓰모리 노리코(勝盛典子), 「에도시대의 나가사키 무역」, 『근대 일본이 본 서양』, 36-37.
- 神戸市立博物館 編, 『神戸市立博物館で楽しむ歴史と美』(고베시립박물관에서 즐기는 역사와 美), 神戸: 神戸市立博物館, 2013.
- 九州國立博物館 編, 『視覺革命! 異國と出繪った江戸繪畫』(神戸市立博物館 名品展), 九州: 九州國立博物館, 2013.
- 오카 야스마사(岡 泰正), 「視覺의 近代를 찾아서 - 日本 洋風畫 小史」, 『근대 일본이 본 서양』, 13-19.
- _____, 「우키에(浮繪)와 메가네에(眼鏡繪)」, 『근대 일본이 본 서양』, 113-119.
- _____, 「에도인(江戸人)이 놀란 3D 세계를 추체험!」, 오상현 역, 九州國立博物館 編, 『視覺革命! 異國と出繪った江戸繪畫』[시각혁명, 이국과 만난 에도 우키요에(浮世繪)], 九州: 九州國立博物館, 2013, 27.
- _____, 「實物の 우키요에(浮世繪)를 끌어들인 18세기의 미니어처 3D 텔레비전」, 오상현 역, 『視覺革命! 異國と出繪った江戸繪畫』, 29.
- _____, 「超小型 노조키메가네(のぞき眼鏡)의 流行을 증명하는 우타마로(歌麿)의 인물화」, 오상현 역, 『視覺革命! 異國と出繪った江戸繪畫』, 28.
- _____, 「베네치아의 大運河가 에도(江戸)의 우키에(浮繪)에 등장」, 오상현 역, 『視覺革命! 異國と出繪った江戸繪畫』, 62.]
- _____, 「우키에(浮繪)에 묘사된 로마 폐허의 상상도」, 오상현 역, 『視覺革命! 異國と出繪った江戸繪畫』, 63.
- _____, 「流布되는 ‘오란다’(阿蘭陀)의 이미지」, 오상현 역, 『視覺革命! 異國と出繪った江戸繪畫』, 64.
- BALZER, Richard, *Peepshows: A Visual History*, New York: Harry N. Abrams, 1998.
- DEWITZ, Bodo von, “Eine mobile Bilderwelt. Der Guckkasten als Bildmedium der Aufklärung im 18. Jahrhundert”, in: B. von Dewitz · Werner Nekes (eds): *Ich sehe was, was Du nicht siehst!*, Museum Ludwig Köln/Göttingen: Steidl Verlag, 2002, pp. 78-85.
- FÜSSLIN, Georg · W. Nekes etc, *Der Guckkasten. Einblick-Durchblick-Ausblick*, Stuttgart: Füsslin Verlag, 1985.
- FUKUOKA, Maki, “Contextualising the Peep-box in Tokugawa Japan”, in: *Early Popular Visual Culture* (London), Vol 3. No. 1 (May, 2005), pp. 17-42.

- GANZ, Thomas, *Die Welt im Kasten. Von der Camera Obscura zur Audiovision*, Zürich: Verlag Neue Züricher Zeitung, 1994.
- HICK, Ulrike, *Geschichte der optischen Medien*, München: Wilhelml Fink Verlag, 1999.
- KAUFHOLD, Thomas, *Camera Obscura. Museum zur Vorgeschichte des Films*, Essen: Klartext Verlag, 2006.
- RAUSCHGATT, Doris, “Guckkasten - Miniaturen der Schaulust”, in: Ernst Kieninger · D. Rauschgatt (eds), *Die Mobilisierung des Blicks*, Wien: PVS Verleger, 1995, pp. 22-27.
- SCREECH, Timon, *The Lens within the Heart. The Western Scientific Gaze and Popular Imagery in Later Edo Japan*, Honolulu: University of Hawai Press, 2002.

Sources of Figures

[Figure 1] Western science books introduced to Japan and Japanese translation in the 18th Century

- a Treatise Describing and explaining the construction and use of new celestial and terrestrial globes (Amsterdam, 1770), 원제, 星學原始之書, 『근대 일본이 본 서양』, 43.
- b Illustration on the revolving of sun and planets in the upper Book, 『근대 일본이 본 서양』, p. 43.
- c Rangaku, First book on western medicine (Japan, 1774), 원제, 蘭學. 洋醫學書, 『神戸市立博物館で楽しむ歴史と美』, 72.

[Figure 2] Scientific instruments introduced to Japan in the 17~18th Century

- a World Map (1664, Amsterdam), Photo of Kobe City Museum.
- b Telescope (late 18th Century, Holland), 『神戸市立博物館で楽しむ歴史と美』, 72.

[Figure 3] The early Peep-boxes in Japan

- a ca. 1730, Unsigned, detail of Asakusa handscroll from the series <Amusement in Edo>, British Museum, in: *The Lens within the Heart*, pp. 122-123.
- b ca. 1755, woodblock print by Ishikawa Toyonobu [石川豊信 1711-85], in: *Die Welt im Kasten*, p. 84.

[Figure 4] European peep-boxes of the reflex type

- a, b ca. 1750, Germany, in: *Die Welt im Kasten*, p. 64.
- c ca. 1750, Holland, in: *A Visual History*, p. 23.

d ca. 1790s-1800s, L'optique, Holland, in: *Ich sehe was ...*, p. 111.

[Figure 5] L'optique (zographicscope), 1780s-90s, France, 『근대 일본이 본 서양』, 125.

[Figure 6] Ukiyo-e, ca. 1765-70, 『근대 일본이 본 서양』, 124; 『視覺革命! 異國と出繪った江戸繪畫』, 26.

[Figure 7] European peep-boxes of the direct viewing type

a ca. 1720, Holland, in: *Ich sehe was ...*, p. 92.

b ca. 1760, Holland, in: *Ich sehe was ...*, p. 111.

c 18th Century, production country unknown, in: *A Visual History*, p. 29.

[Figure 8] Japanese peep-boxes of the direct viewing type and Ukiyo-e

a Peep-box with four legs, in: 『근대 일본이 본 서양』, 124.

b Miniature peep-box, in: <http://w00.middlebury.edu/ID085A/Edo/gallery3.html>

c Ukiyo-e by Kitagawa Utamaro [喜多川歌麿 1753-1806], 원제, <婦人相學十体かはゆらし相>(Woman looking into a picture-show box), 『근대 일본이 본 서양』, 129.

[Figure 9] Japanese peep-box of the direct viewing type and Ukiyo-e

a Peep-box, 1771-89, 『근대 일본이 본 서양』, 128; 『視覺革命! 異國と出繪った江戸繪畫』, 29.

b Ukiyo-e by Kasugawa Shunzan [勝川春山 1726?-1793], ca. 1790, 원제 표기 없음(Untitled), in: *A Visual History*, p. 60.

c Ukiyo-e by Kitagawa Utamaro [喜多川歌麿 1753-1806] ca. 1800, 원제 표기 없음, in: *Die Welt im Kasten*, p. 74.

[Figure 10] European peep-box pictures

a Den Haag, ca. 1700, in: *Ich sehe was ...*, p. 91.

b Amsterdam, ca. 1760, in: *Der Guckkasten*, p. 35.

c Rome, 18th century, in: *A Visual History*, p. 35.

d New York, ca. 1780, in: *Der Guckkasten*, p. 35.

[Figure 11] Maruyama Okyo's megane-e in 1750s

a <Shizo Bridge with Surroundings>[四條橋之居], 『視覺革命! 異國と出繪った江戸繪畫』, 61.

b <Motel at Gion>[祇園御旅所], 『視覺革命! 異國と出繪った江戸繪畫』, 61.

[Figure 12] Toyoharu's meggane-e, color woodblock print, <Holland Grand Canal>

원제, <우키에 오란다 프란카이노 종소리가 울려 퍼지는 대운하>(浮繪 紅毛
ヲウカイノ漆万里鐘響図), 1764-89, 『근대 일본이 본 서양』, 17; 『視覺革命!
異國と出繪った江戸繪畫』, 62.

[Figure 13] Visentini's copperplate print <Grand Canal>(the original title: Il Canal
Grande verso nord – est della Croce fino a San Geremial), 1742, 『근대
일본이 본 서양』, 17; 『視覺革命! 異國と出繪った江戸繪畫』, 62.

[Figure 14] Toyoharu's megane-e, color woodblock print, <A Brothel Area at
Sakai-cho in Tokyo>, in: *Die Welt im Kasten*, p. 85.