Recognizing the Similar and Thus Accepting the Other: The European and Japanese Traditions of Building With Wood

Reconocer lo semejante para aceptar lo diferente: Las tradiciones europea y japonesa de construcción en madera

Reconhecendo o semelhante, aceitando assim o outro: As tradições europeias e japonesas da construção em madeira

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Abstract | Resumen | Resumo

This article shows that building issues have not been tackled fundamentally differently in Europe and Japan despite large cultural differences. Different cultural expressions must not necessarily be equated with different thinking. The paper contrasts two apparently contradictory views. Numerous analyses of Japanese "otherness" in "Western" as well as local perception dominate the literature. But the results of extensive architectural field surveys seem to indicate the contrary. These results show similar and equal backgrounds and conditions resulting in similar and equal building types and techniques. They show that our ways of addressing a task are prompted by pragmatism. Broadly identical solutions were developed worldwide long before globalization. Yet this realization does not allow us to conclude that equal appearances can be taken to be equal in content.

Este artículo muestra que la forma de afrontar los problemas de construcción no era esencialmente distinta en Europa y Japón, a pesar de las grandes diferencias culturales. Expresiones culturales diversas no implican inevitablemente formas diferentes de pensar. Este artículo compara dos hechos aparentemente contradictorios. Una amplia gama de análisis de la "otredad" japonesa en la percepción "occidental", así como en la autóctona, domina el discurso científico. Los resultados de exhaustivas investigaciones arquitectónicas sobre el terreno parecen demostrar lo contrario. Estos resultados ponen de relieve que antecedentes y condiciones similares e iguales dan lugar a tipologías de edificios y técnicas constructivas similares e iguales. Además, demuestran que los métodos para afrontar una tarea están predominantemente marcados por el pragmatismo. Por todo el mundo se desarrollaron soluciones idénticas mucho antes de la globalización. Sin embargo, este descubrimiento no debe llevarnos a la conclusión de que un mismo aspecto puede evaluarse igualmente en cuanto a su contenido.
Este artigo mostra que o confronto com os problemas presentes na construção não foi abordado de forma fundamentalmente diferente na Europa e no Japão, apesar das grandes diferenças culturais. As diferentes expressões culturais não devem ser inevitavelmente equiparadas com um pensamento diferente. O artigo coloca em oposição dois factos aparentemente contraditórios. Uma vasta gama de análises da “alteridade” Japonesa na percepção “Occidental” bem como indígena domina o discurso científico. Os resultados de extensos estudos arquitectónicos de campo parecem provar o contrário. Estes resultados realçam que alguns antecedentes e condições que são semelhantes e iguais, dão lugar a tipologias de construção e técnicas de construção que também são semelhantes e iguais. Revelam que os métodos utilizados pelas pessoas para enfrentar uma tarefa são fortemente guiados pelo pragmatismo. Soluções globalmente idênticas foram desenvolvidas por toda a parte muito antes da globalização. No entanto, esta constatação não nos permite concluir que aparências iguais podem ser avaliadas igualmente em termos de conteúdo.

Introduction

This article is based on a paper presented on the 150th anniversary of the 1869 Friendship Treaty between Austria and Japan at a symposium held in Vienna in 2019. Its subject matter is still applicable and unfortunately topical. Recklessly pursued egoism and self-interest have driven humanity into a dead-end. On realizing this, many seek support and guidance from leaders perceived as charismatic, and despite bad historical experiences they blithely sign up to strategies involving bogeymen and conspiracy theories. Politics needs strong voices proclaiming that humans basically think equally, behave equally, and feel equally all over the world.

“Friendship” can be a euphemistic term. The aforesaid Friendship Treaty was more about economic and political interests such as had been asserted in China not long before than an amicable accord. Starting with the opium wars, Western colonial powers submitted China to their benefit over the 19th century. When they sought to repeat the strategy in Japan, the Meiji Restoration government did all it could to escape this fate. They were convinced that their only chance was to study and understand Western methods and interests, fearing that Japan’s experience would be like China’s. The resulting Iwakura Mission is legendary, though unknown to a wider public (Nish 1998; Panzier 2002). What is well known are the several world exhibitions at which Japan presented itself as matching its European and North American hosts, allowing Westerners to become more familiar with the Japanese nation. Japan’s self-presentations are striking indications of its rapidly changing self-perception and self-awareness. The consequences are well known. Japan generated surprise and fascination. Its culturally distinct “otherness” was perceived and cultivated at home as well as sought from abroad (Edlinger 2008; Schiermeier 2014). A perceived Japanese identity came into being.

“Self-perception” and “identity” are key terms in our approach here. A few architectural references that made Japanese “otherness” a subject of discussion as of the opening of the country in 1868 are cited as examples. Our selection deliberately does not give a coherent picture. Thus the various views will not be classified or assessed. This broad picture is contrasted with personal observation. A variety of architectural details seem to prove that the same building tasks generated the same results in both Europe and Japan. Brief analyses of juxtaposed examples show also that the similarity does not stop with appearance. We conclude cautiously that the theory of otherness is at odds with similar thinking as expressed in building practice.

The “other”

Many studies and much literature deal with the so-called “other” (e.g. Yoshiaki 1995; Löfler 2015b). Statements such as: “Only an insular people – an isolated people – can limit itself by building with one single structural material, that is to say wood, so consistently for 2000 years” (Nitschke 2002: 15) cement stereotypes about difference. Authors emphasizing the paradoxical culture and complexity of Japan’s society find “a high degree of adaptability” in its
The actively driven opening of Japan was not to everybody's taste. "History tells us that phases of rapid [...] changes have always been experienced as destabilizing, uncomfortable and irritating" (Herrle 2008: 11). Many undereducated people and those unwilling to make the efforts required in times of change tend to fall victim to simplifying nationalistic solutions. They are open to the notion that others have caused their disadvantaged situation. Beate Löfler got to the heart of this on describing different worlds of perception: Japan "took from the 'imagined empire' of the West whatever was needed" (Löfler 2015a: 100) to ward off the dreaded colonization. It is no surprise that the Japanese felt disparaged when the Japan of the late 19th century was seen by the West as "mostly a source of inspiration, not one of applicable knowledge" (Ibid.).

Much the same applied to those invited by the Japanese government to teach and to build: "For the architects and civil engineers [...] Japan was a place to earn money and to get large, prestigious public projects built to further career opportunities" (Ibid.).

Having spoken of "the other", we cannot ignore "Japan-ness" and "Japanese-ness" (Ciorra et al. 2016: 67–68), portraying the distinguished other. Peter Herrle writes about French influence in North Africa having created the "Arabesque" in order to express "the local" (Herrle 2008), showing that this creation of an awareness of an "own" – in this case – architecture is far from an exclusive phenomenon.

TheJapanese themselves coined the term Wayo. During the Kamakura period new building styles were introduced into Japan from China. By the late 12th century the architectural techniques and building methods imported from Tang China had become so natural (having been altered and adapted to Japanese taste) that Japanese people regarded traditional representative architecture of the Wayo style as Japanese. Botond Bognár interestingly suggests that this can happen in an unintended way: "Consecutive rebuildings after numerous fires provided the opportunities for [...] changes, often referred to as a process of 'Japanisation'" (Bognár 1988a: 17).

On the other hand, Japan underwent wholly local architectural developments. Shinto shrines are examples of representative architecture, and minka, commoners' houses, are vernacular buildings. To return to the doubtful statements quoted above, these were classified by Bruno Taut as "essentially un-Japanese" (Taut 1936: 14).

There are still people convinced of the notion that Japan's culture relies on copying and improving. This may be supported with numerous examples of historic architecture brought from China to Japan, though again we may speak of a "source of inspiration".

Inspiration also went the other way. A good example is Vincent van Gogh's copy of Hiroshige's Sudden Shower over Shin-Ōhashi bridge (Fig. 1). Van Gogh copied the composition and his personal ingredients are a kanji frame and the Japanese characters displaced out of the picture. Looking at the images side by side and knowing of the summer downpours in Japan and of Van Gogh's electrifying depiction of light, we can recognize innovation in Van Gogh's copy very much as innovation was described by the Roman scholar Macrobius.¹

Similarly, in an exhibition at the Vienna Museum of Applied Arts dedicated to Koloman Moser, the Austrian painter, graphic artist and co-founder of the Viennese Secession, two of the works on show were an original katagami, a dyeing stencil and an upholstery fabric entitled Waves at Play (Fig. 2), produced by the Backhausen company. The similarities are striking. Actually we seem to see a copy, and there is no
need to say which picture was modeled on the other. On looking closely we realize that there are also differences. Moser changed the distribution of the frolicking fish in the turbulent water. On careful inspection we detect several more alterations in the copy, or rather simplifications. My impression is that the Backhausen fabric calms the more vivid and vigorous original, perhaps through its coloring. The Backhausen fabric uses four colors whereas the paper-dyeing stencil could have served for a two-tone textile. Moser probably suited his design to the different expressive possibilities inherent in the different materials (though this is pure layman’s speculation).

As mentioned, Japanese people also realized that they were perceived as “other” in Western eyes, and took advantage of this. As an example, it is amusing to read Arata Isozaki’s account of how former ordinary craftsmen eventually became artists and their products turned into art objects (Isozaki 2011: 4).

So to what extent is Japanese art and architecture, as a cultural expression of a people, a theoretical construct of otherness?

Visual similarity

My research subject is historical wood architecture, contrasting developments in East Asia and Europe. Usually I describe the variously obvious differences. In this paper I turn the spotlight on closeness and relationships expressed in common basic ideas, equal realizations, and common intentions, i.e. similarities.

My first example is Todai-ji shōsō-in (Fig. 3). This is a very old architectural type which has symbolic status in Japanese architectural history and is widely seen as typically Japanese. It reminds us of other similar storehouses built as log buildings, all elevated from the ground. We can assume that this was to protect the stored goods from rainwater and rising damp and to ventilate under the floor. All other storehouses of this type are much smaller, usually on a square plan. Although covered by just one hip roof, the three-part division of the main body leads us to ask why the central part was filled in with planks and not executed as a log structure. We do not know why, but we were told that this central part is a later addition. So what can we assume about what the building looked like before its alteration?

Before speculating, we may take a look at this Hōryū-ji kofuzo (Fig. 4). The structure is significantly different. The plastered walls in a timber-frame structure clearly indicate that this building should be seen as an import from China. This applies to the way of building, though I could not say about the building type. The Hōryū-ji kofuzo ground plan (Fig. 5) shows what we could only assume from the previous image, as access restrictions preclude a comparable view of Todai-ji shōsō-in. In this plan we see a clear separation of two compartments by a distance as wide as the length of the enclosed spaces. The ground plan explains the installation of doors in a lengthwise axis beneath the overarching roof. This format allows a use of the store taking into account the stored items’ vulnerability to the elements. Full use is normally made of the inner space of storehouses, so the handling of goods inside can be restricted and it is useful for the layout to include a large outer covered area for shelter. Whether for cereals or any other valuable items, as in the case of Todai-ji shōsō-in, goods need to be protected when taken out of the store and put into it.

If we now return to the Todai-ji shōsō-in photo, what Japanese scholars have found becomes evident. The central

1a: Sudden Shower over Shin-Ōhashi bridge and Atake, Ando Hiroshige, Cleveland Museum of Art (Wikipedia, consulted on 17/02/2021)
1b: Bridge in the rain after Hiroshige, Vincent van Gogh, Google Art Project (Wikipedia, consulted on 17/02/2021)

Figure 2a. Katagami (Museum of Applied Arts in Vienna)
Figure 2b. Design for a carpet for the company Backhausen, Koloman Moser (Museum of Applied Arts in Vienna).
part was added later and was responsible for the doors being cut into the facade, altering the original positioning. The original door openings must be assumed to have been in the same positions as those seen in the Hōryū-ji kofuza.

We may now look at the aforementioned similarities between Japanese and European architectural examples.

Let us take the example of a storehouse from Finland (Fig.6). We immediately see similarities, primarily in the three-part composition. We also see that this storehouse is not raised off the ground – for in Finland there is plenty of snow but little torrential rain, and in particular much drier air than in Japan. Again, storage space is valuable. Stores were always built with more care than other outhouses, and if they could have two stories, they did. But the typological similarity is beyond question. It is intriguing to find a near-identical storehouse structure executed in both Europe and Japan.

Dendrochronology has turned history upside down. Todai-ji shōsō-in is a striking example. According to the website...
of Kunaicho, the Imperial Household Agency, research by Mitsutani Takumi in 2003 and 2006 indicates that the central part was erected together with the northern and southern azekura stores in the mid-8th century (Mitsutani 2003, 2006, 2016). But this does not prevent there being an affinity, especially if we consider the term narabi kura – used for the storehouse type common in the Nara period and referring to the shōsō-in type without a closed central part.

As a further example, let me present another building at the Todai temple complex: the shōrō or belfry (Fig. 7).

Like the shōsō-in of Todai, the belfry survived the fire of 1567, thus retaining elements of the daibutsu style. This building is designated as a national treasure for its age, its structure, and perhaps also its bell. And though its structural base may well not be the reason for this distinction, let us focus on this.6

Todai-ji shōrō is not a one-off building type, so I take the example of Chion-in daishōrō to zoom in on the point of interest (Fig. 8). The Chion temple belfry shows significant structural differences as compared to that of the Todai temple. It was built in 1678, i.e. much later. Yet the jointing of crossing sill beams and corner posts is just the same as that of the earlier example.

Again I offer a matching European counterpart in order to show that carpenters created similar solutions worldwide as long as these were suitable and no external factors prevented such developments: the stave church of Hopperstad in Norway (Fig. 9). We can assume that there was no Japanese-Norwegian cultural exchange prior to this building task. According to dendrochronological tests with various results, scholars assume this church to have been erected between the 11th and 12th centuries. Now let us focus on a corner post of the core section. This area was surrounded by an ambulatory recognizable by the pent
roofs around the core. Four heavy sill beams rest on a stone foundation. The sills are interconnected by half-notches near their ends, creating a rigid frame. The corner post is cross-cut at its bottom end (like that in Fig. 10). The forked ends clasp the jointing point of the crossing sills and the recessed notches fix the beams in position. The ingenuity of this joint lies in its protective nature. As the interconnection of the horizontal beams is protected against intrusion of water, especially at their vulnerable ends, the joint material is perfectly shielded. This joint serves two functions: the post protects the interconnection of three structural members and holds them secure. This jointing method is applicable in any other comparable situation and is found not just in representative buildings but also in dwellings (like that in Fig. 10).

Our next examples are raised storehouses in a different context: Amami Oshima, an island between Kyushu and Okinawa (Fig. 11). Rice storehouses had to resist typhoons with wind speeds of 200 km/h and the building design and elevation had to be suited to this. And as in Japan, storehouses in Europe were built on pillars of variable height (Fig. 12). An elevated storehouse in Japan, like in Europe, must address one main issue: how to keep the stored items dry and ventilated. The pillars were designed to protect the stored goods and also the structure itself, and if people wanted to use the sheltered space below, they had to raise the building high enough to leave enough room. Structurally it is quite demanding to raise the center of gravity upward. The Japanese temple storehouses shown above held exquisite treasures, but common stores are intended for cereals, and if just one filled basket weighs some 70 to 80 kg, we can imagine the weight on an ordinary storehouse floor. Cereals were stored directly on the floor, and keeping such staple foods in good condition as long as possible involved a challenge. The solution developed was to raise the whole storehouse, thereby preventing the floor from absorbing the ground's humidity. The problem of humid air could not be removed but it could be mitigated. As the pillars raised the whole structure, the outer surface area increased significantly and the wind aerated the floor as well as the walls.

Figure 10a. Farmhouse in the open air museum in Bygdoy, Norway
Figure 10b. Drawing of the corner joint of a Norwegian stave church

Figure 11. Rice storehouses in Yamatohama

Figure 12a. Espinaredo, Spain
Figure 12b. Bosco Gurin, Switzerland
Figure 12c. Stübing, Austria
Figure 12d. Bygdoy, Norway
We also find similarities in the way buildings are roofed (Fig. 13). The best protection for wood against the rain and sun is, as for humans, an umbrella or parasol. The better we are covered, the more protected we feel, for a small umbrella keeps only our head dry. But if it is too large it will be heavy and blown about, and tall people with umbrellas tend to get wet anyway. We can change our clothes, but buildings deteriorate if they are constantly exposed to the elements. So carpenters build structures with sufficient roofing to protect both head and body.

Consider townhouses (Fig. 14). As they normally stand close to one another, they require specific solutions. In Aki shi, a town on the south coast of Shikoku, torrential rain during typhoons forced the inhabitants to develop serial rain gutters, one above the other. Their houses’ structural skeletons were walled and covered with earth, as a mere additional coat of plaster was deemed insufficient to protect the earth from rainwater. Trogen, a town in Switzerland, appears to have suffered from heavy rain as well. Here the houses were also skeleton structures, covered on the outside with decorative wooden paneling. The paneling was intended to shield the house structure itself, as attached pent roofs protruding far enough to be effective would deprive the windows of light. Comparable to the Japanese solution, a form of construction was developed with slightly protruding rain gutters above each row of windows in order to drain off at least some of the rain via drip moldings above each row.

Our next example is exceptional for its inconspicuousness. I return to a detail of the wall of a Japanese temple storehouse (Fig. 15). At first sight the beams seem to be cut triangularly, but in fact the edges are chamfered. Having beam above beam in a log structure with the contact area reduced to a line gives one an uneasy feeling, and the invisible joints are rather complex. But this does not disqualify this kind of building. Japanese carpenters seem to have taken pleasure in challenging tasks. The bemused question of a Western scholar concerns the idea behind it: what sense can there be in stacking logs in such an unstable way? One answer taking account of wood’s properties would be that triangular sections were split out of logs and so this arrangement would prevent any drying of cracks and use the material in the most efficient way. Careful examination does not support this theory. Only dendrochronological verification would allow us to tell if the logs in the photo are originals or replacements. If the logs are original, our split-log theory would be disproven. If the logs are from repairs or reconstructions, we can say nothing about what the original logs looked like. But this example can be compared to the kind of log wall to be found in an area of Poland that evidently experienced a wood shortage. It is no accident that all the beams are extremely short and with spiral growth, but we do not know if this is linked to the erection of walls of halved timbers. Again we find logs stacked edge to edge. In both the Japanese and the Polish examples there is a flat surface inside. The Japanese example is today visible
only in temple or shrine compounds, whereas the Polish example has no pretension to being a treasure chamber. We do not know whether the Japanese detail was also used for ordinary storehouses in former times. But a reference here could be the storehouse depicted in a *Shigi san engi* picture scroll from the late 12th century (Fig. 16). In this scroll a storehouse features in a story about a rich man and the monk Myōren. In the storehouse shown, all the logs have a square section, but they are not stacked one flat surface on another. As in the temple storehouses, they are assembled edge on edge.

A recently completed research program that gave rise to this paper gives us a last example (Zwerger 2020). Wherever it was impossible to dry ripe grain directly in the fields, drying racks had to be erected (Fig. 17). This could be for reasons of climate, topography, grain type, and so on. Just by looking at pictures, it is not so easy to tell which rack is Japanese and which European (Fig. 18). Japanese farmers were able to create these drying devices independently, and temporarily, European farmers had the same idea. The sometimes huge yet simple racks could and did become actual architectural buildings under certain circumstances (Fig. 19). The most elaborate examples combine a dwelling house, a storehouse, or a stable with drying racks around it (Fig. 20). These mature structures could not be built by farmers themselves, as their erection required the know-how of professional carpenters. Sometimes, even without erecting temporary drying racks, farmers used similar makeshift solutions for drying (Fig. 21).
Figure 19a. Drying ladders can be hung around house walls (Matting, Austria)
Figure 19b. They can also be attached to a storehouse as structurally connected double racks, with all elements thus combined under one roof (Prelaško, Slovenia)
Figure 19c. Double drying racks under a carpenter-made roof can stand over a storehouse (Pودreda, Slovenia)
Figure 19d. They can also be attached to a farmhouse, creating a combined dwelling, stable, storehouse, and drying rack (Dobrava, Slovenia)

Figure 20a. This double cereal drying rack with storage space under the roof makes use of the open gable for extra hanging capacity (Shirakawa-mura)
Figure 20b. At harvest time, farmers erect drying racks temporarily round their houses, making use of the warmth reflected by the walls (Tamugimata)
Figure 20c. By contrast with the previous example, these drying racks do not support the roof. And unlike the example from Tamugimata, these racks are structurally integrated in the storehouse (Ogi-machi)
Figure 20d. This drying rack surrounds a fire-protected storehouse in Miyamori-mura. The rack supports the overhanging gable and eaves while the roof’s main weight rests on the storehouse
Conclusion

If the examples presented here were mixed up, it would be challenging for many to guess correctly which building is European and which Japanese. All the structural details are similar at first sight, though naturally close inspection reveals significant differences of composition.

The reason for putting Japanese and European examples side by side is to show strikingly similar solutions expressing identical ways of thinking. This is especially observable in elements which are less subject to cultural influence.

I leave all explanations of how and why aside, and just conjecture about a shared logical reasoning.

I would like to return to my introductory considerations. Friendship requires appreciation, acceptance of the "other", no matter whether the "other" is created artificially, constructed by erroneous assumptions, or has real differences.

In connection with the Japanese and European storehouses we mentioned above or the storehouses clad with drying racks, we might have spoken of ma, the Japanese term for "the space in between" (Snodgrass 2004; Vergese 2003), using it to emphasize that visually equal appearances must not be mistaken for equal realities. Nonexistent terms do not demonstrate the inexistence of what they refer to; what they show is that awareness of perception can develop in very different ways.

The "other" remains strange as long as it is insufficiently known. What is needed is to support scientific exploration of all phenomena that serve a growing together; a confluence respecting different approaches based on different cultural educations but which initially and ultimately respond to the same basic realities. Walter Gropius was another voice among the purely personal interpreters of Japanese architectural peculiarities (Gropius 1967: 83, 100). I doubt he would repeat some of his words today, yet I subscribe to one of his statements without hesitating: "The physical world has become too small to allow ourselves to go on living in parallel ignorance of each other" (Ibid., 82).

I propose that it may be interesting to develop the investigation of architectural expression emphasizing similarity and likeness and not just focusing on "otherness". Yet we must not err as in the examples we criticized and present pure visual impressions of similarity as actual equality. The contrasted European and Japanese artefacts raise the question of to what extent they are equal.

On launching such an investigation we will also have to reconsider "our" artifacts. The reason is given in the headline of an interview with Gion Caminada: "To feel our own differently in a new context" (Schoper 2017: 17).
However, this investigation should not be confined to architecture. For as Adolf Muschg says: "Each culture captures the construction of perception underlying its world in its language. Entirely different worlds are the result of a comparison, even though they might match seemingly on their surface" (Muschg 2007: 211).

1 The first world exhibitions presenting Japan, as a participant, to a world audience were held in London in 1862, in Paris in 1867, and in Vienna in 1873. For Vienna, see Zwerger, 2007-08.

2 Oscar Wilde made a mocking yet refreshing comment in 1891: "Do you really imagine that the Japanese people, as they are presented to us in art, have any existence? If you do, you have never understood Japanese art at all. The Japanese people are the deliberate self-conscious creation of certain individual artists. […] In fact the whole of Japan is a pure invention. There is no such country, there are no such people." (Wilde 2019: 24-25)

3 The range of discussion on this topic is great.

4 "We ought to imitate bees, if I can put it that way: wandering about, sampling the flowers, they arrange whatever they’ve gathered, distributing it among the honeycomb’s cells, and by blending in the peculiar quality of their own spirit they transform the diverse kinds of nectar into a single taste." (Macrobius 2011, Conviviorum primi diei Saturnaliorum/The festivities of the first day of the Saturnalia, sentence 5)

5 During a skirmish between the Miyoshi and Matsunaga clans, most buildings in the temple complex were burned down in 1567.

6 Photographs showing the technical inner life were taken during repair work; see Nara Bunkazai Hozon Jimusho 1967, figs. 164-166.

7 The interdependence of climate and culture is wonderfully described by Tetsuro Watsuji.

Figure 22. Črni Vrh, Slovenia
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Klaus is an Associate Professor at the Institute of Architecture and Design at the University of Technology in Vienna (TU Wien), Austria. He has been granted three long-term scholarships to work as a guest researcher at Todai (University of Tokyo). He has been invited as a guest professor to Hosei University in Tokyo, held several lecture series, and run numerous seminars and workshops at various universities in China and Europe. As of autumn 2021 he is professor at SEU in Nanjing. Working as a joiner and carpenter, he collected experience with wood. His scientific research is focused on historic timber architecture. He specializes in comparative East Asian and European building traditions and has published widely on this topic. His most recent monograph was published in 2020.