

Petrified worldviews

The Eurocentric legacy in architectural knowledge bases on Japan

Beate Löffler

Introduction

Some years ago, I prepared a master's course for architects on Japanese architecture. I intended to teach the historical development of forms and types of cities, religious and public buildings as well as dwellings within the sociocultural frame of Japan and encountered a problem: the library holdings did not provide the information necessary for some of the planned student assignments. While in some cases the literature was only available in Japanese, in other cases it was superficial or even completely absent. As further inquiry showed, the library was not to blame, but the knowledge base on Japanese architecture, which is insufficient to cover the topics usually discussed in architectural history.

My ensuing research into the literature available in English, German, or French, in public and academic libraries as well as at bookshops, revealed three phenomena with respect to the lack of knowledge and the deficiency of discourse. First, there is not a single encyclopedic and topical overview of the history of Japanese architecture suitable for the classroom.¹ Secondly, while some topics, such as the tea house, are discussed repeatedly, even

1 Overviews were common in the early twentieth century but went out of fashion after World War II (e.g., Commission Impériale du Japon à l'Exposition universelle de Paris 1900; Harada 1936; Sadler 1941). Topical overviews are handbooks of well-studied cases but do not cover the overall context (e.g., Nishi 1983; Young 2004). Even regarding the modern era of Japanese architecture, which is well analyzed as a whole, some issues remain unsolved.

if on a sometimes superficial level,² other topics are poorly studied or missing altogether. This affects some standard issues in discourses of architectural history such as modern religious architecture, diverse urban models across history, theory of architecture, or even some basic topics regarding the generally very popular issue of Japanese dwellings. Lastly and most disturbingly, many of the texts use expressions and conceptualizations which simplify and polarize cultural phenomena along a dichotomy of East versus West.³ This includes assessments of architectural phenomena based on biased concepts of culture and/or civilization. The latter is known from texts on »national« architectural traditions in Europe from the nineteenth century onward as well,⁴ but notions like this subsequently disappeared from academic discourse regarding European architectural history during the latter half of the twentieth century. Yet it remains part of the architectural historiography regarding Japan.

This observation was unexpected. Japan became popular with architects especially of classical modernism before World War II and remained in discourse for decades, which should have gotten rid of colonial perceptions and evaluations. In the end, the significant difference between the general interest in Japanese culture and architecture on the one hand and the amount of reliable information about it on the other inspired a long-term research project about the generation, evaluation, and management of knowledge within the field of architectural history. The study is a complex

2 Beyond travelogues, souvenir photographs, and catalogues of the World's Fairs (e.g., Chicago 1893), Franz Baltzer was the first to discuss the architecture (Baltzer 1903). Okakura Kakuzō (1906) introduced the cultural practice to a Western audience. For a complete analysis see Surak (2012).

3 This phenomenon is apparent in the seminal works of Surak (2012) and Tagsold (2017) in neighboring fields as well as in Delank (1996) or Vogel Chevroulet (2010).

4 See, e.g., Viollet-le-Duc's *Histoire de l'habitation humaine, depuis les temps préhistoriques jusqu'à nos jours* (1875), Rudolf Henning's *Das deutsche Haus in seiner historischen Entwicklung* (1882), or the more abstract discourses, such as Heinrich Hübsch's *In welchem Style sollen wir bauen?* (1828).

hermeneutical analysis of texts and images, media and actors evolving around the architectural artifacts in their Japanese environment and the European practice of the authors involved. However, while the research approaches toward architectural history may be legitimately applied globally, many concepts are deeply influenced by European schools of thought and the resulting patterns of perception. To somewhat compensate for this, the research is influenced by conceptual approaches from cultural studies such as Clifford Geertz's holistic understanding of cultural phenomena and Homi K. Bhaba's concepts of cultural hybridity and otherness. Based on the preliminary results, I argue that both the gaps in knowledge and the remnants of the Eurocentric perspective date back to the formation of Japan-related studies during the latter half of the nineteenth century. I will further show which circumstances and ideas shaped the Western study of Japanese art and architecture at this point in time and how the institutionalization of modern academia influenced the field and petrified normative frames.

For the matter at hand, I will address only some of the many parameters that influenced the generation of knowledge on two different levels. First, I will broach very briefly the issues of authorship and expertise regarding Japanese architecture on the one hand and the possibilities of data acquisition by Westerners in Japan during the late nineteenth century on the other. Second, I address the in-field parameters that shaped the perception, evaluation, and integration of incoming information regarding Japanese architecture. I assume that the actors' self-conception and attitude predominantly shaped this process and embedded their professional worldview as well as their understanding of relevance in the knowledge base on Japanese architecture long-term. To do so, I look at three of the main topics of Western discourse regarding Japanese architecture and mirror the argumentations against the contemporary European doctrines. The three topics of art production, the danger constituted by fire and earthquakes, and the general problem of hygiene represent distinct parts of an architect's portfolio at the time and are closely linked to the main social discourses in these years.

Historical background

The exchange of knowledge between Europe and Japan came about in the middle of the sixteenth century through trade and Christian mission while Japan was engaged in civil war. The foreign influence proved momentous and was consequently crippled as soon as a new political balance was achieved with the establishment of the Tokugawa shogunate in 1603. Along with the complete prohibition of the Christian faith and worship and all missionary activities, foreign trade was limited to a Dutch and a Chinese trading post in the harbor of Nagasaki from 1640 on.⁵

In the mid-nineteenth century, Japan experienced pressure from the Western hegemonies to end its isolationist policy and to take part in the power competition in East Asia. The foreign interference resulted in a number of bilateral commercial treaties and the establishment of some settlements for foreign residents as well as in two decades of political restructuring in Japan. Driven by the Chinese example, the newly established Meiji government tried to avoid colonization by initiating a complex process of modernization in 1868. It introduced a Western administrative machinery as well as technological and cultural knowledge, dispatched students to renowned educational institutions abroad, and hired experts from Europe and North America as advisors and teachers.⁶ This added considerably to the international community of diplomats and tradesmen, missionaries and military personnel, which had been the first to settle in Japan during the late 1850s.

The Japanese government alone contracted approximately 3,000 experts over a period of about four decades; a similar number of foreigners came

5 The knowledge transfer between Japan and Europe in this period is best studied in regard to actors such as Engelbert Kaempfer (1651–1716) and Philipp Franz von Siebold (1796–1866) (e.g., Bonn 2003; Plutschow 2007). Information regarding the transfer of architectural ideas is mostly embedded in specific contexts such as the Christian mission (e.g., Meid 1977; Löffler 2011, 63–67) or the contemporary castle buildings (e.g., Coaldrake 1996, ch. 5).

6 For an overview on this issue, see Jones (1980) and Beauchamp (1990).

on their own or with private contracts (Jones 1980, xv). Civil engineers and architects arrived from Britain, the United States, Germany, and France to plan and supervise the construction of factories, administration buildings, railway stations, schools, barracks etc. all over Japan, introducing brick, cast iron, and concrete for some purposes. Art dealers, collectors, and artists visited to extend their collections and holdings, to gain inspiration for their creative work, or to advise the government regarding the further development of art production and art education. As many more came from other fields of expertise, they not only transferred Western knowledge to Japan but explored the country and reported home. This led to a sudden increase in publications about Japan in Europe and the appearance of Japan-related topics in popular and academic discourse. These sources make it possible to analyze the collection, evaluation, and dissemination of knowledge regarding architecture paradigmatically.

Authorship and expertise

The evaluation of the available publications shows that authorship is not necessarily related to formal expertise in the field. Aside from travelogues, regional studies, and World's Fair catalogues, I identified about 220 newspaper and journal snippets and articles, essays, and monographs addressing architectural topics regarding Japan in its widest sense between 1860 and 1900, ranging from descriptions of urban environment, construction, fire protection and earthquake resistance, singular buildings or building types, hygiene and social practices of dwelling to sightseeing, decorative detailing or new building projects and infrastructural development.⁷ For texts in which the author is named or can otherwise be

⁷ Journal articles from 27 periodicals of Japanese/Asian studies, art and architecture/engineering are included in the analysis for this time period: *Journal Asiatique* (1822–, analyzed 1855–1940), *Zeitschrift der Deutschen Morgenländischen Gesellschaft* (1847–), *Journal of the North China Branch of the Royal Asiatic Society* (1858–1948, analyzed 1858–1922), *Revue Orientale et Américaine* (1859–1900, analyzed 1859–75), *The Chinese and Japanese Repository* (1863–65), *Mitteilungen der deutschen Gesellschaft für Natur- und Völkerkunde Ostasiens* (1873–, analyzed 1873–1979), *Transactions of the Asiatic Society of Japan* (1874–, analyzed 1874–1910), *Österreichische Monatschrift für den*

inferred, less than half of the authors had professional experience with architecture, art, or construction of any kind. Among those with experience in architecture or at least with art, half never visited Japan, but derived their knowledge from secondary sources. Thus, the majority of information on architectural issues was provided by authors with very diverse backgrounds (law, linguistics, ethnology, transport engineering, trade) and levels of insight, which created a relatively comprehensive but random flow of information from which others generated analyses and surveys. While all of them contributed to the flow of information toward the West and the development of a certain body of knowledge, the number of authors whose input allowed the European colleagues to engage in specialist discourse on architecture was small: The reliable basic knowledge on Japanese architecture up to the turn of the twentieth century was provided by three architects (Josiah Conder (1852–1920), Charles Thompson Mathews (1863–1934), and Ralph A. Cram (1863–1942)), two art scholars (Christopher Dresser (1834–1904), Okakura Kakuzō (1862–1913)), three (civil) engineers (Henry R. Brunton (1841–1901), M. Jules Lescasse (1842–1901), Georg Cawley (1848–1927)), a number of seismologists (John Milne (1850–1913), Kotō Bunjirō (1856–1935), Omori Fusakichi (1868–1923)), and zoologist Edward S. Morse (1838–1925). Their accounts, mostly essays of a dozen pages, went beyond the pure listing of buildings and topographical settings and

Orient (1875–1918), *Revue Française du Japon* (1892–97), *Transactions and Proceedings of the Japan Society, London* (1892–1941, analyzed 1892–1928), *The Art Journal* (1839–1912, evaluated 1849–1912), *Gazette des Beaux-arts* (1859–1925), *L'art* (1875–1907), *Die Kunst für alle* (1885–1943), *Studio: International Art* (1893–1925), *Ver Sacrum* (1896–1903), *Deutsche Kunst und Dekoration* (1897–1932), *The Builder* (1842–1966, analyzed 1851–1925), *Zeitschrift für Bauwesen* (1851–1931, analyzed 1851–1900), *The Building News and Engineering Journal* (1863–1926, analyzed 1863–1925), *Deutsche Bauzeitung* (1867–, analyzed 1867–1923), *The British Architect and Northern Engineer* (1875–1919), *American Architect and Building News* (1876–1938, analyzed 1876–1909), *Centralblatt der Bauverwaltung* (1881–1931), *Schweizerische Bauzeitung* (1883–1978), *Journal (RIBA)* (1884–1993, analysed 1884–93), *La Construction Moderne* (1885–, analyzed 1885–1938), *L'architecture* (1888–1939), *Architectural Record* (1891–, analyzed 1891–1924).

addressed architecture in its physical, built sense. This was based both on on-site experience in Japan and on either a relevant professional background or a long-term interest in the matter. This interest did not necessarily correlate with approval for the observed phenomena. While Edward S. Morse appreciated the functional and esthetic solutions of Japanese buildings, Josiah Conder and many of the others trained in engineering did not approve of the construction principles, the used materials or the (lack of) artistic expression of the Japanese buildings.⁸

Independent of the level of their authors' formal competence, the accounts were disseminated and discussed in journals either on Japanese /Asian Studies or on architecture, in the latter case usually by colleagues without on-site experience. While some texts gained lasting influence within and outside the field, such as Edward S. Morse's monograph *Japanese Homes and Their Surroundings* (1885), many others received barely any acknowledgement whatsoever.

The possibilities of data acquisition

The many activities of foreign residents in Japan at this time conceal two limiting factors in regard to data acquisition in general and architecture in particular: mobility and language. The discourses on Japanese art developed around collection holdings kept in Europe or North America, assisted by improving methods of visual reproductions. The latter supported the study of architecture as well, but architectural artifacts are by definition immobile and require on-site inspection. Regarding Japan, this created challenges. While foreigners from the treaty nations were free to settle in one of the trade harbors, they were initially not allowed to leave the settlement and its immediate surroundings. Exceptions were made for foreign advisors who had to travel in relation to their contract obligations. Over time, foreigners took advantage of modifications allowed for travel permits for health reasons and for the promotion of Japanese scholarship and pushed them to the limits for touristic activities as well (Toyosawa

8 See, e.g., Brunton (1874, 1875) and Conder (1878, 1883, 1884), or in an analyzed form Clancey (2006) and Löffler (2017).

2008, 143–46; see Bird 1881, 84). This made the exploration of the Japanese built environment beyond the vernacular neighborhoods possible and feasible. As the comments in travelogues and travel guides show, the infrastructural parameters of travel were of higher relevance for the choice of the locations visited than the legal limitations (Toyosawa 2008, 145–46; Hockley 2007). This made another defining parameter for the acquisition of data and generation of knowledge on Japanese architecture even more relevant: language. While understanding structural systems, spatial organization, and design parameters of the actual built artifacts does not necessarily require language skills, language is needed to gain entrance, to obtain background information on building history, and to learn about the relevance of locations, buildings, and sites in general. Beyond this, language is needed to obtain information about interesting sites, possible routes, means of transportation, and accommodation along the way. Since only a small number of the authors on Japanese architecture had the necessary skills, Japanese guides and translators came to be indispensable facilitators for any research. Their specific influence on the choice of cases and the resulting insights often remain unclear, not least since their role was rarely acknowledged in the resulting publications.⁹

These conditions, which were in part specific to Japan, in part common challenges for field research outside of the touristically developed parts of Europe at the time, shaped the collection of data and the creation of knowledge in the available texts.

There was, however, an altogether different layer of parameters that gained even more influence on the emerging knowledge on Japanese architecture, namely the building-related fields of professional expertise jockeying for position. The emergence and subsequent academization of engineering professions applied pressure on the fields of the building

9 An exception is Christopher Dresser's *Japan, its Architecture, Art and Art-Manufactures* (1882). His diary gives insights into the role of his Japanese support staff, namely Ishida Tametake and Sakata Haruo, and Ishida's report on this trip serves as a counter-narrative (Scholtz 2011, chap. 1, 20–108).

trades and of artistic (architectural) design. As a consequence, each of the fields involved campaigned to highlight their own competence and to devalue the opposing parties. This included a struggle for the prerogative of interpretation regarding the conceptual meaning of »architecture.« Thus, the incoming information on Japanese architecture was evaluated, discussed, and disseminated according to its usefulness in this dispute. Qualities that proved helpful for a particular line of argumentation became embedded in the knowledge systems, others were disregarded (Löffler 2017).

Thus, only a small number of issues with respect to Japanese architecture initially addressed in the many publications were repeated, given constant attention, or initiated discourse. The most obvious are art production, the dangers constituted by fire and earthquakes, and questions of hygiene. Incidentally, these three topics allow us not only to trace the processes of knowledge production on Japanese architecture, but point toward the complex and interwoven character of architecture as an art form, an engineering profession, and as a social practice. It underlines the fundamental transformation that the field of architecture underwent in the course of the academization of civil engineering, architecture, art, art history and, later, urban planning on the one hand and the Eurocentric reference system that framed the evaluation of that knowledge on the other.

Discursive topics/art

The discourse regarding Japonism in the fine and applied arts has been widely studied and written about, spanning Impressionism, the Arts and Crafts movement, Art deco, and ethnographic collections, among many others (e.g., Lancaster 1963; Wichmann 1999; Sigur 2008; Lambourne 2007; Mae 2013; Irvine 2013). The craze at that time and the immense impact of artifacts and art technologies from Japan on Europe's art history may obscure the fact that Western acknowledgement of Japanese art was not unconditional. While the design decisions for ceramics, fans, or lacquerware were appreciated for their inspiring creativity, Japanese buildings, ink paintings, and sculptures did not adhere to European rules of proper artistic expression. Sir Rutherford Alcock (1809–97), British

diplomat in China and Japan and an avid collector of Japanese art, marked the distinction in his book *Art and Art Industries in Japan*:

Of high Art, such as has been cultivated in Europe since the dark ages, the Japanese know nothing. But the range of true artistic work in its application to industrial purposes in Japan is very wide, and more varied than anywhere in Europe. (Alcock 1878, 15)

Alcock refers to the canon of arts that ruled art education and art connoisseurship of the time. It draws a precise line between fine art, taught at art academies like the arguably leading *École des Beaux-Arts* in Paris and aiming to train artists, on the one hand, and applied art, taught at often local industrial schools to provide further training to craftsmen, on the other. Art historian James Jackson Jarves (1818–88), who never visited Japan but gained his insights from images, takes the same position as Alcock and explains his evaluation in *A Glimpse at the Art of Japan*.

Indeed, painting, sculpture, and architecture, in their supreme significance—the fine arts, with human soul and form as their fundamental motives, and human excellence or spiritual loveliness as their distinctive aims in expression—are not found in the aesthetic constitution of the Japanese. (Jarves 1876, 22)

He argued that since Japanese art did not perceive man as the prime subject of artistic expression, as the Greek tradition did, it was thus to be judged as essentially different from the European standards:

Far narrower in range, unscientific in our meaning, less profound in motives, unambitious in its aims, less fettered by technical rule or transitory fashions, it is more subtle [*sic*], intense, varied, free, and truthfully artistic in decorative expression; more abounding in unexpectedness and delicious surprises, in aesthetic coquetries and charms of aesthetic speech intelligible to every degree of culture. (Jarves 1876, 22)

Jarves' and Alcock's statements are comparatively explicit in drawing a clear line between »artistic enjoyment« and »true fine art,« but while many other texts use gentler descriptions and explanations, they express

just the same conviction about Western superiority in fine arts (e.g., GONSE 1883, vol. 2, 11, 18; Godwin 1878, 85).

The valorization of European artistic traditions led the authors to dismiss Japanese architecture as well. Jarves wrote:

Architecture, in its noblest condition, is equally unknown in Japan. There is shown no elaborate attempt to develop it, either in intellectual or spiritual shapes. Instead they erect temporary homes or shrines, tent-like in principle, bizarre in construction, mostly of wood or frailer material, and in nowise responding to that fine instinct of immortality which materializes itself in our finest religious edifices, or even those aspirations which find vent in our ambitious palaces and public buildings. (Jarves 1876, 21)

British architect Josiah Conder (1852–1920), Founding Professor of the Department of Western Architecture at the Imperial College of Engineering in Tokyo, adopted a more pragmatic approach when he addressed his students in 1878:

Upon one thing I insist, and that is, that a building must be substantial, and that in its very essence and nature it is to be a secure protection from the elements, and from all probable destructive forces. Without a certain necessary amount of substantial material we can produce only sheds and bungalows which cannot be dignified by the name of Architecture. [...] It seems to me that there is little use of changes in building in your country, if the chief aim is not solidity and strength. (Conder 1878, 3–4)

The words of both authors point toward the ruling architectural canon of the time, which appointed notions of architectural art only to representative stone buildings and within a clear European hierarchy of artistic value. At the head of this hierarchy stood the temples of Ancient Greece, the Acropolis in Athens representing the ideal, followed by Renaissance churches such as St. Peter's Basilica in Rome, the cathedrals of the French Gothic period, and finally the later academic styles. Against this background and the Vitruvian ideals of *firmitas* (solidity), *utilitas* (usefulness), and *venustas* (aesthetics) in architectural theory, vernacular buildings did

not qualify as architecture, nor did wooden or—for that matter—cast-iron constructions, no matter how technically or aesthetically elaborate or monumental.

This explains the distinction between the building itself and its artistic decoration in the summary on Japanese architecture that Japanologist Basil Hall Chamberlain (1850–1935) provided in his influential handbook *Things Japanese* (1890). He addresses the memorial sites of the Tokugawa shogunate, which were famous for their plentiful decorative details and were considered highlights for sightseeing:

Nikko and Shiba are glorious, not as architecture (in the sense in which we Europeans, the inheritors of the Parthenon, of the Doges' Palace, and of Lincoln Cathedral, understand the word architecture), but for the elaborate geometrical figures, the bright flowers and birds and fabulous beasts, with which the sculptor and painter of wood has so lavishly adorned them. (Chamberlain 1891, 33)

In addition, the holistic professional profile of the Japanese carpenter did not meet the European expectations regarding the division of labor and status (see Coaldrake 1990; Clancey 2006). It clashed with the contemporary process of professional differentiation between the empirically based blue-collar construction of buildings and an architect's supposedly scientific and artistic white-collar design process. As a result of this evaluation, the interest in Japanese architecture was in its picturesque characteristics, such as the composition of building parts, the relationship between building and landscape, and the decorative detailing. It was perceived as an expression of a non-modern culture, soon to be overwritten and extinguished by necessary modernization. While some regretted the impending loss, Japanese architecture was subject to phenomenological observation of curious or picturesque characteristics alone and did not become a field of deeper study. The disseminated visual material—(photographs, paintings, and sketches) of the existing architectural heritage in Japan—followed

this interest and was dominated by souvenir photography of exotic places, foreign customs, and social practices.¹⁰

Discursive topics—Danger from fire and earthquakes

The second field of discursive interest arose from everyday experience in Japan. The densely populated urban environments consisted predominantly of wooden structures. While the regulations, infrastructures, and drills for fire prevention were strict, the many earthquakes caused not only damage to the buildings but often also conflagration. Within the Western community, the issue was perceived as easily solvable by comprehensive implementation of Western building techniques in stone and brick. Christopher Dresser (1834–1904)—admittedly not a building expert himself—was the only one who suggested keeping the traditional building practice, but to treat the wood with fire-retardant fluids (Dresser 1882, 236).

What remained open to discussion was the issue of earthquake-resistant construction. Older sources had already reported on the interconnectedness between seismic risks and local building technologies in Japan. German physicist Engelbert Kaempfer (1651–1716), who worked in Nagasaki for the Dutch East India Company (VOC), wrote in his *History of Japan*:

The reason of their building their houses so very low, is the frequency of earthquakes, which prove much more fatal to lofty and massy buildings of stone, than to low and small houses of wood. (Kaempfer 1727–29, vol. 2, 411–12)

He added:

I took notice, that the roof, which is covered with planks, or shingles of wood, rests upon thick, strong, heavy beams, as large as they can get them, and that the second story is generally built stronger and

10 The documentary photographs of major architectural sites taken during the Jinshin Survey of 1872 were never published. The colored woodblock prints of the time that addressed contemporary topics depicted quite a number of buildings and urban environments. Their focus, however, was not so much on Japanese buildings, instead, they often commented on the strange customs and houses of the Western foreigners.

more substantial than the first. This they do by reason of the frequent earthquakes, which happen in this country, because they observe, that in case of a violent shock, the pressure of the upper part of the house upon the lower, which is built much lighter, keeps the whole from being overthrown. (Kaempfer 1727–29, vol. 2, 412)

Kaempfer's account was often reproduced or adopted in travelogues and area studies and became an issue of dissent as soon as engineers took up the topic. British railway engineer Richard Henry Brunton (1841–1901) commented in 1874 regarding the Japanese house:

[W]ith its unnecessarily heavy roof and weak framework, it is a structure of all others the worst adapted to withstand a heavy earthquake shock. (Brunton 1874, 72)

He rejected the notion of any empirical or cultural reasons for the Japanese building practices and advocated massive stone and brick buildings with sufficient reinforcement in earthquake-endangered areas, in keeping with the European teachings of the time.

French civil engineer Jules Lescasse (1842–1901) worked for the Japanese government and planned infrastructure, service buildings, and dwellings, especially for the Ikuno mine (Hyogo) (Nishibori 1991; Lagarde-Fouquet 2014, 60, 62–63). He examined the Japanese construction principles more closely and considered the Japanese arguments for the form of foundations, the heaviness of the roofs and the design of joints. In the end, he acknowledged the ability of the low buildings to sway in case of a tremor but saw serious weaknesses in regard to their resistance to stronger horizontal jolts. He suggested wide-meshed wooden frameworks with infill in masonry reinforced by iron armature (Lescasse 1877, 451–58).

While Lescasse's solution took Japanese practices and resources into consideration, his main objective was the same as Brunton's: striving to find universal and comprehensive principles for building's complete physical resistance to all imaginable environmental influences. In case of earthquakes, this was apparently to be found in the utmost rigidity of the construction. Consequently, these ideas were confidently applied in Japan at the sites of modern building projects, be it factories, schools, or train

stations, and even in some dwellings like in Tokyo's showcase district Ginza (Meid 1977; Finn, 1995; Coaldrake 1996, 208–50).

With the engineers all on the same page, debate regarding earthquakes and Japanese construction principles arose in other professions. In his book *Japan. Its Architecture, Art, and Art Manufactures* (1882), Christopher Dresser not only commented on fire-retardant fluids, but argued in general in favor of the Japanese construction principles and against their wholesale replacement by Western structures.

To me nothing could be more absurd than this departure from architectural custom which has had the sanction of ages; and the result of this incongruous innovation will probably be a return to the native style of building after the occurrence of some dire calamity. (Dresser 1882, 236–37)

While his approach to the matter might have been driven by some romanticism, he strengthened his argument by referring to Japanese expertise and included information given by his interpreter, Haruo Sakata. With his help, Dresser describes the Japanese house and the Japanese pagoda as wooden constructions resilient against the impact of earthquakes:

It is obvious that while an object fixed to the earth might, if rocked, be broken off from the ground or become strained and destroyed, that that which is loose would simply oscillate and settle down again after the cause of its vibration had ceased. For instance, we may cause a chair or a table to rock by jolting it, but in a very short time it will become stationary and will be uninjured; whereas, were the legs fixed, the application of a small amount of pressure on the upper part (especially if the top was heavy), or any upheaving of a portion of the ground on which it rests, would be likely to injure or destroy it. (Dresser 1882, 235)

He elaborated especially on the built-in flexibility that allows for the tower-like pagoda to remain upright and to last through centuries of seismic occurrences (Dresser 1882, 237–38). The text met a friendly reception by the architectural and engineering journals in Britain but gave rise to opposition from Josiah Conder, causing a number of counterstate-

ments in the respective journals (Clancey 2006). Interestingly enough, the acknowledged architect failed to refute the layman's account convincingly and the discourse petered out after two years without a winner.¹¹ At the same time, actual research was taken over by experts from physics and the new field of seismology, thus moving away from building matters toward theoretical and experimental approaches.

When the Mino-Owari earthquake struck Japan in 1891, the shortcomings of both Western and Japanese ways of construction became visible. This did not diminish the faith in modern engineering knowledge and building technologies. Both the Japanese and the Western research that ensued concentrated on even more reinforcement. Even after the San Francisco earthquake of 1906, when analyses showed the value of elastic structures in timber and steel and thus of resilience over resistance (Engineering reports 1907, *The Effects of the San Francisco Earthquake 1907*), solutions were sought in Western engineering technologies alone. Rarely did anyone reexamine Japanese practices. While Fusakichi Omori (1868-1923) sketched the genesis of the pagoda construction system in 1921 and thus factually resolved Dresser's and Conder's dispute (Omori 1921, 110–52), the implementation of reinforced concrete during the 1920s actually provided a technology which was able to largely solve the problem on a practicable daily basis. This technological success marginalized interest in the earthquake resilience of Japanese wooden constructions even further.

While Western technology identified construction principles that allow for earthquake-resilient high-rises over the course of the twentieth century, the overall development left a Eurocentric gap in our knowledge bases. It is not due to systematic research by civil engineering that the mechanisms

11 This shows the fluidity of expert status in architecture at this time, which is especially apparent in Conder's case. As he was a highly qualified British architect and professor of architecture at the highest-ranking architectural department in Japan, his expertise should have been the leading voice in regard to Japanese architecture. However, one can assume that in addition to his comparatively low interest in the topic, his extended stay in Japan and his limited activity within the British architects' networks undermined his standing in Europe.

which enable Japanese pagodas and temples to remain upright are basically known today. It is due to building surveys in the course of heritage preservation that we gained access to case studies and learned about the elaborate and sustainable workings of constructional features for the earthquake resilience of traditional Japanese architecture (e.g., Henrichsen 2003; Larsen 1994; Enders and Gutschow 1998).

Discursive topics—Hygiene

The issue of hygiene in nineteenth-century discourse is likewise related to everyday observations in Japan and links technological development, urban planning, housing conditions, public health, and morals. While this topic was partially relocated into the field of civil engineering over time and became mostly obsolete in Western cities during the late twentieth century, debates regarding hygiene were for the longest time an essential topic in architecture and planning, even more so in the course of urbanization and industrialization in the nineteenth century. Hygiene encompasses diverse phenomena from heating of and fresh air for dwellings to drinking water supply, toilets, and sewage disposal, and is addressed by diverse authors across all the textual media available from travelogues to papers by experts in specialized journals.

In 1858, Andrew Hull Foote (1806–63), captain of the US Navy, wrote in his report on the *Visit to Simoda and Hakodai in Japan*:

The streets of Simoda are fifteen or twenty feet wide and partly paved with stone. At the sides are gutters and sewers for draining the refuse water and filth into the harbor, or into a small stream, running through the outskirts of the town—another evidence of an advanced state of civilization over the Chinese. (Foote 1858, 131)

In a similar travelogue from 1856, German artist Wilhelm Heine (1827–85) links the cleanliness of the city to its residents' individual conduct:

Within the houses as well as on the streets, great cleanliness prevails, and the latter are even swept at least once a day, just as the residents

bathe every day. The better-off have the bath in their homes, the poorer use public baths [...]. (Heine 1856, vol. 2, 33)¹²

This observation, however, generated a problem of interpretation since the practices of body cleansing, while exemplary in terms of hygiene, violated the understanding of cause and effect and the moral compass of many observers. German geographer Johann Justus Rein (1835–1918) struggled with this problem when he described the customs of Japan in the 1880s:

The unconcern with which the female members of the household use the bath in view of the men and of passers-by has caused many a European no little astonishment. (Rein 1888, 412)

A paragraph later, his account additionally points toward the adaptations in public behavior in Japan due to the Christianity-based ethics of the Western cultures that served as a model for the modernization process:

There are many public bath-houses for the people in every town. [...] Formerly both sexes bathed together without any concern, they are now separated by a plank partition barely one and a half metres high. (Rein 1888, 412)

Rein's disapproval of some hygienic practices shows the problems which all foreigners faced in Japan: their patterns of interpretation frequently did not fit the case. While Japan was doubtless perceived to be a highly developed culture, it lacked the markers of European civilization, especially the technological infrastructure that had become a self-evident indicator of a progressive society in the West. However, the technologically inferior Japanese culture managed to ensure high hygienic standards across all levels of society and thus challenged the Western self-image. Consequently,

12 »In den Häusern wie auf den Straßen herrschte eine große Reinlichkeit und selbst letztere werden alltäglich wenigstens einmal gefegt; eben so pflegen die Bewohner alltäglich zu baden. Wohlhabendere haben das Bad im Hause, Ärmere besuchen öffentliche Badeanstalten [...].« (translated by the author).

Rein's argument is no longer consistent when he tries to come to a clear interpretation and evaluation of the observed customs:

The Japanese, though on the whole he does not stand upon a high level of morality, did not upon such occasions indulge himself in anything that was unseemly even according to our ideas. It was only contact with Europeans that opened his eyes, and put an end to this Paradisiacal simplicity. [...] Bashfulness is undoubtedly a product of social life and civilization, as was pointed out long ago by Rousseau. It is no criterion of morality, appears in different forms, and varies with the education of mankind and with the climate in which they have to live. (Rein 1888, 413)

This is not least due to the fact that the Western understanding of hygiene itself was comparatively new in this form and not coherent in itself. It fused elements of the Christian tradition, which included a guarded attitude toward physicality and sexuality, with the enlightened understanding of the links between sewage disposal and bodily cleanliness on the one hand and health care and disease prevention on the other. This somewhat haphazardly connected hygiene, especially bodily cleanliness, with technological innovation and civilization as well as with paternalistic concepts of national education and morality.

The densely populated Japanese urban areas proved superior in this matter since all the leading Western cities of the time were subject to the dire threat of epidemics due to the lack of sufficient sanitation. A key event in this regard was the Great Stink in London in 1858, which finally triggered extensive reconstruction of the urban sewer system. As in London, the well-known urban redevelopments such as Haussmann's renovation of Paris, 1853–70, or James Hobrecht's *Radialsystem* for Berlin, 1873–90, that addressed the health risk, among other issues, were still in their planning stages or in the very beginning of realization at the time.¹³

13 For an introduction into the issue see for example Mumford 1966, especially the chapter 15 Paleotechnic Paradise: Coketown, 446–81.

While the Japanese model of individual hygiene, drinking water supply, and sewage disposal was functioning very well, even in cities with about a million inhabitants like Tokyo, it was not perceived as a solution for the European plight. It relied on manual labor instead of technological infrastructure and was thus not seen fit to provide suggestions for progressive modern Western cities. In addition, it depended deeply on the socio-cultural conditions of Japan, as Edward Morse elaborated in 1886 in his evaluation of the Japanese privy (Morse 1886, 231–33).

When Basil Chamberlain provided a single-sentence synopsis on the topic in 1891, the technological solutions in European cities had become successfully established, thus solving the issue:

[T]he physicians who have studied Japanese dwelling-houses from the point of view of hygiene, give them a clean bill of health. (Chamberlain 1891, 35)

As observed similarly in the other cases above, the Western interest in Japanese hygienic practices was inspired by a critical situation in Europe. Therefore, study and analysis focused on potential solutions and rejected the Japanese low-tech approach as soon as it became obvious that it was not consistent with the Western ideas of technological development and social progress. Thus, the information collected remained fragmentary and evaluations made at one time were rarely reconsidered against the background of new data.

Conclusion

The discursive constellations in relation to Japanese architecture presented above represent three significant fields of Western interest that mirror the close interconnectedness between architectural issues and general social discourse. Beyond these, three more topics came up repeatedly: the social role of the Japanese artisan, the relationship between building and landscape, and the simplicity and starkness of Japanese interior design and use of materials. All the analyzed texts of the late nineteenth and early twentieth century provided factual information and contextualized it within the general systems of European world perception and the

respective knowledge systems of competing specialists' fields. In doing so, the discourses about Japan, while providing information, primarily negotiated cultural hierarchies and an understanding of levels of civilization against the background of technological development alone. On the one hand, the analysis of Japanese phenomena served a general self-affirmation of European cultural and technological superiority, but on the other, it served to demarcate professionalism and specialization in the fields of architecture, art, and civil engineering within Europe and without integrating the available non-Western input.

The Enlightenment had given rise to the professionalization of natural science and the shift from *artes liberales* to the academically institutionalized humanities. In parallel, the technological fields of the traditionally low-ranking *ars mechanicae* gained influence in the course of industrialization and fought for an acknowledgment of their work as scientific and rational and thus equal to the well-established older disciplines. The fine arts remained in limbo in their search for precise delineations between high art on the one hand and craftsmanship on the other. Each of the actors in these interest groups strove to strengthen his position and his respective specialist's prerogative of interpretation within society.

This competition within the European intellectual elite led to a conscious devaluation and marginalization of established empirical practices and knowledge systems. Trade-based competence was labeled »traditional« and »non-scientific« in contrast to the »modern« and »scientific« processes of knowledge production in modern academia. These efforts to delineate precise territories of competence created artificial fields of study, as is the case with architecture, which still maintains a contested claim that it connects technological advancement with high art and social organization.

In terms of the management of knowledge regarding Japanese architecture, this historical situation during the latter half of the nineteenth century proved crippling. While the amazement and curiosity in contact with the foreign culture had initially created a holistic approach to information gathering, the pragmatic approach of experts aware of the field soon led to a focus on the usefulness of any information for the European knowledge system. Since the Japanese architectural solutions did not fit

any of the parameters sought for, data never underwent deeper reflection or analysis but was shelved as it was collected. In the long run, it was not widely discussed and thoroughly analyzed knowledge that became the foundation of modern Japanese architectural studies in the West, but raw, superficial data, interwoven with cultural biases.

References

- Alcock, Rutherford. 1878. *Art and Art Industries in Japan*. London: Virtue.
- Baltzer, Franz. 1903. *Das Japanische Haus: Eine Bautechnische Studie*. Berlin: Ernst & Sohn.
- Beauchamp, Edward R., and Akira Iriye, eds. 1990. *Foreign Employees in Nineteenth Century Japan*. Boulder: Westview Press.
- Bird, Isabella Lucy. 1881. *Unbeaten Tracks in Japan: An Account of Travels on Horseback in the Interior; Including Visits to the Aborigines of Yezo and the Shrines of Nikkô and Isé*. 2 vols. New York: G. P. Putnam's Sons.
- Bonn, Gerhard. 2003. *Engelbert Kaempfer (1651–1716): Der Reisende und Sein Einfluß auf die Europäische Bewußtseinsbildung über Asien*. Frankfurt am Main: Peter Lang.
- Brunton, Richard Henry. 1874. »Constructive Art in Japan (1).« In *Transactions of the Asiatic Society of Japan II*, 64–86. Tokyo: Asiatic Society of Japan.
- . 1875. »Constructive Art in Japan (2).« In *Transactions of the Asiatic Society of Japan III*, 20–30. Tokyo: Asiatic Society of Japan.
- Chamberlain, Basil Hall. 1891. *Things Japanese*. 2nd ed. London: Kegan Paul, Trench, Trübner.
- Clancey, Gregory. 2006. *Earthquake Nation: The Cultural Politics of Japanese Seismicity, 1868–1930*. Berkeley: University of California Press.
- Coaldrake, William H. 1990. *The Way of the Carpenter: Tools and Japanese Architecture*. Tokyo: Weatherhill.
- . 1996. *Architecture and Authority in Japan*. New York: Routledge.
- Commission Impériale du Japon à l'Exposition universelle de Paris, ed. 1900. *Histoire de l'art du Japon*. Paris: Maurice de Brunoff.
- Conder, Josiah. 1878. *Lecture upon Architecture: Addressed to the Architectural Students*. Tokyo: Kobudaigakko, Tokei, Japan.
- . 1883. »Japanese Pagodas and Their Construction.« Letter to the editor. *Building News and Engineering Journal* 44 (April 20): 529.
- Conder, Roger Thomas. 1884. »Japanese Pagoda.« *Building News and Engineering Journal* 47 (December 19): 1017.

- Delank, Claudia. 1996. *Das Imaginäre Japan in der Kunst: »Japanbilder« vom Jugendstil bis zum Bauhaus*. München: Iudicum.
- Dresser, Christopher. 1882. *Japan: Its Architecture, Art, and Art Manufactures*. London: Longmans, Green.
- Enders, Siegfried R. C. T., and Niels Gutschow, eds. 1998. *Hozon: Architectural and Urban Conservation in Japan*. Stuttgart: Edition Axel Menges.
- »Engineering reports on the San Francisco earthquake.« 1907. *The Builder* 92 (June 1): 656.
- Finn, Dallas. 1995. *Meiji Revisited: The Sites of Victorian Japan*. New York: Weatherhill.
- Foote, Andrew Hull. 1858. »Visit to Simoda and Hakodai in Japan.« *Journal of the North China Branch of the Royal Asiatic Society*: 129–37.
- Godwin, Edward William. 1878. »Japanese Building.« *The British Architect and Northern Engineer* (August 30): 85.
- Gonse, Louis. 1883. *L'Art Japonise*. 2 vols. Paris: A. Quantin.
- Harada, Jiro, and Charles Geoffrey Holme, eds. 1936. *The Lesson of Japanese Architecture*. London: The Studio.
- Heine, Wilhelm. 1856. *Reise um die Erde nach Japan an Bord der Expeditions-escadre unter Commodore M.C. Perry in den Jahren 1853, 1854 und 1855: Unternommen im Auftrage der Regierung der Vereinigten Staaten*. 2 vols. Leipzig: Hermann Costenoble.
- Henning, Rudolf. 1882. *Das Deutsche Haus in seiner Historischen Entwicklung*. Strassburg: Karl J. Trübner.
- Henrichsen, Christoph, ed. 2003. *Historische Holzarchitektur in Japan: Statische Ertüchtigung und Reparatur/Historic Wooden Architecture in Japan; Structural Reinforcement and Repair*. Stuttgart: Theiss.
- Hockley, Allan. 2007. »Globetrotter's Japan: People; Foreigner on the Tourist Circuit in Meiji Japan.« Accessed December 5, 2017. https://ocw.mit.edu/ans7870/21f/21f.027/gt_japan_places/index.html
- Hübsch, Heinrich. 1828. *In welchem Style sollen wir bauen?* Karlsruhe: Chr. Fr. Müller'sche Hofbuchdruckerey.
- Irvine, Gregory, and Tayfun Belgin. 2013. *Japonisme and the Rise of the Modern Art Movement: The Arts of the Meiji Period*. London: Thames & Hudson.

- Jarves, James Jackson. 1876. *A Glimpse at the Art of Japan*. New York: Hurd and Houghton.
- Jones, Hazel J. 1980. *Live Machines: Hired Foreigners and Meiji Japan*. Vancouver: University of British Columbia Press.
- Kaempfer, Engelbert. 1727–1729: *The History of Japan, Giving an Account of the Ancient and Present State and Government of that Empire: Of Its Temples, Palaces, Castles and Other Buildings, of Its Metals, Minerals, Trees, Plants, Animals, Birds and Fishes, of the Chronology and Succession of the Emperors, Ecclesiastical and Secular, of the Original Descent, Religions, Customs, and Manufactures of the Natives, and of Their Trade and Commerce with the Dutch and Chinese; Together with a Description of the Kingdom of Siam*. 2 vols. London: printed for the translator [J. G. Scheuchzer].
- Lagarde-Fouquet, Annie. 2014. »Contribution d'ingénieurs et architectes français à la construction de Yokohama (Japon) entre 1860 et 1900.« In *Les Acteurs de la composition urbaine (édition électronique)*, edited by Brigitte Bertonecello, 56–69. Paris: Éditions du CTHS.
- Lambourne, Lionel. 2007. *Japonisme: Cultural Crossings between Japan and the West*. London: Phaidon Press.
- Lancaster, Clay. 1963. *The Japanese Influence in America*. New York: W. H. Rawls.
- Larsen, Knut Einar. 1994. *Architectural Preservation in Japan*. Trondheim: Tapir.
- Lescasse, M. J. 1877. »Étude sur les Constructions Japonaises, &c.« *Memoires de la Société des Ingénieurs Civils* (April 6): 211–18, 451–58.
- Löffler, Beate. 2011. *Fremd und Eigen: Christlicher Sakralbau in Japan seit 1853*. Berlin: Frank & Timme.
- . 2017. »Verhinderte Innovation: Der japanbezogene Erdbebendiskurs als fachhistorisches Phänomen.« In *Alltag und Veränderung—Praktiken des Bauens und Konstruierens*, edited by Gesellschaft für Bautechnikgeschichte, 191–204. Dresden: Thelem.
- Mae, Michiko, and Elisabeth Scherer, Elisabeth, eds. 2013. *Nipponspiration: Japonismus und japanische Populärkultur im deutschsprachigen Raum*. Cologne: Böhlau.

- Meid, Michiko. 1977. *Der Einführungsprozeß der europäischen und nordamerikanischen Architektur in Japan seit 1542*. Cologne: Abteilung Architektur des Kunsthistorischen Instituts der Universität Köln.
- Morse, Edward Sylvester. 1886. *Japanese Homes and Their Surroundings*. Boston: Ticknor & Company.
- Mumford, Lewis. 1966. *The City in History: Its Origins, Its Transformations, and Its Prospects*. 3rd ed. London: Secker & Warburg.
- Nishi, Kazuo, and Kazuo Hozumi. 1983. *What is Japanese architecture?* Tokyo: Kodansha.
- Nishibori, Akira. 1991. »Meiji jidai no kōzan kankei furansuhito ni tsuite (1). Kan'ei Ikuno kōzan.« *Yokohama keiei kenkyū: Yokohama Business Review* 12 (3): 61–72.
- Okakura, Kakuzō. 1906. *The Book of Tea*. London: Putman's Sons.
- Omori, Fusakichi. 1921. »Measurement of Vibration of Gojunotos, or 5-Story Buddhist Stupas (Pagodas).« *Bulletin of the Imperial Earthquake Investigation Committee* 9 (3): 110–152.
- Plutschow, Herbert. 2007. *Philipp Franz von Siebold and the Opening of Japan—A Re-evaluation*. Folkestone: Global Oriental.
- Rein, Johann Justus. 1888. *Japan: Travels and Researches*. 2nd ed. 2 vols. London: Hodder & Stoughton.
- Sadler, Arthur. J. 1941. *A Short History of Japanese Architecture*. Sydney: Angus & Robertson.
- Scholtz, Amelia Catherine. 2011. »Dispatches from Japanglia: Anglo-Japanese Literary Imbrication, 1880–1920.« PhD diss., Rice University Houston.
- Sigur, Hanna. 2008. *The Influence of Japanese Art on Design*. Salt Lake City: Gibbs Smith.
- Surak, Kirsten. 2012. *Making Tea, Making Japan: Cultural Nationalism in Practice*. Stanford: Stanford University Press.
- Tagsold, Christian 2017. *Spaces in Translation: Japanese Gardens and the West*. Philadelphia: University of Pennsylvania Press.
- »The Effects of the San Francisco Earthquake of April 18th, 1906, on Engineering Constructions: Reports of a General Committee and of Six Special

Committees of the San Francisco Association of Members of the American Society of Civil Engineers.« 1907. *Proceedings of the American Society of Civil Engineers* 33 (3): 299–354.

Toyosawa, Nobuko. 2008. »The Cartography of Epistemology: The Production of »National« Space in Late 19th Century Japan.« PhD diss., University of Illinois at Urbana-Champaign.

Viollet-le-Duc, Eugène. 1875. *Histoire de l'habitation humaine, depuis les temps préhistoriques jusqu'à nos jours*. Paris: Bibliothèque d'éducation et de récréation.

Vogel Chevroulet, Irène. 2010. *La création d'une japonité moderne (1870–1940) ou le regard des architectes européens sur le Japon. Josiah Conder, Robert Mallet-Stevens, Bruno Taut et Charlotte Perriand*. Sarrebruck: Université Européenne.

Wichmann, Siegfried and Mary Whittall, eds. 1999. *Japonisme: The Japanese Influence on Western Art Since 1858*. London: Thames & Hudson.

Young, Michiko, David Young, and Tan Hong Yew. 2004. *Introduction to Japanese architecture*. Hong Kong: Periplus Editions.

Dr. Beate Löffler, IN-EAST School of Advanced Studies, University of Duisburg-Essen: beate.loeffler@uni-due.de.