# The Murals of Khrua In Khong: Enlightenment is Happening Everywhere

### Paul McBain<sup>1</sup> Thammasat University

ABSTRACT—Khrua In Khong is famous in Thailand as the first Thai artist to apply Western techniques, such as perspective and chiaroscuro, to Thai mural painting. His best regarded set of murals—those at Wat Bovorn Niwat and Wat Bovorn Niwet—feature not the traditional narratives typically found in murals of the time, such as the past lives of the Buddha. Instead, they show mysteriously shaded vistas of underground railways, clock towers and even the United States Congress building. They were indeed original in terms of artistic technique, but also extremely innovative in what they had to say. The murals use allegories to turn scenes of Western civilization into a coded message, likely designed by the presiding abbot Vajirayan, who was later to be King Rama IV. Placing these murals in the context of contemporary events and debates on the Buddha's teachings in Thailand, this article argues that they constitute a visual argument about Thai Buddhism's place in a new Western-dominated, scientific world.

When sometime in the early 19th century, the Buddha image Phra Thosaphonlayan (literally the ten-fold power Buddha) was awoken at the ordination hall of Wat Bovorn Niwat (the Temple of the Excellent Refuge),<sup>2</sup> he would have found himself surrounded by an universe that might have seemed very unfamiliar. Unlike his fellow images across Bangkok, he would not have seen brightly coloured illustrations of his own moral and spiritual accomplishments or those of his former lives. He would have seen mysteriously shaded landscapes with steamships, trains and even the United States Congress building. In short, all the wonders of the then modern 19th century Western world from the perspective of Siamese artists, who had probably never left their own country. These murals were painted in about 1840 by the elusive monk Khrua In Khong (active circa 1830-1860), under the direction of the temple's inaugural abbot, Vajirayan (Pāli: Vajirañāṇo, 1804-1868) who was later to be King Mongkut, Rama IV (reigned

<sup>&</sup>lt;sup>1</sup> The author wishes to thank the monks of Wat Barom Niwat, in particular Phra Thepworakhun, Phra Suthontchittikun and Phra Sarayut, for their kind assistance.

<sup>&</sup>lt;sup>2</sup> Bovorn Niwat was originally named Wat Bovornmasuk, meaning Temple of Excellent Happiness, and was colloquially known as Wat Nok or the Outer Temple and was understood to be an *aranwasi* or "forest dwelling" temple as opposed to Bovorn Niwet, which was known as *khamwasi* or "community dwelling" temple. The translation here of the two very similar names is meant to convey their original status as forest and city temples respectively. The spelling "Wat Barom Niwat" is used in the credits for the photographs at the request of the abbot.



Figure 1. A composite of the murals on the southeastern wall to the right side of the Buddha-image including the famous lotus flower. I simplify the orientations in the descriptions here by referring to the Buddha image and entrance as facing north, though in fact they face about thirty degrees to the northeast. (Photo courtesy of Wat Barom Niwat)

.1851-1868). The murals, which are finessed versions of those already at Wat Bovorn Niwet, were painted when other artists during the reign of Rama III (reigned 1824-1851) were still surrounding the Buddha image with traditional depictions of the Three Worlds cosmology (*Traiphum*), a karmically governed universe of three continents circled around Mount Meru. In almost every conceivable way—in terms of their artistic technique, their use of allegory, their representation of the cosmos and reality itself—these murals were utterly original in Siamese painting and to this day remain in many



ways unique. Most importantly, they contain an argument about Buddhism's place in a new Western-dominated, scientific world.

Despite being widely appreciated for its originality and artistry, Khrua In Khong's work has received relatively little scholarly attention in English. Earlier studies, in both Thai and English, have tended to focus on In Khong's well-known designation as the first Thai artist to apply Western techniques, such as perspective and chiaroscuro. John Listopad wrote that the aim of his study of the artist was to follow "the adoption of



Figure 2. A composite of the murals on the western wall, showing horse races and buildings with Dutch flags and a hospital with fountains. (Photo courtesy of Wat Barom Niwat)

Western artistic techniques into Thai mural painting." Wiyada Thongmitr in *Khrua In Khong's School of Painting* wrote, as is common in Thai scholarship on the artist, that he was a great artist of the reign of Rama IV and was the first Thai painter to "adopt true three dimensional perspective technique" as well as his breaking away from recent tradition to use monochromatic as opposed to vivid colour schemes.<sup>4</sup> However, John Clark in "Connectivities and World-making" cited Khrua In Khong as an example of an innovative Asian artist whose work is often implied in scholarship to be an "inadequate copy" of European art or of being an example of European or global "modernity" coming to a local place.<sup>5</sup> Clark emphasized the need to understand artists like Khrua In Khong not only as "influenced" or imitating outside art, or as seeing change as dependent on external origination, but as part of "a much more complex intermediate zone in part

<sup>&</sup>lt;sup>3</sup> Listopad, "The Process of Change in Thai Mural Painting", p. 11.

<sup>&</sup>lt;sup>4</sup> Wiyada Thongmitr, Khrua In Khong's Westernized School of Painting, p. 125.

<sup>&</sup>lt;sup>5</sup> John Clark, "The Worlding of Asian Modern", p. 73.



isolated from the very forces of modernity they also manifest."6

In this article, I begin by discussing broadly some developments in Siamese cosmology, politics and religion in the early 19th century, as well as the conventions of prior Siamese murals, in order to try to place In Khong's murals as negotiations of old and new ideas rather than simply as imitations of new ones. Drawing on the work of Wilairat Yongrot and Thawatchai Ongwuthivage in *Deciphering the Murals of King Mongkut and Khrua In Khong*, which itself draws on the work of scholars such as Suda Ngamluea and Sutha Sinawat, I proceed to an analysis of a selection of allegorical panels from the murals.<sup>7</sup>

<sup>&</sup>lt;sup>6</sup> Ibid., p. 88.

<sup>&</sup>lt;sup>7</sup> Sutha Sinawat, Research on the symbology of thammayut dharma-puzzle murals, and Suda Ngamluea,

<sup>&</sup>quot;Research on the culture of the murals in the interior of the *ubosot* of Wat Bovorn Niwet, Bangkok."

#### The artist, the abbot and their negotiations of new knowledge

About the life of the artist we know very little. Khrua In Khong was born in Bang Chan, Phetchaburi province. He ordained as a monk at Wat Ratchaburana in Bangkok and painted some murals. We do not know where or when he died. Many stories about



Figure 3. A detail of a monk from the murals. The image is simply of a monk and is not Khrua In Khong. However, no images of him are known to exist. (Photo by author)

his life and character are based on hearsay. such as the story that he is supposed to have remained as a novice for an inordinate period of time, which presents us with a rather apocryphal-sounding story about the origin of his name. Khong means "big" because he was "big" for a novice monk and the word also sounds similar to the word for "snail," because he was slow to progress to being a full monk. He is said to have been reclusive and ill-tempered, locking the door of his quarters and entering and leaving by a window so as to avoid visitors. It is said that he spent much time conceiving his work and less time executing it, with some of his work completed by students.8 He is said to have completed a number of works besides those discussed here. including unfinished studies for the Vessantara Jataka, a portrait of his patron, King Mongkut, and a series of asubha kammatthāna (reflections on decaying corpses) illustrations at Wat Sommanat. He never left Siam, as far as we know, which makes his renditions of steamships, Western dress and buildings all the more impressive. However, we know from one of his surviving sketchbooks that he was

clearly working from illustrations found in European journals and photographs. The sketchbook also shows that he practised various scenes promoting European learning, with several drafts of Raphael's *School of Athens* (1511), which never made their way into his murals. Damrong Rachanuphab reports that In Khong depended much on "those pictures made of paper that white people stick to the walls of their houses", meaning landscape wallpaper, which was popular amongst elites in Siam at the time. Indeed, the

<sup>&</sup>lt;sup>8</sup> Listopad, "The Process of Change in Thai Mural Painting", p. 4.

<sup>&</sup>lt;sup>9</sup> Edmund Roberts, the American ambassador, wrote that he visited the house of the Minister of Trade (Chao Phraya Phraklang), then Dit Bunnag (1788-1855), and found the walls covered with "common English prints of battles" and "rural scenery". Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals of* 

use of wide vistas with small human figures and the use of trees and architectural features to create a sense of depth do make landscape wallpaper a likely source of inspiration for In Khong's murals. Despite these similarities, it is perhaps fairer to say that Khrua In Khong saw in wallpaper art a style, which could bridge the difference between European perspective art and the wide vistas of Siamese murals, rather than to say that he simply copied it. Moreover, his works display their own distinctive style, which may well have their roots in prior mural innovations in Siam, as well as the copying of Western prints.<sup>10</sup>

While we know little about the chief artist, we know a lot about the person who was likely the chief designer, the monk Vajirayan. We know a lot about him, of course, because he later became the king. After the death of his father, Rama II (reigned 1809-1824), Mongkut, the likely heir, was passed up in favour of his half-brother, Prince Chetsadabodin, who became Rama III. Mongkut returned to public life not as a member of the court, but as an active reformist monk, Vajirayan. He started his own order of monks, the *thammayut* (the Dhammuyuttika, the Order in accordance with the Dharma) and, as we shall see, the murals are very much a product of ideas that his order wished to promote. In 1834, he became the inaugural abbot of Wat Bovorn Niwet, one of the two temples housing In Khong's murals.

Sadly, the murals are nearly impossible to date accurately, especially since they have been repainted and likely altered in places several times.<sup>12</sup> There are two schools of thought on the matter, based on conflicting documentary evidence, with one group suggesting a date prior to 1847 and another sometime after 1851. One former abbot of the temple, Vajirananavarorasa (1860-1921), wrote in his history of the temple that the "white people dharma-puzzle" pictures on the walls of the *ubosot* were done sometime before Mongkut became king in 1851, while he was still abbot there, between 1837 and 1847.<sup>13</sup> Additional evidence for this is a document recording a donation of "400 baht" to hire "craftsmen" on Vajirayan's behalf during this time. However, an earlier abbot, Variyalongkorn (1809-1892), wrote that the murals were "redrawn" as part of a restoration project after Mongkut became king. Although the period 1837 to 1847 seems the most likely because, as we shall see, Vajirayan appears to have been heavily involved in the design of the murals, strictly speaking we have to put the date of composition in the unsatisfactorily broad range of 1837 to sometime soon after Mongkut was crowned in 1851. If they were drawn before Vajirayan became the king, this would, of course, mean that he was going against the current royally-sponsored tradition of mural painting. But we know that Vajirayan was allowed to carry out a number of innovations and departures from tradition, arguably in part as a way to increase his political standing,

Khrua In Khong and King Mongkut, pp. 49-51.

<sup>&</sup>lt;sup>10</sup>John Clark notes many earlier mural paintings, such as those at Wat Suwannaram (painted in about 1830), contain elements of Chinese landscape painting. He suggests that we might see Khrua In Khong's use of practical disappearing point perspective not as a "radical innovation", but as a "more effective deployment" of these existing Siamese mural techniques. See Clark, "Khrua In Khong", p. 4.

<sup>&</sup>lt;sup>11</sup> Reynolds, "The Buddhist monkhood in nineteenth-century Thailand", p. 82.

<sup>&</sup>lt;sup>12</sup> John Listopad, email message to the author, 1 February 2022.

<sup>&</sup>lt;sup>13</sup> It should be noted that, while I translate *pritsana tham* literally as "dharma-puzzle" throughout this article, its meaning is closer to "dharma-allegory" or "dharma-metaphor" in actual spoken usage.



Figure 4. Various inscriptions below the mural images. Each of these panels relates the image above it to a Buddhist metaphor and each one compares items in the picture to the Buddha, Dharma and Sangha respectively. (Photo courtesy of Wat Barom Niwat)

through his *thammayut* order without incurring the royal displeasure of his half-brother, and so this in itself would not be surprising.

While one should always be suspicious of the creative accomplishments attributed to monarchs, in this case there are many clues that point to Vajirayan as the likely designer of these murals. For one, he was abbot of both of these temples during or around the time at which they were painted. As well as this, Surachai Chongchitgnam notes similarities between the language of the mural inscriptions (Figure 4) and records of Vajirayan's own writings. In particular, there is a strong similarity between an inscription at Wat Boyorn Niwet in which the Buddha is compared to "a doctor who cures sickness" and a recorded desanā (a sermon or "direction" text) in which Vajirayan compares the Buddha to "a doctor who cures poison and knows sickness and the cause of ailments..." Although both texts mirror a metaphor from the Tipitaka, the similarity in language between Vajirayan and the anonymous author of the inscriptions is striking.<sup>14</sup> Even without these clues, it seems undoubtable that Vajirayan, as presiding abbot, would have been heavily involved in the creation of these murals. It was likely a communal undertaking, such as one finds between Renaissance ecclesiastical patrons and commoner artists, with Vajirayan and his colleagues making thematic suggestions and Khrua In Khong and his team coming up with designs.

Certainly, the biggest clue as to Vajirayan's involvement in these murals is that they depict a worldview that was compatible with his own interpretation of Siamese Buddhism's role in the modern, scientific and Western-dominated world. Vajirayan's new Buddhist order, the *thammayut*, paralleled the beginnings of significant Western economic, political and cultural influence in Siam and sided with an embrace of Western learning. The pro-science, pro-European, pro-scepticism character of this new order was

<sup>&</sup>lt;sup>14</sup> Surachai Chongchitngam, "Khrua In Khong's Journey Across the Ocean", p. 45. In the sutra, those who hear the Buddha's teachings, but do not follow them, are compared "a man who is sick with fever when a doctor is there but who will not allow himself to be cured."



shaped in part by interactions with foreign missionaries and ambassadors, such as Bishop Jean-Baptiste Pallegoix (1805-1862) and the Reverend Doctor Dan Bradley (1804-1873). Vajirayan was noted by his interlocutors as displaying scepticism towards many topics, including the traditional Buddhist cosmology of the Three Worlds, as well as the authenticity of the Pāli canon. However, Vajirayan's Buddhism was not an unequivocal pivot towards science and modernity. Rather, as Peter Jackson describes it, his new Buddhism was based on an "incomplete rationalism". 15 The prince-monk's Buddhism did not, in Vajirayan's own view, stem chiefly from European scholastic interpretations of Pāli texts or even traditional Siamese Buddhism, but from the older, purer Buddhism of the Mon ethnic group. Even as Vajirayan criticized the supernaturalism of indigenous Siamese religious forms, certain ideas and practices were left intact. In particular was a focus on karma or merit and morality, two foci that play an important part in the murals. One source to examine what the boundaries between "science" and "religion" might have been in Vajirayan's "incomplete rationalism" is the work of one of his close friends, Chaophyraya Thiphakorawong (Bunnag), in his book Kitchanukit (A book on various matters, 1867). Like Vajirayan, Bunnag believed that supernatural elements of the Buddhist religion, like the Three Worlds cosmology, were the product of later Brahminic accretions. Although Bunnag took pains to show that natural phenomena have simple causal explanations, for example rain being caused not by the thrashing of a serpent deity's tails but by condensation and the formation of clouds, he retained key concepts, such as karma and rebirth. He uses merit and virtue to explain differences in social status. Even gender was conditioned by previously accumulated merit. While there is no direct evidence of karma influencing one's social status or physical form in the murals, the continuing importance of morality and virtue is key to understanding the conventions that these murals were reworking and how they may have been interpreted at the time. They are not simply depictions of the "real world" as understood through

<sup>&</sup>lt;sup>15</sup> Peter Jackson, Society and Buddhism, pp. 42-47.



Figure 5. A composite image of the southwestern wall, to the left side of the Buddha image with people in early nineteenth-century dress wandering in a courtyard and in a forest with umbrellas. (Photo courtesy of Wat Barom Niwat)

science. They depict a largely non-fantastical universe, but one which still has morality and, in particular, moral lessons derived from the Tipitaka, as their chief organizing feature.

Even while it is important to keep in mind that In Khong's murals were not representative of a clear jump from religion to science, it is certainly the case that these images, and the views that shaped them, were a marked departure from the cosmologies and narratives of prior Siamese murals. In the late Ayutthaya and early Bangkok periods, murals tended to depict Jataka stories or the life of the Buddha, as well as additional narratives such as Buddhas of the past. In early Bangkok murals, a chief concern was to depict the accumulation of merit and virtue over multiple lifetimes. Siddhartha Gautama as an individual historical figure was not emphasized. Rather, it was the Buddha as a *principle*, as one who had escaped the cycle of rebirth, as well as suffering. Wilairat Yongrot, summarizing the theories of various Thai scholars, such as Surasak Jaroenwong, on the guiding ideas behind older Siamese murals, wrote that the main purpose of depicting various narratives and large-scale cosmologies on the walls

<sup>&</sup>lt;sup>16</sup> Surachai Chongchitngam, "Khrua In Khong's Journey Across the Ocean", p. 55.



surrounding the Buddha image was that the whole universe should witness and celebrate the accomplishment of the Buddha. In a sense, temple murals were not portraits of the universe, but snapshots of the moment of the Buddha's accomplishment within it.<sup>17</sup> The totality of these murals, covering different spheres of space and time all at once, perhaps emphasize the Buddha's omniscience, as well as that all things are in flux. They perhaps show that which the Buddha comes to know at the moment of his realization, as well as the notion that he is beyond the universe and is at the centre of it at the same time.<sup>18</sup> Many such murals painted almost contemporaneously to Wat Bovorn Niwet, such as Wat Suwannaram, continued to depict the heavens of the traditional worldview and, broadly speaking, follow the accumulation-of-merit and celebration-of-the-Buddha foci described above.

<sup>&</sup>lt;sup>17</sup> Wilairat Yongrot, "A study of cosmo-geography", pp. 75-81.

<sup>&</sup>lt;sup>18</sup> Such ideas are also present in Buddhist literature compiled at around the time that Khrua In Khong's murals were painted. For example, the *Life of the Buddha (Pathomsomphodhi)*, compiled by the Supreme Patriarch Paramanuchit during the reign of Rama III, speaks of the Buddha "in the midst of the universe, lustrous, radiant, luminous..."



Figure 6. A composite image of murals on the northeastern wall. (Photo courtesy of Wat Barom Niwat)

In contrast, In Khong's murals do not depict a world in which merit or karma can actually shape the physical characteristics of persons or geography. In these murals, those who "show the way" are not physically different to anyone else. Although there are angels in the heavens in In Khong's murals, there is no "hierarchy" of angels. Moreover, while older murals tended to depict stories from non-canonical sources, such as various versions of the *Kami Pathomsomphodhi* (Pāli: *Paṭhamasambodhi*, the biography of



the Buddha), *Tosachat Jataka* (Pāli: *Mahānipāta jātaka*, the Ten Great Birth Stories of the Buddha) or non-canonical Jataka tales, such as stories from the *Paññāsa Jātaka* (literally Fifty Jātakas), the textual sources for the inscriptions of Bovorn Niwet are taken exclusively from the canonical Tipitaka. This represents a shift emphasized by the *thammayut* towards focusing on the Tipitaka at the expense of non-canonical texts and commentaries. Vajirayan had little respect for such locally popular Buddhist



Figure 7. Interior of the ubosot. (Photo by author)

narratives, which he considered to be like "husks and the dirty and nasty trash that have accumulated..." Wilairat wrote that the two most consistent features of *thammayut* art are that they tend to be closer to photography and do not necessarily depict things directly connected with Buddhism. Surachai describes the single-canvas (as opposed to the multiple narratives of prior murals) where everything and everyone has their fixed size and place as occurring in the world "of science" and this, though a fair description relatively speaking, requires some qualification. First of all, the murals are not fully "scientific" time-wise, with General Washington in the same canvas as underground trains and people drawn in situations more figurative than realistic. Secondly, though frequently celebrated as the first Siamese paintings to employ perspective, the murals are not designed chiefly to demonstrate the artist's use of linear perspective or realism. Rather, they are making an argument about Buddhist cosmology.

We cannot, of course, declare with certainty what were the cultural practices shaping attention to visual form for Siamese audiences in the 19th century. However, in order to understand the "intermediate zone" from which these images arise means considering prior murals as a starting point for the artists and a benchmark for contemporary viewers. Referring back to the possible conventions of prior Siamese art as either the universe, as seen by an omniscient Buddha or as a snapshot of his accomplishment within it, it is possible that the "viewer" or even the accomplisher of these foreign discoveries could be

<sup>&</sup>lt;sup>19</sup> Nidhi Eoseewong, Pen and Sail, p. 269.

<sup>&</sup>lt;sup>20</sup> Wilairat Yongrot, "A study of cosmo-geography", p. 24.

As Nidhi Eoseewong and others have pointed out, there was in the early Bangkok period a marked turn away from the miraculous, highly conventionalised narratives organized around merit of the Ayutthaya period. These changed towards something more historicised and individual, which celebrated wisdom as knowledge rather than merit. However, such a change was cumulative and preceded in many cases obvious European influence. For example, Paramanuchit's text, *The Life of the Buddha*, omits the past lives of the Buddha and focuses on the (relatively) more historicised figure of Siddhartha. See Nidhi, *Pen and Sail*, p. 284.

implied to be the Buddha himself. Or perhaps that scientific and political "progress" is the same as, or a superior interpretation of, the socio-spiritual progress of earlier murals. Although the metaphorical nature of the images purposefully permits many possible interpretations, the important point is that these murals are not simply a turn towards modern, realistic depictions. Rather, they should be understood as negotiations of prior conventions to make an argument about Buddhism and its relationship to a new world with new knowledge and values. Later murals, possibly attributed to Khrua In Khong and his school, such as those at Wat Sommanat, contain tales such as that of the Javanese epic, *Inao*, rather than Buddhist allegories. This later departure from allegories may be attributed to the fact that Wat Bovorn Niwet was the central temple of Vajirayan's new order and so was a kind of flagship for the new Buddhism which he wished to promote. Sutha Sinawat suggests that their allegorical style may have been an innovative way for Vajirayan to stress the Tipitaka above popular tales of Bodhisattvas and so was part of his "new way" of understanding and teaching Buddhism, which could go alongside his own metaphor-laden, down-to-earth sermons.<sup>21</sup>

A particularly important element in the argument of these murals is that the designer clearly felt the need to contest Christianity, or at least to demonstrate that Buddhism is just as compatible with science, medicine and democracy as Christianity, Although a devotee of science, Vajirayan was far less attached to the Christian teachings which often came alongside it as part of the European cultural package. Writing to a friend in America, he described Christianity as a mere "commonplace religion" (sasana thammada) and that, moreover, many scientists "reject everything that is said in the Bible."22 If the Bible is the origin of civilization, he once challenged, why does it not say anything about how to measure latitude and longitude?<sup>23</sup> We shall see below examples in the murals of these anxieties about Christianity. However, Wilairat supposes that the extensive use of allegory may have come about as a result of Vajirayan's readings of Christian scripture and discussions with missionaries.<sup>24</sup> Although there are many metaphors in the Tipitaka itself, these were not common in prior Siamese murals. Christian teachings, however, employ metaphors frequently, such as "reaping what you sow" and the "kingdom" of God. Vajirayan's re-employment of allegory to promote Buddhism may then have drawn on inspiration from Christians, both in the sense that a religion like Buddhism should focus on its key text (in this case, the canonical Tipitaka) and that it should teach via allegories and metaphors. The use of allegories could have also been a way in which the world of what Vajirayan called "the miraculous knowledge of science" could be depicted without miracles or heroes or rebirth, but in such a way that it was nonetheless metaphorically compatible with certain Buddhist teachings. As we can see, then, these murals are not so much representations as they were a kind of visual rhetoric. To understand more fully what these arguments and negotiations were, we must turn to an analysis of some of the allegories and murals themselves.

<sup>&</sup>lt;sup>21</sup> Sutha Sinawat, Research on the symbology of thammayut dharma-puzzle murals, p. 42.

<sup>&</sup>lt;sup>22</sup> Cited from Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals*, p. 48.

<sup>&</sup>lt;sup>23</sup> Thongchai Winichiakul, Siam Mapped, p. 38.

<sup>&</sup>lt;sup>24</sup> Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals*, pp. 42-48.

### The murals and their metaphors

A number of the metaphors compare the Buddha to various kinds of doctors. It is here, in particular, that we can see attempts to engage with Christianity, or to show that Buddhism did not lose out to Christianity. At Wat Bovorn Niwet, the inscription compares the Buddha as follows:

The Buddha may be compared to a clever medical doctor for he is someone with ability in the treatment of ailments. Those ailments are defilement (*kilet*), together with all the lustful tendencies (*anusai*). The Dharma may be compared to a medicine which the doctor prepares. The Sangha may be compared to those who have lustful tendencies as an ailment, whose defilements have been well subdued...

The images in these panels are of people going to hospitals, which are depicted very much as European-style buildings with paned windows, multiple floors, domed tops and clock towers, none of which were common in Siam at the time. One of these may be an imperfect representation of Greenwich Royal Hospital for Seamen in London. There are images of some gentlemen performing bloodletting on ladies wearing corsets and bonnets, as well as images of some people around a fountain, perhaps referring to the



Figure 8. A detail of the mural on the northwestern wall. It shows top-hatted doctors curing people as well as fountains. (Photo courtesy of Wat Barom Niwat)



Figure 9. A detail from the northwestern wall showing an accident with a horse and carriage and survivors being led across a bridge to a hospital. (Photo courtesy of Wat Barom Niwat)

belief that spring water had a curative effect. In another panel, the Buddha is compared to a surgeon (since he removes the "arrow" of harmful views) and shows gentlemen in top hats curing people, together with a loblolly boy holding a box of medicines (Figure 8). Perhaps most clearly in conversation with Christianity is the mural that compares the Buddha to an eye doctor, who "cuts away cataracts of the eye" because cataracts are like "delusion" (moha). The murals depict groups of people suffering various calamities such as an accident with a horse-drawn carriage and, finally, being led across a bridge to what is presumably a hospital (Figure 9). The metaphor of an eye doctor is especially easily applied in Buddhism because of the preponderance of visual metaphors in the Tipitaka, which frequently compares ignorance to blindness and wisdom to seeing clearly. As well as illustrating teachings from the Tipitaka, these murals also relate to the situation with Christian missionaries in Siam at that time. The Reverend Doctor Dan Bradley wrote that curing cataracts was the "most prominent work" of missionaries in Siam and that those they could not cure they would tell to "call upon God to open their hearts so that they may see clearly."25 In this case, the murals are arguing that the Buddha is also an "eye doctor" at least in the philosophical sense and, perhaps moreover, that these cures by missionaries do not come from God but from medical knowledge. Indeed, the men curing the blind people in the murals are strangely clothed like mediaeval European doctors, perhaps to historicise the curing of cataracts and so to indicate that it did not come from Christian faith, but from medical progress.

Behind the Buddha image in Wat Bovorn Niwat, the section which in prior murals often depicted Mount Meru, are scenes of technological innovation and astronomical discovery. The inscription describes a city similar to descriptions from Pāli sutras. The chief metaphor is of the Buddha being like the "sun" because "the sun sends brightness across the city and across the entire kingdom." The Dharma is likened to the city and its train (which "takes living beings to pleasant lands") and the Sangha to the passengers of those trains. Instead of Mount Meru is the sun which, from below, is being looked at by a group of men gathered around a transit (revolving) telescope (Figure 10). The railway

<sup>&</sup>lt;sup>25</sup> Cited and translated from the Thai translation in Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals*, pp. 100-101.



Figure 10. A composite image of the murals on the southern wall, which traditionally would often be depictions of Mount Meru. Instead here are men with telescopes and an underground railway train. (Photo courtesy of Wat Barom Niwat)

and tunnel may be a rendition of Euston or Paddington railway station in London, or the tunnel might relate to plans to create an underground railroad (as the London Underground was not opened until 1863) or it might simply be a railway tunnel that acts as the "gate" of the city of London, which is implied to be the "pleasant city" described in the inscription. The mural also includes a tower, the "city pillar" of the inscription. The tower is described in the inscription as having a "Dharma wheel" (*dharmachakra*) upon it, a description which brings to mind some of the Ashokan Pillars in India. Yet in the mural image, this "Dharma wheel" on the tower is a clock. Here, as in other places in the murals, the prior karmic progress of the Buddha and Bodhisattvas seems to have been replaced with technological progress. The wheel of Dharma is quite literally replaced with a symbol for the rational measuring and ordering of time and, with the railway beneath it, the technological mastery of space.

Vajirayan, particularly later as King Mongkut, is well known for his promotion



of astronomy. He collected telescopes and other astronomical equipment and praised books such as *Almanac and Astronomy* (1843), written by Jesse Caswell (1809-48), the missionary, himself a close mentor to the prince-monk, to counter belief in the Three Worlds. Famously, Mongkut led an expedition to view an eclipse at Wako in 1868 in order to prove wrong those "old heads" in his court, who conservatively followed traditional Siamese astrology. The murals include depictions of the planets, some of which can only be seen with a telescope. For example, Saturn is shown with the Cassini Division, the division between the two rings, a detail impossible for the human eye to perceive without aid (Figure 11, top right). What is most interesting is that there are nine planets (including the sun) depicted in total. However, when these murals were painted in circa 1840, there were probably only seven known planets, with Neptune discovered in 1846 and Pluto in 1930.

So why are there nine planets? This would seem to be because the murals depict

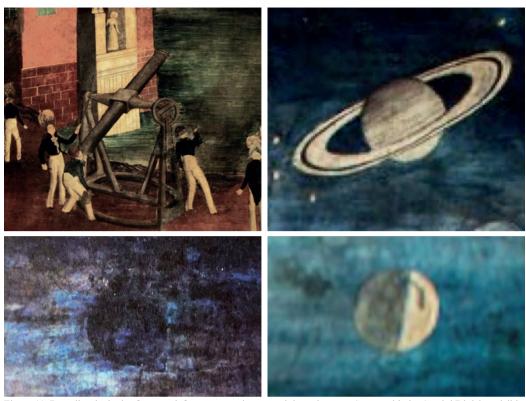


Figure 11. Detaails, clockwise from top left: men operating a revolving telescope; Saturn with the Cassini Division visible; either the 'shadow planet' Rāhu or a half eclipse; Ketu or a full eclipse. (Photos courtesy of Wat Barom Niwat)

modern astronomical discoveries, but also follow the Pāli-Sanskrit derived Navagraha (meaning Nine Heavenly Bodies) theory of the solar system, which also includes the sun as a planet. Mongkut, though he is now celebrated for his promotion of scientific astronomy, had in fact developed his expertise primarily from indigenous astrology, which he learned during his monastic years.<sup>26</sup> The *Navagraha* system of astronomy was developed over a long period in ancient India, beginning when traditional Vedic understandings came into contact with Greek astronomy. Rāhu and Ketu began as demonic tales and were later incorporated into more systematic accounts of the solar system. Because of defiantly drinking the elixir of immortality and being exposed by the sun and moon, Rāhu had his body split in two, becoming Rāhu and Ketu and, for this, he resents the sun and moon and periodically "eats" them. Although there are earlier astrological treatises in Sanskrit, perhaps the first to include a now recognizable system of nine planets, including Rāhu and Ketu, is the Bṛhatsamhitā (Great compendium), attributed to Varāhamihira, and traditionally dated to the first half of the 6th century.<sup>27</sup> The "shadow" planets of Rāhu and Ketu are directly opposite one another and, when they pass between the earth, "eat" the sun or moon and cause eclipses. Rāhu and Ketu are depicted in the In Khong murals as a half-bodied planet and a dark-bodied planet, though these could also be depictions of half and full eclipses of the moon. Ketu is only

<sup>&</sup>lt;sup>26</sup> Thongchai Winichakul, Siam Mapped, p. 42.

<sup>&</sup>lt;sup>27</sup> Stephen Markel, "The Origin and Early Development of the Nine Planetary Deities", p. 194.



Figure 12. The image of frigates on the northeastern wall. There is also a Mon-style pagoda on an island on the top right-hand side. (Photo courtesy of Wat Barom Niwat)

faintly visible above the sun and Rāhu is to the right of the Buddha-image (Figure 11, bottom left and right). Once again, scientific knowledge from Europe does not replace traditional understandings, but is rather used to negotiate them. If they are depicted, it is likely because Rāhu was an important deity in Siam, one who features in the *Samyutta Nikaya*, in which the sun and moon are saved from Rāhu's wrath by an invocation of the Buddha. Indeed, to this day, Rāhu is the focus of worship at Wat Srisathhong in Nakhon Pathom province where visitors offer the darkly-powered deity black grapes, black liquor and black coffee. These murals might be an attempt to provide still revered deities a place in the new astronomical worldview, an example of what Thongchai Winichakul dubs not a triumph of Western learning so much as an "epistemological hybrid". 28

In another panel, the inscription compares the Buddha to the captain of a boat, the Dharma to the boat itself and the Sangha are those "equipped with qualities to be able to cross to the other shore".<sup>29</sup> The metaphor of nirvana as the "further shore" is common in the Tipitaka. For example, there is an extended simile in the *Saṃyutta Nikāya* in which a man escapes from danger by building a raft to another shore. The dangerous shore is "the psycho-physical individual; the further shore, safe and without fear, is nirvana; the raft is the Path."<sup>30</sup> The mural itself is a large canvas of frigate ships with billowing sails (Figure 12). Towards the centre left, as Listopad notes, a man adrift is saved from a cursively drawn shark in a freehand interpretation of John Copley's

<sup>&</sup>lt;sup>28</sup> Thongchai Winichakul, Siam Mapped, p. 57.

<sup>&</sup>lt;sup>29</sup> These are from Wat Bovorn Niwet inscriptions.

<sup>&</sup>lt;sup>30</sup> Steven Collins, Nirvana: concept, imagery, narrative, pp. 87-88.

Watson and the Shark (1778).31 The frigates depicted seem close to those used by the navy of the Dutch Republic and the Dutch East India Company. A rigged ship called the Arill was constructed under the supervision of a Siamese nobleman in Chanthaburi, in which Mongkut is known to have travelled.<sup>32</sup> Wat Bovorn Niwet even has a small image of a steamship, an innovation which the people of Siam had a chance to witness for the first time in 1843, when Robert Hunter entered the Chao Phraya in his ship, the Express, an event which reportedly drew large crowds. Indeed, perhaps because early Bangkok was a water-based city and a merchant capital where much trade was done via ship, nautical vessels feature prominently in Siamese art and literature. King Rama III had a replica Chinese boat, with a curving shape, built out of bricks and plaster at Wat Yannawa in Bangkok.<sup>33</sup> It is written that there are assembled the *pāramis* (accumulated perfections) of Vessantara and that the boat is a vehicle for passing to the further shore of nirvana. The boat will take "all living beings" and "all heavenly beings" across the waters of samsara towards the shore of nirvana. As Surachai noted, this representation of a boat follows more traditional ideas, connecting the boat to the Three Worlds and the Ten Great Birth Stories, as well as accumulation of merit. The Wat Yannawa boat and Wat Bovorn Niwet were probably built at around the same time, demonstrating just how divergent from more conventional thinking the latter was. However, In Khong's murals are still not "of science", so much a moment at which the boundaries of "science" and "Buddhism" were in a state of negotiation. Indeed, what appears to be a depiction of nautical technological prowess in Wat Bovorn Niwat contains a clear Buddhist message. At the top-right corner of the panel, there is a small island with a prominent Buddhist pagoda, which is the destination of the "further shore" of the inscription. This is, in fact, a Mon-style *chedi*, which Wiyada considers may represent the "floating pagoda" at Pak Nam and, I would add, may represent the landmark leaning pagoda (though it was not leaning at that time) of Wat Paramaiyikawat on the island of Koh Kret, an island which in contemporary accounts and poetry was well known as a Mon community island.<sup>34</sup> This is one example of Vajirayan's commitment to what he considered to be Mon-style Buddhism, a form of Buddhism which he believed to be closer to the original order and practice of the Buddha, and one which he thought could be compatible with a scientific worldview.35

For the panel, "the Buddha is a leader", the inscription says:

In this section the metaphor is: There was once a city that was filled with fun and pleasantness and free from danger, but it was far from people and hard to reach... then there was a clever man on this road who had compassion towards people. He made houses on the road and told the right way to all of the people...

<sup>&</sup>lt;sup>31</sup> Listopad, "The Process of Change in Thai Mural Painting", p. 10.

<sup>&</sup>lt;sup>32</sup> Wiyada Thongmitr, Khrua In Khong's Westernized School of Painting, p. 130.

<sup>&</sup>lt;sup>33</sup> Surachai Chongchitngam, "Khrua In Khong's Journey Across the Ocean", p. 63.

<sup>&</sup>lt;sup>34</sup> Wiyada, Khrua In Khong's Westernized School of Thai Painting, p. 131.

<sup>&</sup>lt;sup>35</sup> Craig James Reynolds, "The Buddhist monkhood in nineteenth-century Thailand", p. 86.



Figure 13. An image from the northeastern wall. Beneath what is likely a statue of Athena, a man who is probably George Washington points the way to the 'delightful city' which is itself likely an imperfect representation of the United States Capitol. (Photo courtesy of Wat Barom Niwat)

This metaphor is close to the *Nagarasutta*, in which the Buddha describes nirvana as like an "ancient capital that had been inhabited by people in the past, with parks, groves, ponds, ramparts, a delightful place" and describes his teaching of the Dharma as like the "path" to that city. <sup>36</sup> The murals show a long line of people walking along a path towards a large domed building (Figure 13). On the way, a man points the way along the path. In the Niwat version, this person stands beneath a Greek statue. Because it is a winged goddess, this would most likely indicate Nike, the Greek goddess of victory. However, the statue carries an aegis (shield) on one side and so may represent the Goddess Athena. Her aegis seems to be in the shape of a Dharma-wheel. This is a fairly clear attempt, then, to conflate democratic governmental ideals with Buddhism. As king, Mongkut described the system of government in the United States as "miraculous" (atsachan) and is said to have told a missionary that he hoped that Siam would progress to a system of government whereby "the king is beneath the constitution as in Britain." Beneath the statue is a figure pointing the way to the city in an 18th century military uniform and bicorne hat, almost certainly General George Washington. It is hard to escape the conclusion that the "delightful city" from various portions of the Tipitaka becomes the United States. Indeed, the building which the line of people are being guided towards in the image would seem to be an imperfect representation of the United States Capitol, with its domed top and Grecian pillars.<sup>38</sup> The message seems to be clear. Buddhism is compatible with democracy. Or, perhaps, Buddhism and the search for truth or nirvana

<sup>&</sup>lt;sup>36</sup> Collins, Nirvana, p. 89.

<sup>&</sup>lt;sup>37</sup> Cited from Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals*, p. 141.

<sup>&</sup>lt;sup>38</sup> Depicted in the murals are what appear to be Doric columns, whereas the actual United States Capitol has the more elaborate Corinthian columns. Nevertheless, the artist and audience would likely have understood these as simply Grecian columns.



Figure 14. On the southeastern wall, to the right side of the Buddha, is the most famous and most reproduced image from the murals. It is of Victorian ladies and gentlemen admiring a huge lotus flower, which the inscription explains represents the Buddha. (Photo by author)

is the same as the search for perfect governance.

The most famous, and most reproduced, image from the murals is that of the Buddha as a lotus flower. The mural depicts groups of Victorian gentlemen and ladies in a park gathered around a pond, gazing in amazement at a huge lotus flower (Figure 14). The inscription at Wat Bovorn Niwat describes the lotus flower as having a "magical scent more so than all others" and that it "rises beautifully from the water." The inscription goes on to compare the Buddha to the lotus, the smell to the Dharma and the Sangha to bees or people who come to admire the lotus. There are numerous points in the Tipitaka in which the Buddha is compared to a lotus flower, such as in *The Questions of King Milinda* (Pāli: *Milinda Pañha*), present in some versions of the Tipitaka though not in the Thai one, when one who has attained nirvana is said to rise up untarnished by evil dispositions, just as the lotus flower rises up "untarnished by the waters".<sup>39</sup>

In one of the cleverer conflations of Buddhist thought and the contemporary world characteristic of these murals, the image not only refers to the common metaphor of the Buddha as a lotus flower, but also to a recent botanical discovery. The (very imperiallynamed) *Victoria Amazonia* lotus flower was first classified as a botanical species by John Lindley in 1837, based on specimens collected by Robert Schomburgk from British Guiana. Although the giant lotus depicted in the murals is closer in its botanical characteristics to the common lotus flower, *nelumbo nucifera*, its mammoth size is likely an imaginative depiction of overstated news about the newly discovered species. Tatiana Holway described in *The Flower of Empire* just how sensational the discovery was. The flower was reported in a best-selling 1838 edition of *Penny Magazine* as "a vegetable wonder" together with an engraving of its discovery in which the flower is at least as big

<sup>&</sup>lt;sup>39</sup> William Ward, "The lotus symbol: its meaning in Buddhist art and philosophy", p. 138.

as the discoverers themselves. Beyond a small coterie of botanical researchers, few had any idea of the flower's true dimensions. 40 Until it was finally cultivated in England in the late 1840s, the public relied on reports that escalated the size of its lily to "eighteen feet" and its flower to nearly "four feet in circumference." While these descriptions certainly fit with the miraculous impression the flower made on Victorian newspaper readers, they did not match the botanical reality. It is not so much the flower that is large as the lily, which is so broad that in 1849 it was reported that at a botanical garden in Devonshire (now Devon), a two-year-old child was able to stand upon one. While it could be that the lotus flower in the murals is so large so as to emphasize symbolically the greatness of the Buddha, this would make it the only supernatural image below the heavens in the mural. It is more likely that news of the mammoth-sized lotus flower had reached Siam by this time, but not accurate renditions of its size or botanical characteristics. Wilairat is of the opinion that the lotus may be a "double metaphor", as it conveys both the power of the Buddha, the power of Queen Victoria, as well as the marvels of new scientific discoveries. 41

Scattered through all of these panels, often in the lower portions, are pictures of thammayut monks engaging in important rituals (Figure 15). These include a nāga procession for an ordaining monk, the examination for ordination, a recitation of the pāṭimokkha (the 227 rules for monks), the kaṭhina ceremony, where monks receive new robes, and monks undergoing partial isolation for an infraction of the vinaya monastic code. The guiding theme of these images would seem to be that good behaviour and adherence to the monastic code are key to the Buddhist religion. The monks are often shown not in traditional temples, but in strange amalgams of Siamese temples with European-style features. This may simply be because such buildings are what Khrua In Khong and his team had become familiar with drawing. Or, it may have been an attempt to argue that the disciplined, ritualistic monastic work of the kind practised in Vajirayan's thammayut temples had a place in this new, rational world and perhaps even that the virtues of curiosity and discipline of self and time, exemplified in the panels, was to some extent coterminous with it.

## Concluding comments

These murals can, from one perspective, be seen as advertisements of engagement with Western intellectual and material culture. As Maurizio Peleggi described in *Lords of Things*, previously the elite's social identity was grounded in a cosmological, cultural, and trading space in which an Indic civilizational sphere overlapped with a Sinic civilizational sphere.<sup>42</sup> These murals can be viewed as a snapshot of the moment when Siam's elites were switching towards a new civilizational centre. The murals partly serve to show the young prince-monk's urbanity, as a carrier of "novelty and models of sophistication." It advertised him as one who could shift Siam towards the

<sup>&</sup>lt;sup>40</sup> Tatiana Holway, *The Flower of Empire*, pp. 168-170.

<sup>&</sup>lt;sup>41</sup> Wilairat Yongrot and Thawatchai Ongwuthivage, *Deciphering the Murals*, p. 176.

<sup>&</sup>lt;sup>42</sup> Maurizio Peleggi, Lords of Things, pp. 12-16.

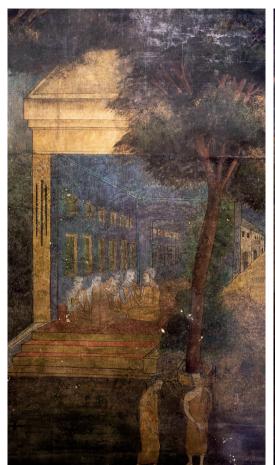




Figure 15. In the lower portions of the murals are depictions of monks seated and performing rituals in unusual amalgams of Western buildings and Siamese temples. (Photo by author)

newly invented rituals, newly naturalized objects, new cosmologies and epistemologies and newly constructed metropoles, all of which were fast becoming, or were already, globally recognized marks of civilization. Indeed, many of the metropolitan marvels shown, such as railways, horse races and fountains, were, over the next fifty years or so, made manifest in Bangkok itself.

Viewed in this way, the murals are like an advertisement of Vajirayan's worldliness, of his allegiance to a new civilizational sphere, as well as an aspirational vision for the future of the city and kingdom. For Siamese viewers themselves, these murals also educate in a spectacular fashion. As well as telescopes, domed and pillared buildings, these murals show in detail various technological wonders. These include the sidesaddle, only recently perfected in the 1830s by Jules Pellier (Figure 16, top left). There is also a picture of a couple walking a dog on leash (Figure 16, bottom left). Although dogs certainly existed in Siam in the 19th century, the practices associated with them as pets today, such as giving them their own bowl and toys and collar, did not. Hence, Siamese people in the 19th century likely thought of these as strange and exotic practices. There are also depictions of ladies cheering someone by waving their handkerchiefs as well as people walking holding Western-style umbrellas with a patterned canopy (Figure 16,



Figure 16. Details: top left, a man sitting on a side-saddle; lower left, a couple walking a dog on a leash; right, a lady carrying a Western-style umbrella, (Photo courtesy of Wat Barom Niwat)

left). The point here is that these murals teach an ethic: the material culture and foreign customs of contemporary Europe and America are not things to be feared or resisted, but approached with curiosity and wonder.

Instead of a universe of karmic cause-and-effect or scenes celebrating his accomplishments, Phra Thotsaphonlayan sits in the *māravijaya* (victory over Māra) posture surrounded by depictions of Europe, South Africa and the United States. At the moment his eyes were opened, what was Phra Thotsaphonlayan supposed to make of this? Instead of hell and Mount Meru are railways and telescopes. Instead of the good deeds of the Buddha's past lives are steamships and the United States Congress building. This, the images seem to say, this time and space bound world is your new universe. But, rest assured, you are still at its centre.

These murals, as I have stressed throughout, are arguments. With pictures showing foreign doctors curing cataracts, they argue that the Buddha is a healer and not any less so than Christian doctors. With George Washington pointing the way to Congress, they argue that the Buddha too is a leader and that the search for the "delightful city" of nirvana may be the same as the search for just governance. And with a mammoth-sized lotus flower, they argue perhaps that the modern marvels of scientific and botanical discovery are the same as the emergence of a Buddha and his teachings. The Buddha, like the Europeans, preached the advancement of thought. Karmic and spiritual progress can be understood as the progress of knowledge. In one interpretation, these murals argue that the teachings of the Buddha are compatible with a scientific worldview. In another interpretation, they argue that the law of Dharma was always the same as that of reason, curiosity and progress. Perhaps, in fact, these murals do celebrate and show to Phra Thotsaphonlayan his accomplishments. Indeed, they seem to say, these foreign marvels may demonstrate the truth of the Dharma more powerfully than anything else: enlightenment is, and always has been, happening everywhere.

#### References

- Bruce, Robert. "King Mongkut of Siam and His Treaty with Britain". *Journal of the Royal Asiatic Society Hong Kong Branch*, The University of Hong Kong Libraries Vol. 9.
- John Clark, "Khrua In Khong". The Asia Modern, 2013.
- John Clark "The Worlding of Asian Modern" in Clark, John, Michelle Antoinette, and Caroline Turner. *Contemporary Asian Art and Exhibitions: Connectivities and World-Making*. ANU Press, 2014.
- Collins, Steven. Nirvana: Concept, imagery, narrative. Cambridge University Press, 2010.
- Holway, Tatiana. *The Flower of Empire: The Amazon's Largest Water Lily, the Quest to Make it Bloom, and the World it Helped Create.* Oxford University Press, 2013.
- Nidhi Eoseewong. Pen and Sail: Literature and History in Early Bangkok: Including The History of Bangkok in the Chronicles of Ayutthaya. Silkworm Books, 2005.
- Jackson, Peter A. Buddhism, Legitimation, and Conflict: The Political Functions of Urban Thai Buddhism. Institute of Southeast Asian Studies, 1989.
- Reynolds, Craig James. "The Buddhist monkhood in nineteenth-century Thailand". PhD diss., Cornell University, 1973.
- Listopad, John Andrew. "The Process of Change in Thai Mural Painting: Khrua In Khong and the Murals in the Ubosoth of Wat Somanasa Vihāra". Master's thesis, University of Utah, 1984.
- Markel, Stephen Allen. "The Origin and Early Development of the Nine Planetary Deities (Navagraha)". PhD thesis, University of Michigan, 1989.
- Peleggi, Maurizio. Lords of Things: The Fashioning of the Siamese Monarchy's Modern Image. University of Hawaii Press, 2002.
- Suda Ngamluea (สุดา งามเหลือ). การศึกษาวัฒนธรรมจากภาพจิตรกรรมฝาผนังภายในพระอุโบสถวัดบวรนิเวศวิหาร กรุงเทพมหานคร ["Research on the culture of the murals in the interior of the ubosot of Wat Bovorn Niwet, Bangkok"]. Bachelor's dissertation, Silpakorn University, 1981.
- Surachai Chongchitngam (สุรชัยจงจิตงาม). ข้ามห้วงมหาสมุทรกับขรัวอินโข่ง:เมื่อชนชั้นนำสยามใช้วิทยาศาสตร์เป็น เครื่องมือในการหยังรู้ความเป็นจริงของพระพุทธศาสนา ["Khrua In Khong's Journey Across the Ocean: A Scientific Approach to Buddhism by Siamese Elites"]. Muang Boran Vol. 34 No. 3 July-September 2008.
- Sutha Sinawat (สุธา ลีนะวัต). การศึกษาสัญลักษณ์ในจิตรกรรมภาพปริศนาธรรมของนิกายธรรมยุต [Research on the symbology of thammayut dharma-puzzle murals]. Priya Krairiksh Foundation, 2012.
- Thongchai Winichakul. Siam Mapped: A History of the Geo-body of a Nation. University of Hawaii Press, 1997.
- Ward, William E. "The lotus symbol: its meaning in Buddhist art and philosophy." *The Journal of Aesthetics and Art Criticism* 11, no. 2 (1952): 135-146.
- Wiyada Thongmitr. Khrua in Khong's Westernized School of Thai Painting. Muang Boran, 1979.
- Wilairat Yongrot (วิไลรัตน์ ยังรอต). การศึกษาภาพภูมิจักรวาลจากภาพจิตรกรรมฝาผนังสมัยรัตนโกสินทร์ตอนต้น ใน เขตกรุงเทพมหานคร ["A study on cosmo-geography in the mural paintings of the early Ratanakosin period in Bangkok"]. Master's thesis, Silpakorn University, 1997.
- Wilairat Yongrot and Thawatchai Ongwuthivage (ธวัชชัย องค์วุฒิเวทย์ และ วิไลรัตน์ ยังรอต). ถอดรหัส ภาพ ผนัง พระจอมเกล้า-ขรัวอินโข่ง [Deciphering the Murals of King Mongkut and Khrua In Khong]. Museum Press, 2016.