Chinese Perspective as a Rational System: Relationship to Panofsky’s Symbolic Form

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Abstract

The goal of this overview is to take a critical look at the use of geometric perspective in Chinese art through the millennia. Although its use is often considered to be disorganized and uniformed, Chinese perspective is seen to follow well-prescribed principles and to follow a rational solution to the problem of depicting perspective in the extended scroll formats adopted in this culture. Its dominating principle is that of oblique orthographic perspective (in which transversals are shown as horizontal and receding orthogonals conform to a uniform oblique). In a little-known relaxation of this scheme beginning in the 13th century, many Chinese paintings incorporate a notable degree of convergence among orthogonals within local regions of a scene, ameliorating the strong illusion of divergence that is perceived in the strict orthographic scheme. This subtle form of oblique convergence seems likely to have been developed to compensate for this divergence illusion. A corresponding compensation can also be found for the converse effect that can be noted in perspective illusions such as the Shepard illusion, which shows a paradoxical reduction in the perceived size of far elements such as table legs. The widespread employment of these stylistic choices in Chinese painting is evaluated in the framework of Panofsky’s characterization of perspective as a symbolic rather than literal form of space representation and its role in the culture of the imperial courts of the Chinese dynasties.
“How was it, then, that the Chinese painter, who insisted on truth to natural appearance, should have been so ignorant of even the elementary laws of perspective as the West understands it? The answer is that he deliberately avoided it, for the same reason that he avoided the use of shadows. . . . Why, he asks, should we restrict ourselves? Why, if we have the means to depict what we know to be there, paint only what we can see from one viewpoint? (Sullivan, 1984, p. 176)

Introduction

The development of linear perspective in Chinese painting followed a different course from that in Western painting. The differences can be attributed to differences both in the cultural demands in terms of subject matter and the formal structure of the medium. Indeed, one of the core ideas in the analysis of such cultural differences is the idea developed by Panofsky (1927) that perspective is not just a direct transcription of the visual reality but is a symbolic form of representation that derives from larger cultural differences. In order to address this issue, we need a clear concept of perspective was used in Chinese painting, so the first part of the paper will survey the perspective conventions in use through the history of Chinese painting.

Fig. 1. One of the finest Northern Song landscapes is ‘Early Spring (早春圖)’ by Guo Xi (郭熙, 1072). A similar concept half a millennium later is exemplified by ‘Friends by a Mountain Spring (春山伴侶圖)’ by Tang Yin (唐寅, 1470-1524).
Chinese painting laid great emphasis on the value of landscape scenes, often with a meditative theme showing a tiny human figure awed and inspired by the mountainous landscape. This theme is rarely encountered in Western paintings, which were predominantly depictions of religious stories involving interactions among characters in a variety of ecclesiastical settings, although sometimes also with a mountainous or desert background (as in some depictions of ‘St Jerome’). Typical examples from the 11th century during the Northern Song dynasty are reproduced in Fig. 1. In general, these early Chinese themes offered little scope for construction in linear perspective because trees, rocks and mountains have no consistent straight lines to depict. This contrast highlights the fact that the use of linear perspective is very much a function of the ‘carpentered environment’ of human construction, and that humans have chosen to develop a constructed environment that is very different from the wild conglomeration of forms that are thrown up by nature.

Fig. 2. Scroll painting of the Nymph of the Luo River (洛神圖), by Gu Kai-zhi (顧凱之) (Eastern Jin 東晉, 317-420), describing how the poet Cao Zhi (曹植, 192-232) serenades the water nymph as a sublimation of his love for his brother’s wife. Note the lack of linear perspective in the scene, which is also typical of Roman friezes of the same era.

Chinese painting has an ancient lineage running from the era of the early Greek civilizations continuously up to the present time, but its particular flowering was perhaps during the Northern Song Dynasty of 960 – 1127 when it reached a high level of sophistication encompassing all forms of cultural depiction. However, Chinese painting had substantial structural differences in the format relative to those of the West. Paintings in the West are typically either framed and hung on a wall or painted directly into the plaster in the form of a fresco. In either case the shape was usually rectangular with an aspect ratio of less than 2:1 in either direction (although various other forms, such as circular, octagonal and irregular fits to the architecture are also found). Chinese paintings, on the other hand, often took the form of a scroll that might be as much as 100’ long by 2-3’ high,
designed to be viewed one section at a time in the manner of reading a book (see Fig. 2). This was a very practical medium, being highly compact for transportation and allowing any part of the painting to be viewed without folds or seams. There were two other main forms of scrolls – a narrow hanging scroll in a vertical format and a large rectangular format used principally for the portraits of emperors.

**Perspective Analysis**

Particularly in view of the extended scroll format, the Chinese faced a challenging problem in the depiction of perspective. Whereas the Western rectangular frame lent itself to a specific viewpoint in the center of the frame, implying a central vanishing point for the main receding lines in the picture, the scroll had a continuous depiction of the scene that would have placed a central vanishing point at an absurd distance from most viewing locations, hidden for all but the most central region of the picture. In principle, there seem to be two approaches to solving this problem (other than avoiding the depiction of buildings altogether). One is to subdivide the scene into coherent segments separated by regions of minimal activity, with a central vanishing point in each segment. To our knowledge, there are no examples of this approach in Chinese painting.

The other solution is the one that seems to have been generally adopted, and is known as “Chinese perspective”, which is to use a form of perspective that avoids vanishing points by showing the receding lines as parallel obliques. However, this form of Chinese perspective is widely misunderstood for an embedded series of reasons. Many (as in the header quote) assume that it is simply disorganized in the Western medieval fashion, with some local coherence but no consistent global organization throughout the scroll. The Oxford Companion to Art (Osborne, 1970), for example, goes as far as to say, “The Chinese have never had any scientific interest in perspective or its rules.” (!) In fact, as the same source paradoxically recognizes, Chinese perspective is usually organized in a form of orthographic perspective (also known as ‘isometric’ or ‘axonometric’ perspective) in which the buildings are viewed obliquely with the fronts in undistorted elevation and the orthogonal sides shown obliquely at two main angles of recession. The angles of these receding obliques are typically coherent throughout the scroll, implying a well-organized use of oblique orthographic perspective as a solution to the avoidance of local vanishing points.

![Image](image.png)

*Fig. 3. ‘Banquet of an Emperor’, Eastern Han Dynasty (25-220 AD)*
Some of the earliest known paintings in China are from the tombs of the Eastern Han (東漢) dynasty (25 – 220). Most of these are paintings of figures engaged in various court activities, but it is noteworthy that some examples of perspective are included, and that the perspective already evinces the oblique orthographic construction of the Chinese tradition. The ‘Banquet of an Emperor (宮宴圖)’ shown in Fig. 3, for example, depicts the receding edges of three dining rugs all lying at approximately the same right-oblique angle, as required for this construction. Thus, the Chinese tradition of oblique orthographic perspective extends back nearly 2000 years.

This Eastern Han painting illustrates the early commitment to the use of parallel, ruled lines in Chinese painting, as mentioned as early as the writings of Gu Kai-zhi (顧凱之) (~344 - ~406), known as the founder of traditional Chinese painting. Gu was born into an official's family in Wu Xi (無錫). The story goes that, when the officials building the Wa Guan Temple (官寺) in Jiankang (建康, now Nanjing), ran out of money the young Gu Kai-zhi proposed to collect money from people watching him drawing a picture of the Buddha on a wall. In three days he collected enough money to finish the construction, and the viewers cheered when he finally added the eye lines because Buddha seemed to come to life. Gu Kai-zhi not only painted many great works, but he also wrote three treatises that defined the philosophy of Chinese painting even in this early era; Introduction of Famous Paintings of the Wei and Jin Dynasties (魏晉勝流畫贊) and Notes on Painting Yuntai Mountain (畫雲台山記), and Theory of Painting (畫論), in which he describes the use of ruled lines as a painting technique.

By the time of the Sung dynasty (宋, 960-1279), writers were referring to the use of a ruler to guide the straight brush strokes, calling the technique "ruled-line painting (界畫)". The typical ruler was about three feet long and two inches wide. When split lengthwise in half with joints at either end, exact parallel lines could be rendered. A brush was held in a split tube with cut down to a point to guide the brush. Thus, the ruled-line painters of that era worked with tools similar to those of modern architects when they make scale drawings.¹

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¹ For more information on the technique, see Further Reading at the end of this chapter.
A classic example of a painting from this period is the ‘Ladies Concert (宮樂圖)’ (Fig. 4). Although its history is uncertain, the stylistic features of the hairstyles, the woven bamboo table, the crescent stools and the wine cups place this painting in the late T’ang era (唐) (9th century). The accurate ruling of the woven bamboo is certainly in accord with the ruled-line technique described earlier by Gu Kai-zhi. What may be hard to credit is the exact parallelity of the sides of the table. To the eye, the give the strong impression of diverging towards the rear. This is a visual illusion induced by the expectation of perspective convergence. The oblique angle of the tabletop and associated furniture, together with the familiar cues of the arrangement of the figures, conveys the concept that this is a three-dimensional scene receding backwards towards top of the painting. That interpretation of the scene layout raises the expectation that the receding objects such as the tabletop should appear convergent, as it would when viewing a physical object with parallel sides from such a viewpoint. The fact that the sides are actually parallel violates this expectation and leads to the perception that they diverge, by perhaps 25%, from the front to the back of the table. The adherence to the parallel construction, despite the fact that the perceptual divergence is so strong, speaks to the dominance of the parallel perspective rule in the Chinese graphic modus operandi.

Fig. 5. ‘Siddhartha encountering the miseries of human life’, T’ang Dynasty (618-907). Note the subsets of parallel obliques for the horizontals within the same building (white and black lines), which are parallel within the subsets but discrepant between them.

Although parallelity among the elements defined the perspective construction within the surfaces of objects, the same principle does not seem to have held sway between different surfaces of the same object, even when they were connected. A good example is the painting ‘Siddhartha (悉達多) Encountering the Miseries of Human Life’ also from the T’ang Dynasty (618-906). This painting illustrates both the use of orthographic perspective within architectural features and a degree of disorganization among different features of the building (Fig. 5). The parallel white lines overlaid on the picture designate that the perspective construction of the large yellow wall
and the roofline of the gazebo above the doorway are purely orthographic. (Not too many construction lines are overlaid on the painting, because they would tend to obscure the composition if they were drawn for all the parallels, but the fact that the extreme lines of the wall are exactly parallel indicates the parallellity of the full set.) The black lines indicate that obliques for the portico around the doorway are inconsistent with those of the yellow wall, although the brick lines are again exactly parallel to each other within the portico. Thus, the main construction principle is the parallel obliques of orthographic perspective, but there is a (divergent) inconsistency between the angles of the two sets of parallels. Importantly, there is no hint of convergence anywhere in the picture, indicating a strong commitment to the orthographic concept, even though this composition is in a vertical rectangular format.

A similar tendency to patches of oblique parallel perspective with angles that are inconsistent across the scene Five Dynasties period (五代, 907 ~ 950) is seen in the scroll ‘Han Xi-zai Gives a Banquet (韓熙載夜宴圖)’ by Gu Hong-zhong (顧閎中). One section of the scroll (which has been retouched for clarity) is shown in Fig. 6A. The overlaid perspective construction lines in Fig. 6B show that the entire booth with two seated personages and the long food table in front of it to the right of this segment conform accurately to one set of parallels with no convergence. In fact, all the perspective lines in this painting conform to the principle of parallellity within any given surface, or implied surface rectangle where the legs of table or chairs meet the floor.
There is a form of convergence in this example, however, in that the food table at the left with the man turning is angled on the other oblique, which is quite a rare occurrence in Chinese painting. (The artist David Hockney discusses another example of a switch from one oblique to the other in his video analyzing the scroll of ‘The Southern Inspection Tour of Emperor Kang-xi (康熙南巡圖)’ by Wang Hui (王翬) in 1698).

The booth the right of the painting and the food table in front of it are rendered in full parallel perspective. The lefthand table in the banquet scene, however, is neither convergent nor parallel within its own perspective. Remarkably, although the two sides of the tabletop are parallel, the legs are painted with a strong divergence of their parallels; the back legs are substantially longer than the front legs. This is not just an inaccuracy, because the same effect is seen for the legs of both the chair in the foreground and the long table to the right. In each case the back legs of the pair extend down further in the back than in the front, diverging from the angle of the tabletop. Somehow, Gu Hong-zhong must have seen this divergence between the leg angles and the top surface angle as the proper way to draw the perspective of a table. Notice, however, that there is neither convergence nor divergence between the left and right pairs of legs of each table – these lateral angles are perfectly parallel with each other despite the divergence of the vertical angles.

Thus, we must conclude that, in this early period, Gu Hong-zhong had a set of particular rules for his perspective constructions, largely consistent with the oblique orthographic scheme but with some idiosyncratic deviations that followed their own rules within local objects. An interesting insight into these local deviations is provided by consideration of the oblique tabletop illusion (Shepard, 1990), in which the perspective view of two identical
parallelograms as table tops (Fig. 7) gives a completely different sense of the aspect ratio of the implied rectangles in the two cases. Appositely, the parallel construction means that Shepard’s two tabletops are both rendered in ‘Chinese perspective’, so we may expect Gu Hong-zhong and his precursors to have been subject to the same illusion as the painted tables, such as those in Fig. 6.

Inspection of Fig. 7 reveals two further properties of this illusion that have been unremarked, either by Shepard or subsequent purveyors of the illusion. One is that the two tabletops do not appear to be parallel horizontal surfaces. The lefthand tabletop appears to be sloping down to the left, while the righthand one appears to be sloping down somewhat to the right (especially when one focuses between the two tables). Thus, both tabletops seem to slope away from the high point of the center of the picture. Interestingly, this effect is in the opposite direction from the classic orientation induction of acute angle enlargement, in which the obliques would induce the horizontals to slope up from the center. However, this aspect of the illusion is not of immediate relevance to the issue of Chinese use of perspective since there seems to have been no tendency to compensate for it in the way Chinese pictures were painted.

‘Shepard Illusion’

Fig. 7. The Shepard tabletop illusion, in which the two tabletops are parallelograms of exactly the same shape at two different angles. The lefthand one appears long and thin while the righthand one appears approximately square due to their perspective context. This illusion also has two previously unremarked aspects: the rear legs appear shorter than the front legs (even though the backs appear wider than the fronts), and the two tabletops appear to slope down away from the center (even though the wood texture is parallel in the two surfaces).

On the other hand, there is a second unremarked aspect of the Shepard illusion that does seem to be relevant. This is that, paradoxically, the rear legs of the tables appear to be shorter than the front legs. This effect appears to derive from the ‘inverse perspective illusion’ of orthographic perspective, which is the well-known property that, although the oblique receding lines are parallel, they appear to diverge into the distance, giving the impression that the objects are getting larger as they recede in depth. Thus, the two Shepard tabletops appear to be wider at the back than the front. Nevertheless, the rear legs of the tables appear shorter than the front legs, despite the fact that they are physically the same length. This apparent shortening seems to be induced in contrast with the apparent widening of the back of the tabletop, which is at the same perceived distance as the
rear legs. It is not obvious that this should be the case, since the bottoms of the legs are a continuation of the vertical parallelogram defining the plane of the sides of the tables, which might well be expected to be subject to the same illusory expansion as the tabletop. But apparently the illusory expansion depends on the presence of complete boundaries around the surfaces.

This second unremarked aspect of the Shepard illusion, the induced shortening of the rear legs in opposition to the induced lengthening of the tabletop, can explain Gu Hong-zhong’s tendency to paint the rear legs of his tables longer than the front, in that he is either intuitively painting them to look right visually without being aware of the illusion, or consciously lengthening them to counteract the illusion that he knows his viewers will perceive if all the legs are painted the same length.

The divergence tendency of orthographic perspective is evident in another painting from the Five Dynasties period, ‘Playing Chess by the Double Screen (重屏會棋圖)’, by Zhou Wen-ju (周文矩) (Fig. 8A). This is a particularly interesting example because it is an early example of the concept of the ‘picture within a picture’, in that the rear of the scene consists of a large silk panel depicting another domestic scene. Actually the concept is iterated because the inner picture itself contains a screen on which a further, outdoor, scene is painted, constituting a fascinating example of ‘picture within a picture within a picture’.
Nevertheless, as indicated by the parallel construction lines in Fig. 8B, the whole composition adheres to the same general orthographic left oblique throughout the painting (except for the inner screen side-screens, which are necessarily at a different angle in order to serve their function of propping it up). The elements within the painting depicted on the screen are even coordinated at the same angle as those in the foreground. As a result of this parallel perspective convention, to most viewers the table at the right gives the strong impression that it is angled upwards towards the back (Fig. 8A), an impression of reverse perspective relative to the expected convergence. Zhou Wen-ju may have been aware of this reverse perspective effect (over a thousand years ago) because he actually gave the righthand table a convergent angle relative to the parallels of the rest of the scene, in an apparent attempt to overcome the divergence illusion. Thus, the divergent impression that we see in this painting takes place even though the table has a form of convergent perspective (albeit maintaining the parallelity within the object itself).

These examples illustrate a strong tendency throughout the history of Chinese painting to adopt an approach of parallel perspective for many (or most) objects. Interestingly, the same character can be found in the paintings of an early Western civilization, that of the Roman Empire, as in the example of Fig. 9, of a Roman baker’s shop from Pompeii in the 1st century. The drawers are all parallel along the left oblique, with the side of the cabinet depicted as parallel on the right oblique, providing a clear example of orthographic perspective, which was relatively common in this period. (In detail, the upper shelf is not quite parallel with the drawers below, whose angle is shown by the black line. So, slight convergence has been applied to this shelf, although there is no evidence that this single case of convergence was intended as such. The predominant construction for all the other sets of lines is orthographic.)
The culture of the Roman Empire is generally considered to have been isolated from the Chinese culture in this period, but it should be remembered that the ‘silk routes’ were operative for millennia, including the entire period of the Roman Republic and the Roman Empire, from 800 BC to 440 (Arkenberg, 1885). Thus it is not impossible that there may have been cultural transmission among the painters at some time during this period that could have disseminated the prevailing ideas of perspective across the globe. After all it only took about 6 months for a camel train to travel from Changan (長安, modern Xian) to Damascus, for example, providing a link from one Empire to the other. The whole region around Mesopotamia was a thriving multicultural community at the time of the Northern Song Dynasties (which was the period of the early European Crusades through this region), providing ample opportunity for cultural exchange of various forms. Similarly, active multicultural exchange occurred within China. There was even a sizeable Christian community in China during the 8-9th centuries as evident by the Nestoria Stele (大秦景教流行中國碑) erected near Changan in 781 and the several “Roman temples (大秦寺)” found in Northern China since the 630s. Numerous poems, plays, and novels at the time depicted people with Caucasian or black characteristics from the West (Arkenberg, 1885). Thus, it is difficult to determine whether perspective developed independently in the two cultures or was really a manifestation of a global culture with diverse local variants.

Although the oblique orthographic construction seems to predominate in Chinese painting through the eras, there is an interesting modification that can be seen starting at least in the Yuan Dynasty (元, 1271-1368). An example can be found in what is probably a Yuan copy of the original scroll of the Luo River story of Fig. 2. One section of this copy includes a depiction of what seems to be a plowed field, although the furrows seem to be subdivided into cobble-stone-like squares. What concerns us is the opportunity to evaluate the perspective of
the parallel furrows. In keeping with the ruled-line technique of Chinese painting, the furrows seem to conform accurately to long straight lines, as indicated by the black lines overlaid on every third furrow in Fig. 10. Visually, a certain degree of convergence is evident from this overlaid line construction, but our sense of perspective is so strong that it is hard to appreciate the full extent of convergence. To make it clear, the angle of the line delineating the uppermost furrow, which is identified as a white line, is replicated by the dashed line across the lower part of the field, revealing that the angles have rotated progressively by about 25° from one end of the field to the other. This is clearly not a disorganized inaccuracy but a consistent scheme of angular convergence for the lines of the furrows. Indeed, the orthogonal angles across the furrows are also oblique in the other direction (not shown), in a form of two-point perspective that may be unique in Chinese perspective. The convergence of these cross-furrow angles does not seem to be as coherent as that of the main furrow lines, but the fact that they are oblique rather than horizontal is a noteworthy departure from the usual oblique orthographic construction.

Fig. 10. ‘The Nymph of the Luo River’ (detail), Yuan Dynasty (1271-1368) copy of the Eastern Jin Dynasty (317-420) original by Gu Kai-zhi (see Fig. 2) The black lines delineate every third furrow of the field in the background. The dashed white line replicates the angle of the furthest delineated furrow; our sense of perspective is so strong that it is hard to appreciate how much the angle changes across the field.

Perhaps the most famous scroll in the history of Chinese painting is the ‘River Scene (清明上河圖)’ scroll by Zhang Ze-duan (張澤端) from the Northern Song era, which is an 85 ft long scroll currently on display at the National Palace Museum, Taipei. It offers a particularly rich opportunity to evaluate the perspective construction throughout the length of such a pictorial space. The scroll, though continuous, may be parsed into a series of subscenes, two of which are reproduced in Fig. 10. While to casual inspection, the lines of the receding orthogonals, which are all aligned to a similar oblique, appear to be parallel, the reconstruction lines of Fig. 10A
reveal that they are in fact grouped into subregions with mildly convergent perspective. While the choice of subregions in the example in Fig. 10 does not necessarily follow the most obvious logic, it seems clear that the alignments are not simply haphazard deviations from the attempt to conform to a parallel scheme, since local orthogonals project accurately to the same vanishing point. (Note that the number of possible intersections of, say, six lines is fifteen, so for a set of six lines to intersect at a single vanishing point is a highly significant occurrence.) The convergences of Fig. 10B are not quite so convincing, as they seem to include some parallels within the overall convergent tendency. However, the degree of convergence is sufficiently large to make it unlikely that the artist’s intention was to adhere to the parallel scheme. We may conclude that the experience of divergence discussed in relation to the ‘Ladies Concert’ image of Fig. 4 may have led the artists of the subsequent centuries to prefer some degree of convergence. The lack of a consistent vanishing point for the two scenes in Fig. 10 does, however, bear out the technical validity of the Osborne (1970) criticism quoted above, that these artists must not have had a full “scientific”, or geometrically consistent, system for perspective construction, despite the high precision and detail of these beautiful paintings centuries before the Western Renaissance.

In this regard, it may also be commented that, despite the almost universal acclaim for Renaissance perspective proficiency, there are virtually no paintings before the 19th century with perspective that is accurate in all respects. To pick one famous example, Leonardo da Vinci’s ‘Last Supper’ may have its ceiling orthogonals converging perfectly to a central vanishing point, but the recession of the transversals corresponding to the wall panels seems to be judged (incorrectly) by eye rather than being geometrically coordinated with the ceiling construction. Thus, the approach of ‘by eye’ approximation to a rigorous perspective geometry seems to be just as prevalent in the West as in the Orient. The key difference is the form of geometry to which the separate cultures are approximating, one-point convergence in the West versus an oblique orthographic scheme in the Orient.
Moving forward half a millennium to the Ching (清) Dynasty (1644-1912), we find that the style of painting remains quite similar, taking distant views of the urban civilization in its landscape setting. Once again, the core concept of the perspective scheme is to set the orthogonals to an oblique angle, with no known examples of the central vanishing point construction so prevalent in the West. However, as the example of the ‘Peace for the New Year (太平春市圖)’ by Ding Guan-peng (丁觀鵬) (Fig. 11) shows, the coordination of the perspective has now reached the point that large sections of the scene, from foreground to distance, are constructed in a mildly convergent perspective. It is still oblique rather than central convergence, but it is unquestionably convergent, in a strong contravention of the standard conception of the Chinese approach of oblique orthographic perspective. There is still one inconsistent line (arrowed in Fig. 11), perhaps indicating again that the convergence was intuitive rather than principled, but the remainder of the scene conforms to a remarkably accurate convergence.

Discussion

It seems that extensive trade with the West and exposure to Western missionaries such as Louis Buglio (利類思) in the 17th century and Joseph Castiglione (郎世寧) in the 18th century (Needham, 1971, vol IV, p. 111) implied that artists of this era were exposed to examples of Western art with central convergence. It must, therefore, have been a conscious decision to retain the basic form of the orthographic approach rather than adopting the
full Western one-point scheme, but it seems likely that after centuries of adherence to a consistent perspective philosophy, the exposure to the novel Western approach may have softened the rigor of the parallel construction through the realization of its susceptibility to the depth illusions illustrated in Fig. 7. This may have lead the artists of later eras to modify the parallel approach to avoid its more extreme consequences by allowing mild convergence within local regions without abandoning the advantages of the oblique orthographic scheme for unifying the perspective approach throughout the extent of an elongated scroll. They seem to have held the convergence to a degree that is barely noticeable, and indeed seems is not widely remarked in Western art commentary, although it has been acknowledged in some sources on Chinese art. Van Briessen (1998, p. 125), for example, says “[Chinese painting] developed a modified perspective of visible lines in which rectangular shapes known to contain parallels are allowed to narrow slightly into the distance, though not so markedly as to appear to do, nor as the rules of central perspective demand.”

Fig. 12. ‘Peace for the New Year’ by Ting Kuan-p’eng (Ch’ing Dynasty, 1700-1771). Note that the orthogonals across a large region of the scene converge to a single, oblique vanishing point near the top of the scroll.

However, the lack of central perspective in Chinese perspective is not entirely a weakness. It is only when subjected to the geometric analysis reported here that the logic of the convergence becomes apparent. The concept of central perspective is itself a misnomer to some degree, since it is only a special case of the rule that parallel lines in the scene should converge to a common vanishing point (or be depicted as parallel if they are parallel to the picture plane). This vanishing point does not have to be central; that is only the case if the viewer
is assumed to be located centrally in front of the painting. The central perspective requirement was relaxed in a large proportion Western paintings, even going back to the most rigorous period of the Renaissance. Even though they adhered to a single vanishing point, there was no strong sense that it needed to be placed centrally in the frame. Indeed, the very first perspective manual, by Leon Battista Alberti (1435), specified that the artist should choose the vanishing point wherever he liked: “within this quadrangle, where it seems best to me, I make a point that occupies that place where the central ray strikes.” (Spencer, 1966). If one considers that scrolls were designed to be viewed a section at a time, then the vanishing-point requirement can be interpreted to mean that there should be local convergence within any scene that is likely to be chosen for viewing in this way. Thus, local convergence does not seem such a poor compromise, given the viewing strategies to which scrolls are likely to have been subjected.

This paper is titled with a reference to Irwin Panofsky’s seminal article ‘Perspective as Symbolic Form’, described by its English publisher as “one of the great works of modern intellectual history, the legendary text that has dominated all art historical and philosophical discussions on the topic of perspective in this century.” That article, however, does not mention Chinese or Oriental painting. This is an interesting omission because the parallelity principle is precisely an example of ‘symbolic form’, or at least a stylistic formalism at variance with the Western conventions of the past millennium. Indeed, the Chinese convention of orthographic perspective has often been interpreted as being motivated by a social convention, the desire of the emperors and the court to take a long view of the populace over which they ruled, with the use of orthographic perspective designed to promote that sense of distance. If this was the underlying logic of the Chinese painters, it implies a remarkable degree of sophistication in the understanding of perspective formalisms, and would certainly count as a ‘symbolic form’, at least in the sense of a functional artistic convention, operating in this domain of painting.

However, the dominance of the orthographic convention over two millennia, coupled with the similarity to those of other cultures such as Persian and Roman early on in this period, suggests that the interpretation in terms of a conscious social construct is overplayed. It seems more likely that the orthographic concept was developed originally as a purely geometric solution to the problem of conveying a sense of the depth of the third dimension. Yes, it is true that even the earliest paintings were often depictions of large-scale social events as a means of recording them for the emperor, but this does not necessarily imply a role in keeping a distance from the people. A panoramic view is essentially required if large numbers of people are to be depicted, and many other cultures developed such views even thousands of years before the Chinese without recourse to orthographic perspective, as in the case of the panoramas of Persepolis or of Egyptian tomb scenes. Conversely, large scale scenes were rendered in European Renaissance painting in accurate or implied convergent perspective, conveying a strong sense of distance despite the use of the convergent convention.

Another well-known motif in Chinese painting is that of the mountains rising peak upon peak through the mist. This motif is so different from anything found in Western art that it may also be regarded as an artistic convention, but it is noteworthy that modern photographs of sacred mountains such as Tai Shan (泰山) or Hua Shan (華山) have very much the same quality as the classic paintings. The quality of paintings thus seems to derive from the particular quality of mountains in China, especially those selected as sacred sites. As with many artistic conventions, this one seems to derive in large part from the character of the scenes being painted rather than as a purly stylistic convention. This is not to say that a conventional aspect may not have become instantiated into the style over the centuries, and even been elaborated into imaginary enhancements, but that the origin of the style was in a naturalistic depiction of scenes of cultural significance. It is also a notable concept
in the depiction of space that, again, goes far beyond anything found in Western art until, perhaps, the last few hundred years. As such it may qualify as another example of symbolic form in Chinese art, especially as the contemplation of the mountains has been interpreted as an escape from the social disruption of the various warring periods of Chinese history.

In a technical sense, the linkage between orthographic perspective and a sense of distance derives from the telephoto lens, which was no developed until the 19th century and could not have played a role in the choice of perspective construction in prior eras. The question is therefore whether orthographic perspective could have been developed by direct observation from a distance, in a conscious attempt to capture the geometry from that viewpoint. One thing that can definitely be said in this respect is that such a distant vantage point is definitely not possible for indoor scenes, which seem to constitute a large proportion of classic Chinese paintings. The perspective accessible from indoor viewpoints is necessarily convergent. This fact implies both that the Chinese indoor painters were following a convention rather than painting what they saw, and that the convention was not derived from observation of the readily accessible indoor scenes. Indeed, the high proportion of indoor scenes from these early paintings argues against the concept of the imperial distance as a dominant motif of Chinese painting (other than the common theme of the emperor’s southern tours, which is a clear case for this concept). The only possibility for viewing an actual scene in a plausible approximation to the orthographic perspective as depicted would be to view a city with extended linear streets from an elevated viewpoint, such as nearby mountains. While this possibility cannot be excluded, it seems to be a low probability occurrence that would be unlikely to have become the dominant influence throughout the country.

Thus, taking into consideration both the viewing restrictions of indoor scenes as well the need for elevated viewing of cityscapes, it seems most likely that the orthographic convention in Chinese art evolved as a conceptual solution to the problem of organizing perspective in the visual medium of elongated scrolls than through conditions of distant observation. Indeed, the progressive relaxation from this convention to mild oblique convergence described herein implies a tension between the formalism of parallel obliques and the more naturalistic option of imperceptible convergence. This approach presumably evolved to avoid the sense of distortion implied by the strict orthographic formalism.

Nevertheless, it should be recognized that oblique convergence is still an artistic convention in the sense that the predominant oblique would remain at the same angle throughout the scroll (with the depiction of the transversals remaining horizontal), which would not have been the case for observation of the physical scene from a high vantage point. Since even this relaxed version of the orthographic convention has held sway in Chinese painting over nearly a millennium, it can again be considered a ‘symbolic form’ for the depiction of space in this culture, although more a useful convention for depiction of large scale scenes than as carrying any deep implications in relation to the social order of the emperor versus his subjects.
In the Sung dynasty (960-1279), writers (referring to the ruler as a tool to guide the brush) called the technique for rendering architecture as "ruled-line painting." The ruler was about two Chinese feet long and more than a Chinese inch wide. Divided lengthwise in half with joints at either end, exact parallel lines could be rendered. A brush was held in a split tube, the end of which was cut to a point to guide the brush. Moving the brush up or down varied the thickness of the line. Thus, ruled-line painters in the past worked with tools similar to those of modern architects when they make scale drawings.

Ruled-line painting began early, as seen in the writing of Ku K'ai-chih (ca. 344-ca. 406). In the Northern and Southern Dynasties (420-589), it is said that "Lu T'an-wei was the best in [painting] buildings." By the Sui (581-618) and T'ang (618-907), the subject became established. In Chang Yen-yuan's Record of Famous Painters Through the Ages (847), for example, he mentions buildings was one of the six categories of painting. Although examples of wooden architecture from the T'ang and Sung periods are quite rare, paintings such as Sailing Boats and a Riverside Mansion, attributed to Li Ssu-hsun (651-718), can provide important material to fill the gaps. In the Sung dynasty, Building Standards (1100) was edited by Li Chieh, Directorate of Palace Buildings, who described in detail the standards of techniques and forms for wooden structures. Ruled-line painting that specifically described buildings and structures emerged in this age of new forms and details in architecture. Slightly later, in the late Northern Sung imperial Catalogue of the Hsuan-ho Hall (1120), the category of "buildings" was combined with "halls" and elevated, while ruled-line painting was promoted; "Since each dot and stroke must accord with actual measurements and exact rules, it is a difficult field in which to become skilled." The works of Kuo Chung-shu in the 10th century clearly reflect the artist's ability to suggest volume and space through perspective for a high degree of realism.