

Darwin Commemorations and Three Generations of Historians of Biology

Akihisa Setoguchi

Received: 15 October 2009 / Accepted: 15 October 2009 / Published online: 25 November 2009
© National Science Council, Taiwan 2009

1 Introduction

The history of biology has a long history in Japan. The History of Biology Group was established in 1954, and the following year they began to publish the journal, *Notes on the History of Biology* (生物学史研究ノ一ト). Since then, members of the group have actively published important works on the history of biology.¹ However, the subject seems to be less visible overseas. One of the reasons for this relative obscurity is that Japanese historians have published their works mainly in their own language, since they have been dealing with the agenda and needs of their own society. The history of science is also embedded in its social context.

This essay discusses the shifting agenda for historians of biology through the window of Darwin commemorations.² Charles Darwin, who published *The Origin of Species* in 1859, has been celebrated every 50 years: first in 1909, again in 1959, and most recently in 2009. As Pnia Abir-Am has discussed, commemorative events are the place where the scientific community constructs their own collective memory, reflecting their contemporary agenda (Abir-Am 1999). Even scientific biographers are sometimes involved in the construction of collective memories. My argument begins with biologists' remarks on their own history, and after that, I outline the establishment of the history of biology and identify shifting trends in the historiography.

¹For details of the Biological Unit of History of Science Society of Japan, see <http://www.ns.kogakuin.ac.jp/~ft12153/hisbio/>. On the development of history of science in Japan, see Low (1989) and Nakajima (2007); the latter is focused mainly on the history of physics.

²A more detailed discussion of Darwin commemorations in Japan is argued in Setoguchi (2009b).

A. Setoguchi (✉)
Graduate School of Economics, Osaka City University, Osaka, Japan
e-mail: aseto@econ.osaka-cu.ac.jp

I will focus on the discourses of the introduction of Darwinism into Japan. It is well known that it was Edward Sylvester Morse, an American zoologist, who introduced Darwinism into Japan. He came to Japan in 1877 and became the first professor of zoology at the University of Tokyo. Before leaving Japan in 1879, he gave several public lectures on Darwinism, which had a strong impact on Meiji Japan.³ Then, how did biologists and historians view Morse's introduction of Darwinism? How did their histories change in relation to the prevailing social agenda? Finally, I will speculate as to what might constitute the future agenda for the history of biology in East Asia.⁴

2 1909: Emergence of the History of Biology

In 1909, the 50th anniversary of the publication of *The Origin of Species*, events celebrating Darwin were held all over the world. In Japan, there were four ceremonies honoring Darwin.⁵ At one such celebration at Tokyo Imperial University, we can find several comments made regarding Morse's contribution. For example, Tsuboi Shōgorō (坪井正五郎), an anthropologist, recalled that Darwin praised Morse's work on archaeology in Japan. Sasaki Chūjirō (佐々木忠次郎), Morse's former student, talked about an episode when the University of Tokyo invited Morse to serve as a professor (Tanaka 1909). However, these mentions of Morse's activities are rather anecdotal and lack a historical perspective. When and how did the historical discourse on biology emerge in Japan?

It was during another commemoration event that biologists began to talk about history of Japanese biology. During the 1900s, there were several events that celebrated the 50th anniversary of Matthew Perry's visit to Japan in 1853. One of the most ardent organizers of the celebration was Ōkuma Shigenobu (大隈重信), a famous politician. In 1907, he supervised the publication of an expansive history of modern Japan, *Fifty years from Opening the Country*. In this book, Mitsukuri Kakichi (筑作佳吉), a professor of zoology at the Tokyo Imperial University, wrote a chapter on the history of natural history in Japan (Mitsukuri 1907).⁶

In this chapter, Mitsukuri praised Morse as the first person to introduce Darwinism to Japan. In addition, he emphasized the role of Tokyo Imperial University in introducing Western science to Japan. He stated, "Tokyo Imperial University has been the most important institution in our country. Therefore, the history of the University is the history of Japanese science" (Mitsukuri 1907: 989–990). He went on to describe Morse and C. O. Whitman, the American zoologist who succeeded Morse, as the founders of Japanese biology. We can find here the origin of historiography that puts too great an emphasis on foreign professors at the University of Tokyo, which Morris Low once criticized as one-way traffic of

³ On E. S. Morse, see Cross (1996). On the reception of Darwinism in Japan, Shimaō (1981) and Matsunaga (2002) are also useful.

⁴ In this paper, Japanese names appear in their own order, family name first, followed by the given name.

⁵ The four ceremonies were as follows: ceremony by Fujikawa Yū (富士川遊), a medical historian, held on 21 Nov.; Shiga Shigetaka (志賀重昂), a geographer's ceremony on 23 Nov.; and ceremonies at Tokyo Imperial University and at Tohoku Imperial University on 24 Nov.

⁶ An English version of this book was also published (Huish 1909).

knowledge from the West, calling it the “teacher and pupil” model (Low 1989).

Although Mitsukuri never identified himself as a historian, he was succeeded by the first generation of historians of biology. In the 1930s, biologists who were interested in history began to publish detailed studies of the development of Japanese biology. One of those historian–biologists was Koizumi Makoto (小泉丹), a parasitologist at Keio University, who returned to Japan from colonial Taiwan in 1923. Although Koizumi was a member of the Materialism Research Society (唯物論研究会), he never showed any sympathy for Marxism. In his anthology of the history of Japanese science, published in 1943, he discussed the introduction of Darwinism into Japan. He praised Morse as follows: “It was lucky for Japan that Morse, who was an ardent and talented scholar, introduced Darwinism into Japan” (Koizumi 1943: 459). This indicates that the history of biology in Japan began with the celebration of the “success” of modernization of Japan. However, when the second generation of historians emerged in the 1950s, they began to adopt a completely different historiography.

3 1958: First Generation Versus Second Generation

In 1958, 1 year before the worldwide celebration of Darwin, Japanese biologists held several Darwin centennial events in Tokyo, Kyoto, and Osaka.⁷ During these anniversary events, two of the first generation of historians of biology played an important role. One was Yasugi Ryūichi (八杉龍一), a philosopher–zoologist who had been strongly influenced by Russian Marxist philosophy. Yasugi began his career in the 1940s and was an ardent scholar of Darwinian philosophy until the 1980s. He translated *The Origin of Species*, published a biography of Darwin, and published philosophical arguments on Darwinism. In 1958, he worked hard to organize Darwin centennial events.

The other historian was Ueno Masuzō (上野益三), a historian–zoologist at Kyoto University. Ueno had been interested in *honzōgaku* (本草学, herbal medicine) and East Asian natural history in the pre-modern period. During the commemorative events, Ueno published a paper on the history of Darwinism in Japan in the official anthology of the Darwin centennial. His historiography was almost the same as Mitsukuri and Koizumi's. He wrote: “Morse, who encouraged evolutionary thought... deserves high praise” (Ueno 1960).

However, during that same year, the second generation of historians of biology began to criticize Edward Morse. The first and most important of them was Satō Shichirō (佐藤七郎), a cytologist–historian based at the University of Tokyo. He wrote a short essay on the history of Darwinism for the magazine *Kagaku* (科学, *Science*). In his essay, he argued that Morse's Darwinism had many problems. He wrote that Morse's evolutionary theory was “too rough in logic,” and put too much emphasis on the “struggle for existence.” He also criticized Morse's lectures, arguing that they included too much on human evolution, so that Darwinism in Japan

⁷ For more on the Tokyo symposium, which focused on biological issues, see Oka (1960). On the other hand, at the Kyoto and Osaka symposia, biologists discussed Darwin in the historical context (Miyadi 1958).

developed not so much in terms of biology, but rather in the context of social evolutionism (Satō 1958). Although Satō's article was a short essay, only one page in length, it was quite influential. Many historians of science in the 1960s argued about whether Morse's introduction was the cause of the "failure" of Japanese biology (for example, Murakami 1965). This historiography was contrary to the first generation's view that emphasized the "success" of the introduction of Darwinism.

In postwar Japan, many historians of science were involved in the leftist scientist movement. Left-wing biologists gathered around Satō and established the history of biology group in 1954, which was under the auspices of the Biological Unit of the Association of Democratic Scientists (民主主義科学者協会生物学部会). As historian Nakayama Shigeru (中山茂) has argued, members of the Association embraced progressivism and tried to improve Japanese society through democracy and science (Nakayama 2001). They thought that Japanese society had "failed" to develop proper science, and that this was one of reasons for Japan's defeat in World War II. This view of the past, which emphasized the "failure" of Japanese science, was common among both historians and leftist scientists until Hiroshige Tetsu (廣重徹) criticized it as "catch-up" historiography (Hiroshige 1973).

Despite the prevalence of this view regarding the failure of Japanese science, some studies by this group are still worthy of our attention. One of them is Nakamura Teiri's (中村禎里) expansive survey of the Lysenkoism versus Mendelism debate in Japan, which has been recently reprinted, despite having been originally published in 1967 (Nakamura 1967, see also Nakamura 1974). However, as the leftist scientist movement declined and as the Society of Democratic Scientists faded in the late 1950s, the history of biology group became less aligned with the biologists' movements. After 1964, the group was reorganized as the Biological Unit of the History of Science Society of Japan (日本科学史学会生物学史分科会), and the title of their journal became *Japanese Journal of History of Biology* (生物学史研究).

4 2009: The Divide between Historians and Biologists

In 2009, both historians and biologists held several Darwin-commemorative events. At some events, historians encountered biologists. For example, I gave a talk on the collective memory of E. S. Morse at a small session on "Darwinian Evolutionary Theory and the Present Status of the History of Science," at the annual meeting of the Society of Evolutionary Studies, Japan. However, during this year's Darwin ceremonies, historians and biologists seem to be rather separated. For example, the Science Council of Japan, the largest organization of scholars, held two symposia: one was led exclusively by biologists in August 2009, and the other will be held in December 2009, led by historians, including some biologists. At the Darwin Exhibition, which was held in 2008, many biologists played an active role, but there were no historians involved.

This is not because historians have lost interest in Darwinism. The country's most prominent Darwin historian is Matsunaga Toshio (松永俊男), who has written many books on both the intellectual and social history of evolutionary theory. Historical studies of E. S. Morse and his activities have also been written by Watanabe Masao (渡辺正雄) and Isono Naohide (磯野直秀). Watanabe elaborated on Satō's thesis and discussed the impact of Morse's introduction of Darwinism on social thought

(Watanabe 1976). Isono surveyed Morse's activities during his stay in Japan in great detail, and argued that it is unlikely that Morse's lecture led Japanese biology on the wrong path (Isono 1987, 1990). Although Watanabe and Isono disagreed regarding their evaluation of Morse's achievements, both shared the “teacher and pupil” model, which highlights Morse as the most important actor and places less emphasis on other historical figures. Unoura Hiroshi (鵜浦裕) has discussed “Samurai Darwinism,” the term he coined for Katō Hiroyuki's (加藤弘之) social Darwinism that supported the Emperor-centered Meiji government system (Unoura 1999). Sakura Osamu (佐倉統) has also written several articles on introduction of sociobiology into Japan (Sakura 1998).⁸

However, for most members of the third generation of historians of biology, those who were educated after the 1970s, the introduction of Darwinism became a less important topic of concern. More serious was the social conflict caused by the development of biomedicine and the emerging problems of bioethics. Although most of this generation was first educated as biologists, they became critical of science and switched their major to the history of science. Some of them were educated at the newly established graduate program of the history of science at the University of Tokyo.

The most active member of this generation has been Yonemoto Shōhei (米本昌平), who began his career as an independent historian of biology and has published many books on the history of eugenics and comparative studies on bioethics policy (Yonemoto et al. 2000). Suzuki Zenji's (鈴木善次) work on the history of Japanese eugenics was also influential, although he is much older than the second generation (Suzuki 1983). Brain death has been a significant concern in Japanese society since the 1980s. Komatsu Yoshihiko (小松美彦), who had studied the philosophy of nineteenth-century physiology, published actively on the historical study of death and became a strong critic of organ transplants from brain-dead patients (Komatsu 1996; see also Lock 2002).

It is surprising that the textbook *Modern History of Life Sciences*, published in 2002 by members of the Biological Unit of the History of Science Society, includes no chapter on evolution, but most of the chapters deal with medicine and the biology of human beings, such as eugenics, anthropology, and sexology (Hirono et al. 2002). The works of Japanese historians of biology might not be well known outside of Japan, but their statements on ethical topics of biomedicine have had a significant impact on Japanese society.

5 Conclusion

In this paper, I have argued that there have been three generations of historians of biology. The first generation praised the “success” of Morse as a teacher of Darwinian theory. On the other hand, the second generation, in the 1950s, emphasized the “failure” of Morse as the cause for the distorted development of

⁸ Recently, a new perspective that challenges conventional historiography is emerging. Conventional historiography has argued that Japanese people accepted Morse's lecture enthusiastically because there was no religious obstacle, like Christianity, but Migita (2009) argues there was significant resistance from Shintō priests. Low (2008) and Hung (2009) argue more complicated relationship between Christianity and Darwinism in Meiji Japan.

Japanese biology. These generations might seem to adopt quite opposite historiographies, but they shared the same goal: the prompt and proper development of Japanese biology. We may call this “scientific nationalism,” according to Mizuno Hiromi's recent book on the history of Japanese science (Mizuno 2009). She argues that, after the 1920s, the Marxist historians, technocrats, and popular science writers shared a common goal of making Japan a more “scientific” nation. On the other hand, the third generation is more critical of science and interested in its more social and political aspects.

The readers of this journal might think it is a pity that these three generations do not seem to have any perspective on East Asia. However, recently, a new trend of historiography is emerging. For example, Sakano Tōru (坂野徹) has written a substantial book on the history of anthropology during the expansion of the Japanese Empire into Taiwan, Korea, and the Southern Pacific (Sakano 2005). My own work on the history of entomology also includes some references to malaria research in colonial Taiwan (Setoguchi 2007, 2009a). Fujihara Tatushi (藤原辰史) has argued that geneticists supported the expansion of the Japanese Empire with new varieties of rice, which were invented to meet the demands of the Japanese people (Fujihara 2007). These works reflect a new agenda for investigating the trans-national interaction of biological studies in the era of globalization. How did biology support the expansion of the Japanese Empire? How was Darwinism used in the colonial context by those who ruled and by those who were governed? How did the study of biological science impact on postwar East Asian geopolitics? There are many neglected issues and topics that East Asian historians of biology should deal with.

References

- Abir-Am, P. G. (1999). Introduction. In P. G. Abir-Am, & C. A. Elliot (Eds.) *Commemorative practices in science. Osiris*, 14, 1-33.
- Cross, S. (1996). Prestige and comfort: the development of social Darwinism in early Meiji Japan, and the role of Edward Sylvester Morse. *Annals of Science*, 53, 323-344.
- Fujihara, T. (2007). Ine mo mata Yamato minzoku nari [稲も亦大和民族なり], Rice is also Yamato race]. In H. Ikeda (Ed.), *Daitōakyōeiken no bunka kensetsu* [大東亜共栄圏の文化建設, Cultural construction of the Greater East Asia Co-Prosperty Sphere] (pp. 189-240). Kyoto: Jinbun Shoin.
- Hirono, Y., et al. (eds). (2002). *Seimeikagaku no kingendaishi* [生命科学の近現代史, Modern history of life sciences]. Tokyo: Keisō Shobō.
- Hiroshige, T. (1973). *Kagaku no shakaishi* [科学の社会史, Social history of science]. Tokyo: Chūōkoronsha.
- Huish, M. B. (ed). (1909). *Fifty years of new Japan*. New York: Dutton.
- Hung, K. (2009). Alien science, indigenous thought and foreign religion: reconsidering the reception of Darwinism in Japan. *Intellectual History Review*, 19(2), 231-250.
- Isono, N. (1987). *Mōsu sonohi sonohi* [モースその日その日, Morse day by day]. Yokohama: Yūrindō.
- Isono, N. (1990). Contributions of Edward S. Morse to developing Young Japan. In E. R. Beauchamp & A. Iriye (Eds.), *Foreign employees in nineteenth century Japan* (pp. 193-212). Boulder: Westview.
- Koizumi, M. (1943). *Nihon Kagakushi shikō* [日本科学史私攷, Anthology of history of Japanese science]. Tokyo: Iwanami Shoten.
- Komatsu, Y. (1996). *Shi wa kyōmei suru* [死は共鳴する, Resonating Death]. Tokyo: Keisō Shobō.
- Lock, M. (2002). *Twice dead: organ transplants and the reinvention of death*. Berkeley: University of California Press.

- Low, M. F. (1989). The butterfly and the frigate: social studies of science in Japan. *Social Studies of Science*, 19, 313–342.
- Low, M. F. (2008). Science, Protestant Christianity and Darwinism in Meiji Japan. *Historia Scientiarum*, 18–2, 76–87.
- Matsunaga, T. (2002). Evolutionism in early twentieth century Japan. *Historia Scientiarum*, 11, 218–225.
- Migita, H. (2009). *Tennōsei to shinkaron* [天皇制と進化論, Tenno system and evolutionary theory]. Tokyo: Seikyūsha.
- Mitsukuri, K. (1907). Hakubutsugaku [博物学, Natural history]. In Y. Soejima (Ed.), *Kaikoku gojūnenshi Jokan* [開国五十年史上巻, Fifty years from opening the country] (pp. 983–1014). Tokyo: Kaikoku Gojūnenshi Hakkōjo.
- Miyadi, D. (ed). (1958). *Dāwinizumu to gendai no shokagaku* [ダーウイニズムと現代の諸科学, Darwinism and cotemporary sciences]. Tokyo: Rironsha.
- Mizuno, H. (2009). *Science for the empire: scientific nationalism in modern Japan*. Stanford: Stanford University Press.
- Murakami, Y. (1965). Seibutu shinkaron ni taisuru nihon no hannō [生物進化論に対する日本の反応, Japanese response to biological evolution]. *Hikaku bunka kenkyū*, 5, 145–183.
- Nakajima, H. (2007). Differences in East Asian STS: European origin or American origin? *East Asian Science, Technology, and Society: An International Journal*, 1, 237–241.
- Nakamura, T. (1967). *Ruisenko ronsō* [ルイセンコ論争, Lysenko debate]. Tokyo: Misuzu Shobō (reprinted as (1997). *Nihon no Ruisenko ronsō*. Tokyo: Misuzu Shobō).
- Nakamura, T. (1974). Marxism and biology in Japan. In S. Nakayama, D. L. Swine & E. Yagi (Eds.), *Science and society in modern Japan: Selected historical sources* (pp. 253–269). Cambridge: MIT Press.
- Nakayama, S. (2001). The Association of Democratic Scientists (Minka). In S. Nakayama, K. Goto & H. Yoshioka (Eds.), *A Social history of science and technology in contemporary Japan, Vol. 1* (pp. 470–481). Melbourne: Trans Pacific.
- Oka, H. (ed). (1960). *Dāwin shinkaron hyakunen kinen ronshū* [ダーウィン進化論百年記念論集, Anthology of Darwin centennial]. Tokyo: Nihon Gakujutsu Shinkōkai.
- Sakano, T. (2005). *Teikoku Nihon to jinrūgakusha* [帝国日本と人類学者, Japanese Empire and anthropologists]. Tokyo: Keisō Shobō.
- Sakura, O. (1998). Similarities and varieties: a brief sketch on the reception of Darwinism and sociobiology in Japan. *Biology and Philosophy*, 13, 341–357.
- Satō, S. (1958). Nihon no shinkaron no rekisi dansō [日本の進化論の歴史断想, Random essay on history of evolutionary theory in Japan]. *Kagaku*, 28(4), 34.
- Setoguchi, A. (2007). Control of insect vectors in the Japanese Empire. *East Asian Science, Technology and Society: An International Journal*, 1, 167–181.
- Setoguchi, A. (2009a). *Gaichū no tanjō* [害虫の誕生, Birth of harmful insects]. Tokyo: Chikuma Shobō.
- Setoguchi, A. (2009b). Dāwin wo kinen suru [ダーウィンを記念する, Commemorating Darwin]. *Japanese Journal of History of Biology*. In press
- Shimao, E. (1981). Darwinism in Japan, 1877–1927. *Annals of Science*, 38, 92–102.
- Suzuki, Z. (1983). *Nihon no yūseigaku* [日本の優生学, Eugenics in Japan]. Tokyo: Sankyō Shuppan.
- Tanaka, S. (1909). Darwin Kinenkai [ダルウィン記念会, Darwin celebration]. *Dōbutsugaku Zasshi*, 11 (254), 533–541.
- Ueno, M. (1960). Honpō ni okeru shinkaron inyū shiryaku [本邦に於ける進化論移入史略, Brief history of introduction of evolutionary theory in Japan]. In H. Oka (Ed.) *Dāwin shinkaron hyakunen kinen ronshū* (pp. 10–16).
- Unoura, H. (1999). Samurai Darwinism: Hiroyuki Kato and the reception of Darwin's theory in modern Japan from the 1880s to the 1900s. *History and Anthropology*, 2, 235–255.
- Watanabe, M. (1976). *Nihonjin to kindaikagaku* [日本人と近代科学, Japanese and modern science]. Tokyo: Iwanami Shoten (English translation by O.T. Benfey (1990): *The Japanese and Western science*. Philadelphia: University of Pennsylvania Press).
- Yonemoto, S., et al. (2000). *Yūseigaku to ningen shakai* [優生学と人間社会, Eugenics and human society]. Tokyo: Kodansha.