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The Lens within the Heart: The Western Scientific Gaze and  
Popular Imagery in Later Edo Japan (review)

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ity of diplomatic practice. Because the foundations of East Asian diplomacy consisted of just such discursive practices (Ch. *li*, Jp. *rei*), such make-believe was inextricably connected with other forms of power such as economic wealth and military might. Indeed, Hesselink has provided a superb example of make-believe in the form of a fake Dutch embassy bringing about a significant economic and cultural effect: the continuation of Dutch trade in Japan.

Returning to the question of Japan's isolation, Hesselink points out that complete isolation was impossible and impractical "as Toby himself has convincingly argued. A *degree* of isolation, however, was rational and probably a necessary prerequisite for a Japan ruled by warriors" (p. 167) who knew that they had fallen behind the times in terms of technological prowess. In this context, Hesselink makes a convincing case for viewing places such as Tsushima and Ryukyu "as *buffers* that allowed Japan to officially ignore China while at the same time enabling it to keep an eye on developments on the continent" (p. 167). A few pages later he suggests that Holland buffered Japan from the rest of Europe. Toby, incidentally, is similarly concerned with distinguishing degrees of isolation: "For the concept of 'seclusion' or 'isolation' to have any utility as an analytical device . . . it must be defined. We must know, that is, the *limits* of isolation, the *degree* of isolation, and the full range of possibilities if offered."<sup>2</sup> Indeed, in their various ways, the works of Toby, Hesselink, as well as Japanese scholars such as Arano Yoshinori, Tanaka Takeo, Nishijima Sadao, Asao Naohiro, and Nagazumi Yōko rule out a simple yes or no answer to the question of Tokugawa Japan's isolation.

*The Lens within the Heart: The Western Scientific Gaze and Popular Imagery in Later Edo Japan.* By Timon Screech. Second Edition. University of Hawai'i Press, Honolulu, 2002. xxiii, 305 pages. \$26.00, paper.

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The artist David Hockney has drawn much attention recently with his claims that from as early as the fifteenth century, many Western artists used optics (mirrors and lenses) to create drawings and paintings.<sup>1</sup> Such claims are not

2. Ibid., p. 21.

1. David Hockney, *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters* (London: Thames and Hudson, 2001).

new. Svetlana Alpers, in her classic text *The Art of Describing: Dutch Art in the Seventeenth Century* (1983), argues that Dutch culture was essentially visual rather than textual. This was reinforced by the emergence of new experimental science and technology. Timon Screech, in his newly revised book, tells us what happened when such culture was exported to Japan.

Screech's book, first published in 1996, draws on a considerable literature dealing with how the introduction of Western science and technology influenced Japanese art. Almost 30 years ago, Calvin L. French's study of *Shiba Kōkan: Artist, Innovator, and Pioneer in the Westernization of Japan* (1974) was first published. Since then, the language of art history and scholarly concerns have changed. We have come to realize that cultural influence is a two-way street. Japanese woodblock prints exerted a major influence on how European artists saw the world and vice versa.<sup>2</sup>

In Japan, books such as *Megane-e shinkō: Ukiyoe-shi-tachi ga nozoita sei-yō* (1992) by the curator Oka Yasumasa brought together discussions of the impact of viewing devices such as peepboxes with more longstanding concerns about the influence of seventeenth-century Dutch art on Japanese *ukiyo-e* artists, and the encounter with Western perspective. This was a world of popular culture rather than high science. Two years later, the art historian Kishi Fumikazu published his *Edo no enkinhō: Uki-e no shikaku* (1994), which looked at the impact of perspective in greater detail. This was followed by *Edo no kōkishin: Bijutsu to kagaku no deai* written by the curator Uchiyama Jun'ichi and published in 1996. Unlike the other two authors, Uchiyama included topics such as the connection between anatomy and art, and the depiction of light and shadow.

It is against this background that Screech's important study appeared. This slightly revised edition has a new preface and expanded bibliography in which Screech acknowledges the rich literature on this topic. Although several works published since the book first appeared are listed in an addendum, Uchiyama fails to get a mention. And minor errors such as Nakayama (not Nishiyama) Shigeru need to be corrected. Although it is unfortunate that the text could not have been revised to take into account what has been learned since it was first written, readers should note chapters on Sugita Genpaku and Maruyama Ōkyo that appear in Screech's subsequent book *The Shogun's Painted Culture: Fear and Creativity in the Japanese States, 1760–1829* (2000) and his book chapter on "The Birth of the Anatomical Body" in Nicole Coolidge Rousmaniere's edited collection *Births and Rebirths in Japanese Art* (2001).

In the book under review, however, Screech argues that Japanese no-

2. See, for example, National Gallery of Australia, *Monet and Japan* (Canberra: National Gallery of Australia, 2001).

tions of sight were changed in the later part of the eighteenth century as a result of the introduction of Western technology and scientific instruments. He suggests that the change in perception can be most clearly seen in popular culture (including *ukiyo-e* prints and illustrated books). This is reinforced by the cover illustration, which shows a detail of Katsushika Hokusai's woodblock print "Women with a Telescope and Parasol" from the series "Fūryū nakute nanakuse" (printed after 1798). The telescope is not a mere accessory but the very focus of attention. Indeed, the book focuses on vision itself.

Screech tackles the big question of what seeing means and how it relates to wider cultural concerns, as explored so brilliantly by Svetlana Alpers. Screech argues that Japan's encounter with the West (especially Holland) changed systems of visual awareness in Japan. In writing a text about vision, there is always the possibility of coming up short. However, the book is handsomely illustrated with extensive black-and-white illustrations (149 plates and figures), and Screech writes in an accessible, engaging style.

Screech describes the "Western scientific gaze," referring not so much to the "project" of natural history collecting that was part of the mission of European explorers at the time, but rather the precise type of looking that Alpers has written about. Screech feels that the gaze was turned to other aspects of human life, such as "social norms, personal relations, individual integrity, and morality" (p. 3). In this regard, Screech sees parallels with Buddhism, a topic he returns to at the end of the book. But before we reach that lofty viewpoint, there is a long journey.

We begin in chapter one with a discussion of "Trade and Culture in the Eighteenth Century" and come to understand how ideas and things from the West were introduced into Japan. Screech acknowledges that many historians have written about Rangaku (Dutch studies) and its contribution to Japan's modernization in the nineteenth century. Screech, however, wishes to emphasize its links with popular life. He looks at "Holland" as a type of discourse and seeks to examine what it meant to people at the time. He argues that the idea of "Holland" principally related to imported things (including telescopes, microscopes, spectacles, and kaleidoscopes), their sense of precision, and how they enhanced vision.

As we see in chapter two, a focus on things from Holland inevitably drew comparisons with things from China, where much of Japan's more "traditional" culture has derived from. The contrast was nowhere more apparent than in anatomy. Sugita Genpaku rejected Chinese approaches to the body in favor of Dutch "learning by observation" (p. 44). Screech ties this to the Dutch desire for visual evidence. When it was not forthcoming, devices were used to render visible what was not (p. 47). This is a major theme of some recent history of science. While Screech seems keen for the book

not to be viewed as such, it points to directions where some historians have already gone, most notably those featured in *The Values of Precision* (1995) edited by M. Norton Wise, and Peter Galison in his 1997 book *Image and Logic*.

Screech's book will also be of interest to fans of Japanese popular culture as the book is very much concerned with the material world. In chapter three, Screech links the Japanese fascination with devices such as *karakuri* (automata) with the discourse about Holland and the love of precision. In chapter four, we then literally turn to "Machinery for Pictures," namely copperplate etching (practiced by artists such as Shiba Kōkan), the "devil lantern" projector, and the peeping *karakuri* box. In chapter five, we see how glass enabled people to see in, and in chapter six Screech turns to the human eye itself, spectacles, and microscopes.

With an increased ability to see came a type of authority. In chapter seven, Screech writes about how the Japanese were able to obtain a "view from on high" via telescopes and tall buildings. Viewing from above could be likened to "seeing as the Buddhas see" (p. 239). Screech points out how the eye played an important role in Buddhist mythology and, as many art lovers will know, Buddhas and bodhisattvas are recognized by the third eye on their foreheads, which helps them to peer within.

Japanese representations of the Amida Buddha often show the Buddha compassionately looking down toward the worshiper, welcoming him or her to the Land of Highest Happiness. Thanks to Western science and technology, the Japanese could achieve the commanding gaze of Buddha themselves. The bronze Great Buddha of Kamakura (c. 1252) could actually be entered, providing visitors with a transcendent sense of experiencing the cosmos. The Buddha was seen as containing the universe.

By way of a conclusion, Screech refers to how the castaway Tsudayū likened the experience of visiting the planetarium in the tsar's palace in St. Petersburg in the 1790s to visiting the Kamakura Buddha and the experience within. The interiors of both were a fusion of "cosmic and earthly, near and far, foreign and home." For Tsudayū, things were never quite the same.

This is a masterfully written book that brings together the concerns of many scholars working in art history and the history of science and technology. Although the aim of the book is not to show how the Japanese made "progress towards membership of any putative modern intellectual community" (p. 5), it is precisely through studies such as Screech's that we can understand how the Japanese, to this day, have embraced science and technology as an integral part of everyday life and an essential ingredient in their future.