



Urban Archaeology in Bangkok

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Abstract

This research aims to review the production of Thai Urban Archaeology in Bangkok. It demonstrates the current situation and background of archaeological studies in the metropolis through the concept of urban archaeology. The findings can be summarised as follows:

First, archaeological studies in Bangkok have started systematically in the past 20 years; being urban archaeology and urban conservation. Archaeological projects serve the purposes of development of privately-funded building constructions and civil or government-funded constructions of infrastructural structures in the Rattanakosin area.

Second, all of the archaeological excavations were considered as rescue/salvage archaeology or salvage of archaeological evidence before the archaeological sites were destroyed in order to develop, conserve, or improve knowledge regarding historic activities at these sites

Third, the assemblage of the ruins and artefacts discovered from the archaeological sites were mainly analysed for the physical structures and dating. An in-depth study and research of the archaeology has not yet been conducted. The aforementioned study of Bangkok was carried out to gather evidence before any construction work took place to develop or improve the area. Very little is known about the archaeology of Bangkok on the local and regional contexts.

Finally, the future direction of archaeological work in Bangkok will support conservation and development projects and work more closely with infrastructure development projects such as the mass rapid transit projects. The archaeology in Bangkok should involve people in the urban societies.

Keywords

Urban Archaeology, Archaeology in Bangkok, Urban Conservation, Archaeology

Introduction

The growth of fundamental structures and population enables construction of utility systems, accommodation, and various offices. During such constructions, archaeological remains will be discovered, and questions will be raised for what these remains represent (e.g. dates and their meaning). These questions challenge archaeologists to consider and study urban archaeological objects. The term 'Urban Archaeology' is an emerging term in various important cities around the world that are going through urban development to serve the livelihood of present citizens such as Rome, Italy. Simultaneously, while constructing a new underground line cutting through Rome and a train station near the Colosseum; traces of past lives and ancient monumental remains of the original Rome were documented. Likewise, in the Old Bangkok area, archaeological remains – architectural and material culture – are regularly found, in particular during construction. This appears to be a common occurrence similar to other ancient cities around the world.

Bangkok has developed from a self-sustained agricultural community settling along the main river. The city, through times, has gradually transformed into a current day metropolis. This transformation has continued for at least 600 years since the time of Ayutthaya.

Archaeological study in Bangkok started systematically in the past 20 years and has included urban archaeology and urban conservation. These are needed when there are construction projects affecting archaeological sites. This paper intends to synthesis the archaeological projects in Bangkok through the concept of urban archaeology to understand the current state of archaeological studies in the metropolis.

Concerning the material analysed, archaeological projects in Bangkok have included 25 sites and can be classified into 2 types according to their characteristics. They areas follows:

- (1) Those projects related to privately-funded building constructions.
- (2) Those projects related to civil or government-funded constructions of infrastructural structures.

The data collected from these groups would be later explored to achieve the aim of this paper.

The Concept of Urban Archaeology

The study of cities has been a subject of major interest among archaeologists for over a century. The earliest archaeologists were attracted to the largest and most impressive sites, and these were usually urban settlements. The goals and methods of archaeology have changed considerably since the 1840s, when Henry Layard (1817-1894), an English traveller who explored and discovered Nineveh, in Assyria. John Lloyd Stevens first

described ancient Mayan ruins such as Copan and Palenque. At that time, Western academics went to explore and excavate existing ancient ruins. Apart from the exploration and excavation of the city, they also brought archaeological objects and architectural parts back to museums in their respective countries (Smith, 2002).

Curiosity about the origin of the cities due to 2 major reasons, which are:

First, after World War II, archaeological sites and ruins were damaged. Once the war was over, curiosity toward ancient cities, sites and recently damaged history appeared. In the past, working in contemporary areas with an active population was not popular among archaeologists. Archaeologists were mostly interested in history prior to the 18th century, perhaps because the time after the 19th century was too recent. Furthermore, other disciplines, such as history, had already provided detailed explanations. Additionally, the rights to access excavation sites in contemporary cities were not easily obtained (Keeffe, 2014).

Secondly, the growth of fundamental structures and overall city population enabled the construction of utility systems, accommodation, and various offices. During such construction, ruins and artefacts would be found underground, leading academics and others to become interested and raise questions on what these objects were; their age, and their meaning. These questions challenged archaeologists to consider and study urban archaeological evidence. The term 'urban archaeology' is an emerging term in various important cities around the world that are going through urban development to serve the livelihood of present citizens, such as Rome, Italy. Simultaneously, while constructing a new underground line cutting through Rome and a train station near the Colosseum; traces of lives, and ancient buildings part of the original Rome were found (Tucci, 2013). Even in Bangkok, there are ancient buildings and artefacts found underground, particularly when preparing for construction. This is a common occurrence similar to other ancient cities around the world.

Urban archaeology is both: "in the city" and "of the city."

Table 1 Archaeological sites in Bangkok

No	Archaeological Sites in Bangkok	Year	(1)	(2)
1	Thammasat University	1994-1998	/	
2	Vichai Prasit Fortress	1997	/	
3	Phra Sumeru Fortress	1999	/	
4	Ancient Thonburi Canal (Ban Kamin Canal)	2002		/
5	Bank of Thailand Headquarter	2002	/	
6	Chao Por Sue Shrine	2003	/	
7	Ban Pibultham	2003	/	
8	Mahakan Fortress	2004		
9	Assumption Cathedral	2004	/	
10	Saranrom Palace	2004	/	
11	Customer House	2004	/	
12	Internal Trade Bureau, Ta Tian (Suan Nakra Pirom)	2006		/
13	The Giant Swing	2006		/
14	Pitchayatikaram Worawihan Temple	2006	/	
15	Ministry of Commerce (Museum Siam)	2007	/	
16	Rajini School	2007	/	
17	Klongsan District Office (Pong Paajjamit Fortress)	2008	/	
18	Thonburi train station (Siriraj Piyamaharajkarun Hospital)	2008/2011	/	
19	Tripiitaka Hall, Teptidaram Woravihan Temple	2009	/	
20	Bovorn Sathan Mongkol Palace (The Front palace)	2012-2015	/	
21	Kurusapa Printing Place (Banglumphu Museum)	2013	/	
22	Sanamchai Station	2014		/
23	Reunrit community	2013-2015	/	
24	Nakorn Sawan Road	2015		/
25	Maliwan Palace	2015	/	

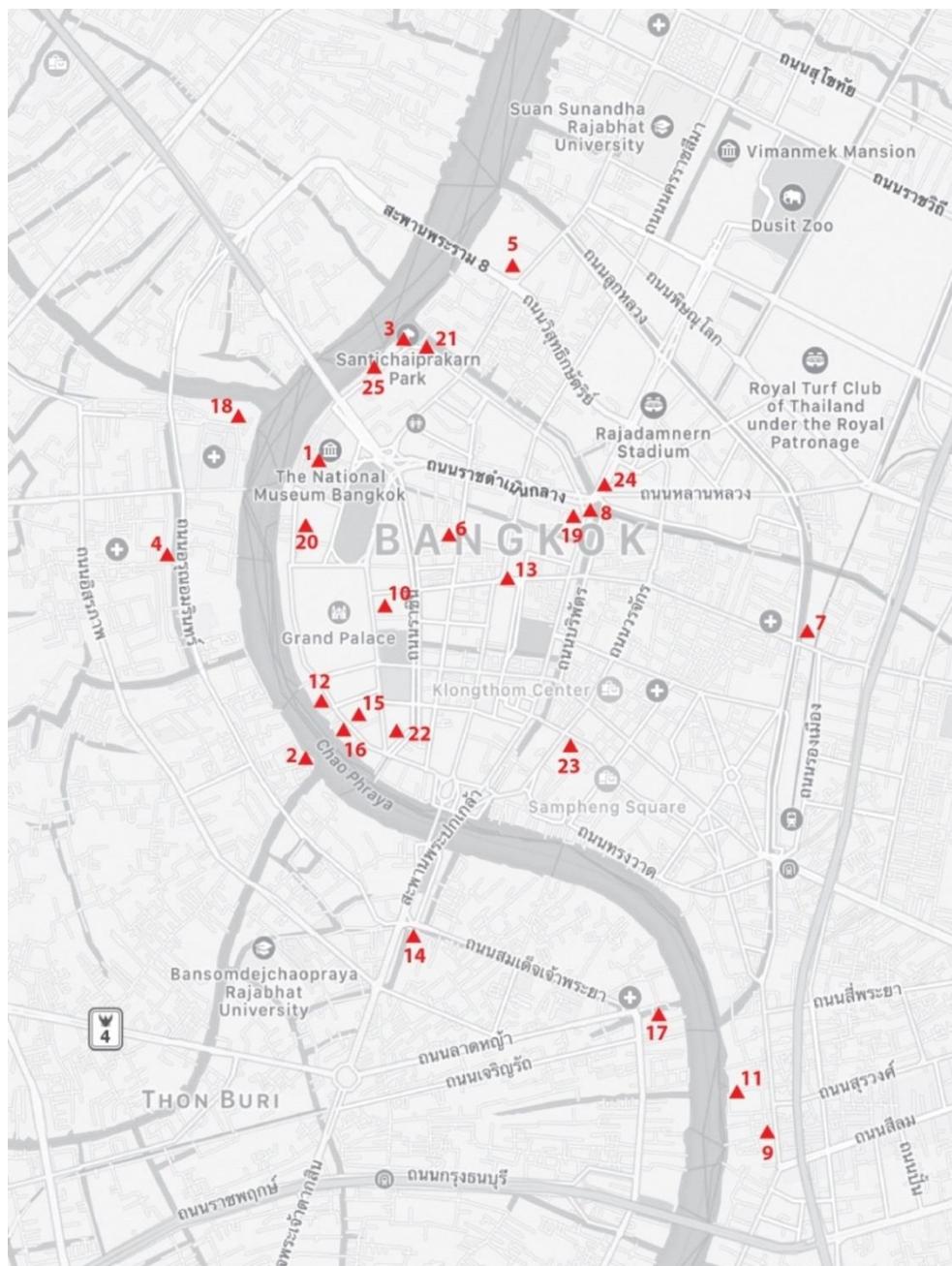


Figure 1 Location of archaeological sites in Bangkok.

Archaeology in the city

Different cities in the world are growing, which may result in the unintentional disappearance of evidence from past cities. As the world is continuously developing, archaeological work is more like a rescue effort racing against time. Therefore, archaeological work in a city is a collection of archaeological data along with conservation and management of archaeological evidence from past cities. Archaeological evidence discovered under the city has sentimental, social and academic value, all of which can be used to design the city to create values in the future.

Archaeology of the city

The urban concepts such as urbanization, types of city, nature of the city can be interpreted in various context of an urban dimension. They are more than describing the characteristics of evidence found and the age of their sites. They include the urban context, particularly the urban component, comprising of citizens, construction, and the environment. This enables humans to express various behaviours including their beliefs and culture, and archaeologists to study the physical aspect of a city, the “urban space” and “urban lives”, as well as cultures of people in the past, both at a city-level and regional level.

Presently, Bangkok is one of the world’s metropolitan. It comprises of modern buildings upon ruins of traditional buildings that prospered in the past. Similar to key ancient cities, the evidence of historical cities under the present city is crucial. It illustrates the root of the city. Upon revision, it appears that there have been 25 archaeological excavation sites. All of which are layered under dense infrastructure. They deserve to be brought for conservation, so that these ancient cities can live along with their contemporary counterpart.

Background of urban archaeology in Bangkok

Research has discovered that archaeological projects in Bangkok around the old town of Rattanakosin area, have been protected since the establishment of the Fine Arts Department and the Royal Decree on archaeological sites, objects and museums for lawful conservation of archaeological sites. Afterwards, in 1949, there was a registration of archaeological sites in Bangkok, most of which were old temples.

Furthermore, road excavation for utilities, either road improvements, street lights, or water drainage systems, have yielded archaeological evidence. Such as between 1957-1958, during the excavation of Chetupon road for electricity and water drainage pipes; in 1992, in the middle of Chetupon road, on Maharaj and Sanamchai Road, a human skull was discovered facing west, with an iron axe and clay handiworks next to the skull (Boonnak, 2003). In 1999, cannon balls and pieces of clay artefacts were found in a large quantity in Sanam Luang, when there were works on improving the peripheral area. Cannon balls and

pieces of containers were also identified in a large quantity around the national theatre, while the lawns were being cleared off for a parking lot and a water drainage system was being installed in 1999. A large number of timbers were also identified while preparing for construction of the new Klongsan District Office (Suteerattanapirom, 2008).

In preparation for the Bangkok Bicentennial in 1982, the government in 1978 appointed a committee to draw up a plan for the conservation and development of Bangkok's inner city (Rattanakosin area). In 1981, the cabinet approved the committee's proposals as follows: to forbid the construction of new housing by the state as well as the private sector within the inner city; to restore any building built during the reign of King Chulalongkorn or earlier to its former state, or to demolish the building and reconstruct it following the same design as the original; to create open space and shady areas along the Chao Phraya River; and to allot land for traditional and cultural activities (Krairiksh, 2012). This was the first large scale and most complicated urban monuments conservation/restoration project in Thailand, until now.

Patipat Poompongpat (2001) gave an opinion that the idea of conservation may have started when an archaeological team at the Fine Arts Department was founded in 1955. However, there was much resistance in terms of changes within Bangkok. Notifications of archaeological sites in Bangkok to the Fine Arts Department, as a duty, have only been taken seriously since 1961.

The study of the first phase came from a chance-find of underground artefacts followed by a notification to an officer of the Fine Arts Department. The Fine Arts Department explores, makes records and additional reports. Nonetheless, at present, it appears that there has been exploration of archaeological sites in Bangkok, and registration of archaeological sites in Bangkok Metropolitan from 1935-1994, totalling 132 sites (Fine Arts Departments, 1992). The Fine Arts Department has explored archaeological sites in the old town continuously, and they have published a book, titled "Report of Archaeological Sites in Rattanakosin area, Volume 1-4" (Fine Arts Department, 1995) and "Registration list of archaeological evidence in possession of temples and private entities 1978-1996, Volume 1-4" (Fine Arts Department, 1999). It appears that the concept within the first phase speeds up the exploration of archaeological sites on the ground as the crucial element and fastens the process in this period rather than studying the archaeological sites underground.

Thai urban archaeology, in Bangkok, started between 1980–1990. A number of archaeologists from Universities and the Fine Arts Department (FAD) spent their own time and expense observing a number of sites dug up by the Bangkok Metropolitan Administration (BMA) in order to construct the polluted water treatment system in Bangkok. These activities were not officially supported by any government agency and have never been recorded before.

Academic progress of archaeological study in Bangkok is apparent from the seminar of "Thonburi Archaeology" (Munkong, 2001) and "Rattanakosin Archaeology" (Poompongpat, 2001) occurring for the first time in 2001. This seminar portrayed the state of Bangkok archaeology for the first time, illustrating how Bangkok archaeology is relevant to urban conservation and development. It was proposed that Bangkok is a living city that should never be left to die. The livelihood and well-being of citizens within the capital city are still growing. Conservation and maintenance of historical evidence in Bangkok should therefore result in the restriction and growth within the old town; be it construction since the time Ayutthaya was the capital city, when the city was built during the era of King Rama I, and expanded during the era of King Rama IV (Poompongpat, 2001).

Urban archaeology in Bangkok

(1) Archaeological projects related to privately-funded building constructions.

The cause of the emergence of archaeological projects in Bangkok arose from the demand to collect archaeological evidence and to relieve impacts of construction as well as area adjustment. The projects consist of 19 sites (see table 1).

The excavation at Thammasat University, Tha Pra Chan Campus, by Pthomrerk Ketudhat, a lecturer at the university at that time, Sunisa Munkong, an archaeologist from the Fine Arts Department (FAD), along with Moradok Lok Co., Ltd. was regarded as an advancement of urban archaeology in Thailand. It was the first vast excavation in an urban area. A number of iron cast cannons were excavated under the guidance of the FAD archaeologists. There was also a conservation effort for the discovered ancient Rattanakosin city wall, which is now displayed at the university within the area of the multi-purpose building.

After the excavation at Thammasat University in 1994, the progress was reached regarding the foundation engineering of forts through the excavation at the two archaeological sites --- Wichai Prasit Fort and Phra Suman Fort, with the purpose to renovate the fort and the area as Santi Chai Prakan Park. This implementation generated an understanding of the foundation engineering of Phra Sumen Fort. The jars were brought to support the foundation. The fort itself, which has existed since the reign of King Rama I, was also fixed. At the same time, the excavation pit adhering to the Rattanakosin city wall was conserved, too, so that the stages of the constructed building could be seen. The basis of the trail along the exact position that used to be Rattanakosin city wall line was also provided to exhibit the former position and the city wall (Karunjit, 1999). Unfortunately, the pit has not kept in good condition, so it has deteriorated.

Between 1999-2007, significant archaeological projects for building renovation were undertaken inside the Tiger God Shrine to examine the shrine's foundation and apply what

was learned to reconstruct the burnt shrine. There, the foundation of a nobleman's residence in the reign of King Rama V had been found before the area and the building were renovated. It can be noticed that the information was exploited for building restoration. Apart from small internal excavated holes, there were also the first vast archaeological excavations in some other areas like Saranrom Palace and Ban Pibultham so as to focus on Western gardens in the reigns of King Rama IV – VI. This was considered as the first breakthrough of garden archaeological study (Viriyarom, 2004).

Excavation in the area of the Ministry of Commerce is another vital example of vast excavation where evidence of area utilization were acquired. However, the density of construction as well as population in Bangkok engendered the limitations of area selection for the excavation. It was pretty difficult to find and locate a vast area for the operation. Fortunately, this area used to be part of the Ministry of Commerce in the reign of King Rama VI; and the area was spacious enough to be excavated, especially at the front of the building which possessed 1,481 m² (Department of Archaeology, Silpakorn University, 2007) . According to the excavation, the evidence of aristocrats' palace origination and the usage of palace areas were unveiled. Those palaces had appeared before the construction of Western-style ministry buildings in King Rama VI. The four palaces were discovered from this excavation as the only area with the foundation and the technique of the tiled constructions made of wood in Rattanakosin era. It also implied that each aristocrat had his own duties to administrate the nation or assign missions; and that palaces were not merely their royal residences, but also used as the places to conduct activities of the owners, for example, the discovery of pearl ornament production in palaces of those who worked for the Department of Pearl Inlay. Each general of the department from the reign of King Rama IIV to V had resided in the palaces before the national administration transformation. Administrative authority was granted to ministries or departments later on. Hence, the vast archaeological excavation led to essential evidence that deeply and elaborately explained change processes of things in the past rather than just physical appearances and age of ancient remains as well as antiques like small excavation pit which had been done before.

By the time of the excavation at the Ministry of Commerce, there was an archaeological excavation nearby at the Rajini School, too. The reason for this project was that the school planned to establish a new building. The area of the school was regarded as a considerable historical area, so an archaeological study was conducted. The results were applied to support the construction plan for the lessened effects of constructing over underground remains. Then, the Fine Arts Department considered the possibility of constructing new buildings in other historical areas; and the consideration was approved shortly after that. One excavation uncovered the foundation of the former Ministry of Education in the reign of King Rama V and other antiques which reflected their usage in the

area as well as social/cultural patterns in each particular period. Focusing on European porcelains, they confirmed the social pattern associated with the Western society and nations of that time (Suteerattanapirom, 2007).

From the above descriptions, it can be perceived that the owners of both Museum Siam and Rajini School had expected archaeological works before the building construction projects. This means archaeology played a key role in 2007. Its works were initially added as part of work plans that required completion before the construction.

Nonetheless, in general, an accidental discovery of underground archaeological evidence requires archaeological works, especially during the excavation for preparing foundations of new buildings and catching those necessary evidence. Owners of the projects have to restructure their construction plans and increase their budgets. They also have to wait for the answer after the excavation whether or not such findings will delay the construction. At this point, it seems that archaeological works impede the progress of construction jobs. Examples of this case include the archaeological site at Klongsan District Office and Siriraj Piyamaharajkarun Hospital.

During the excavation for a new building at the back of Klongsan District Office's main building close to Pong Paajjamit Fortress in 2007, over 100 tons of timbers were found. The discovery was publicized in newspapers and acknowledged by the governor. The office, therefore, coordinated with the Fine Arts Department and the Department of Archaeology, Silpakorn University, to discuss the exposed evidence. In this regard, the Fine Arts Department restrained the construction in order to continue archaeological work. After the work had been finished, it was found that the entire area of Klongsan District Office was within that of Pong Pajjamit Fort, a nationally important ancient monument. The foundation of the fort provided empirical evidence (Suteerattanapirom, 2008). Later, the Fine Arts Department did not allow the new building construction to be carried on, because that area was conserved as an ancient remains area with historical emphasis.

An excavation at Siriraj Piyamaharajkarun Hospital in 2008 is another interesting urban archaeological case, because it is located in the area of Bovorn Sthanbimuk Palace (Rear Palace) and used to be Thonburi Railway Station. The Faculty of Medicine, Siriraj Hospital, renovated the whole area to build a new hospital under the name "Siriraj Piyamaharajkarun Hospital." Sadly, the archaeological work started after the construction company had already excavated to prepare the construction. The archaeological work at that time was urgent and happened alongside the construction. From that excavation, another valuable archaeological site the Rear Palace Fort, which once was a northeastern fort during the Thonburi era, was found. This fort was had never been listed in history, except for the presumption of Prince Damrong Rajanubhab in his literary work concerning the legend of old palaces. He stated that Thonburi city had a fort as a city corner, and then the fort was

established as the Rear Palace Fort at a certain time. As a consequence, the detection of the fort confirmed its existence. After time passed, the fort was modified as the fort of Rear Palace based on the prince's presumption. Furthermore, the wood canopy boat wreck helped to provide evidence that the area had been used as a dock. Bombs (during WWII) and several pieces of traditional ceramics as well as alien porcelains in Ayutthaya era up until the present time were also encountered. These objects signified the settlement of people since that period and the manipulation of the area as Bovorn Sthanbimuk for aristocrats since the reign of King Rama I until King Rama V modified the area as Thonburi Railway Station. At last, it was reconstructed as Siriraj Bimuksthan Hospital in 2007 and has remained until today. After this archaeological work, the Faculty of Medicine of Siriraj Hospital turned the gathered information, knowledge, and all the archaeological evidence into an exhibition at the Siriraj Bimuksthan Museum. Rear Palace Fort together with the damaged wreck of the boat were also conserved and exhibited (Suteerattanapirom, 2011).

The archaeological headway made by the Fine Arts Department, can be observed through the conservation and development project of the Bovorn Sathan Mongkol Palace (Front Palace) in 2012. The project was aimed to conserve and restore the palace area into its original condition grounded on relevant academic principles. Archaeological research and inspection were employed to understand the overlapping usage of this area in the old days, from the time it was the royal residence of Krom Phra Rajavang Bovorn Sathan Mongkol during the reign of King Rama I to V; Royal Museum and the barracks during the reign of King Rama V to VII; and the museum of the city in 1926. Then, the museum was developed into Bangkok's National Museum (Jirawattana, 2014). For the latest breakthrough of technical science, GPR has been applied to geophysics investigation for archaeological work assistance. This project has continued and when it is completely done, the knowledge of Bovorn Sathan Mongkol Palace shall be accumulated and become clearer.

The archaeology study of communities began in 2013 and has continued until present. The Luenrit community is a good example of a community that values its own past and habitations. The community formed Luenrit Community Co., Ltd. with the major targets to conserve and improve their community, which comprises of old commercial buildings from the reign of King Rama VI. Crucial evidence included the road, the foundations of previous buildings before the rise of the current commercial buildings, and the construction system of this type of buildings during the reign of King Rama VI. During that exact period, there was a phenomenon of expropriation upon a lot of old lands in Yaowarat, i. e., the Talad Noi, Charoen Chai, and Werng Nakhon Kasem Community. Even so, the Luenrit community expressed its great adjustment to the changing situation in this decade for the survival of its own community (Suteerattanapirom, 2014).

Current archaeological projects connect with the restoration of ancient buildings as well as remains, particularly those under the authority of the Crown Property Bureau, which has always sponsored the restoration and reconstruction of old buildings. Na Phra Lan commercial buildings, Ta Tien, Ta Chang, Maliwan Palace, and Phra Athit Road, are all examples of their restoration and reconstruction projects. Before the restoration, the archaeological excavation had been conducted to explore the foundation of each particular building such as Maliwan Palace.

(2) Archaeological projects related to civil or government-funded construction of infrastructural structures.

The following 6 sites were concern with construction; and road, bridge, pipeline system, park, and public transportation system improvement.

There were 2 sites linked to the Rattanakosin project, i. e., Mahakan Fort and Nakarapirom Park. Mahakan Fort was a case of conflict between the implementation of the project and the local community; whereas there was no such conflict for Nakarapirom Park because it was the area of the Department of Internal Trade, the government bureau.

Both Mahakan Fort and the community area behind the city wall needed to adhere to the surrounding canal of the city, if it was to be in compliance with the landscape adjustment plan of Rattanakosin project, this area would be renovated into a park. Bangkok's authorities in charge, therefore, urgently removed all expropriated tenements, houses, and constructions in agreement with the 1992 royal decree of land allocation. Community inhabitants were asked to abandon the area within 2003. The expropriation and demolition as aforementioned brought about the impeachment by the affected inhabitants. This unpleasant situation motivated scholars to look into and criticize the implementation of Rattanakosin project in the sense that it merely emphasized the physical fascination of Rattanakosin city without local people. The project was negatively viewed because it cut off the inhabitants and left behind only architecture, as described in the study by Thanapon Wattanakul about politics in the aspect of land and dynamics of the community. His study extended from his Master in Politics and Government, Faculty of Political Science, Thammasat University term paper. The data was collected from the community, with the analysis of management and the arisen conflicts. The study also relied on a research project from Chatri Prakitnontakarn about a model scheme for the conservation and development of "Mahakan Fort Community," the wood house community (Prakitnontakarn, 2006). His project was proposed with the core objective to conserve the community and the area at the back of Mahakan Fort.

In that situation, with the cooperation from the Armed Forces Development Command of Royal Thai Armed Forces Headquarters and the Fine Arts Department. An archaeological excavation in 2004 (Moradok Loke Co. Ltd., 2004) created an understanding of the Mahakan Fort wall's outer foundation system and the exploitation of the area beyond

the wall of Rattanakosin city. This illustrated that there have been people living outside the city wall since the early Rattanakosin era. Still, this is not proof that the current community is the former one of that era. In other words, it was an academic work on the background of the area, with neither political nor conflict involvement from that time. The addressed conflict is now getting more serious when the authorities in Bangkok directed to uproot the community. Part of the Mahakan Fort community together with some scholars took action against the removal in 2016. Despite the resistance, the authorities already remove the community several times. In contrast, some suggested that if we consider the present conditions of the Mahakan Fort community, they are living significantly different from the past. People on the opposite side expected the government sector to understand that the fort really needed to be renovated and that the area should be turned it into a park but the physical look of the ancient remains should stay intact. In 2004, the Supreme Administrative Court declared that Bangkok's authorities had full right to pull down the Mahakan Fort community following an agreement on trading and compensation. Yet, protesters against this practice think that the national history does not only compose temples and palaces but also houses and ordinary people. They believe that the origin or background of inhabitants are part of the national history as well.

The Rattanakosin project was operated in the area of the Department of Internal Trade, Ministry of Commerce, near the Chao Phraya riverbank and Ta Tien. And because the department had moved to a new location, no conflict of the area happened. The excavation led to the finding of a construction assumed as an antique stone mill and a group of the buildings in the reign of King Rama VI and VII. Anyway, according to the history, this area used to be a cookery place and an old treasury at the beginning of the Rattanakosin era. Some parts of the area were once the location of the main building of envoys in the reign of King Rama V; the residence of Andre du Plessis de Richelieu; the stone mill; and finally the building of the Department of Internal Trade during the reign of King Rama VII (Northern Sun Co (1935) Ltd., 2006).

Between 2001-2002, the Department of Public Works was determined to improve the road and the reinforced concrete bridge around Khlong Ban Khamin, the moat canal of Thonburi city during the Thonburi era. As the reconstruction would impinge on indispensable underground evidence, the Fine Arts Department intervened to investigate and operate archaeological works. The excavation that time drew a better understanding of the Thonburi city wall figure, its location, the endless city wall line, and the stratum of the moat (Munkong, 2001).

During the time of the Sao Ching Cha renovation in 2004, the Fine Arts Department studied this matter, with the specific excavation right at the base of the Sao Ching Cha that

had a round-shaped plan. The excavation indicated that there appeared to be a brick field for holding royal ceremonies during the Rattanakosin era.

The big phenomenon was the emergence of the MRT project, extending from the current lines into Rattanakosin City. The first line with the route passing through the city was the blue line, the extension, totaled 14 kilometers. Hua Lamphong – Bang Khae, in particular, contains some parts of the route that inevitably passed through remarkable ancient cities during the Rattanakosin and Thonburi eras. This phenomenon paved to an archaeological excavation project for scrutinizing possible clues of noteworthy evidence, i.e., Sanamchai Road line, former Rajini Road, and the road construction system and pipeline arrangement in the reign of King Rama V (Nothern Sun Co (1935) Ltd., 2014). In the coming future, the other 2 MRT lines, i.e., the purple line (Tao Poon – Rat Burana) and the orange line (Taling Chan – Min Buri) are going to be built with their route running through what were the ancient cities of Thonburi and Rattanakosin. Soon, there will definitely be an archaeological study through survey, excavation, and collection of archaeological evidence along those routes.

An example of the increasing connection between archaeological works and construction as well as the improvement of infrastructure systems was the excavation around Nakhon Sawan Road adjacent to Mahakarn Fort in 2014. This project began when the Metropolitan Waterworks Authority ran its pipeline construction project or pipe jacking at Nakhon Sawan Road, ranging from Chakkraphatdiphong Road to Ratchadamnoen Klang Road. Eight launch shafts (or driving pits) and reception shafts (or receiving pits) were also built. The construction certainly affected notable underground evidence, and thus an archaeological study through the excavation was required. The primary obtained evidence included the previous road before Ratchadamnoen Road, an old drainage system, and a toilet.

Discussion

The origin of urban archaeology in Bangkok comes from construction, retirement and renovation of construction and other urban utility systems, and the conservation of old buildings and temples. The supports for archaeological study follow the demand to reduce impacts induced from construction.

Archaeological study in Bangkok started systematically in 1994. The excavating started in sites within the old town. The following situations are crucial elements that push for archaeological efforts in Bangkok. They are:

The appearance of the Rattanakosin conservation and development project.

The setting of Rattanakosin area parameter as decreed by the law of Bangkok Metropolitan and the Royal Thai Government Gazette in 2003 enables for a tangible mother plan of the Rattanakosin conservation and development plan. Considering that Rattanakosin

itself is an old town, this results in development of projects and plans on conservation and development of Rattanakosin itself. It generates interest in the study of political history, urban architecture and archaeological works; either in terms of its origin, the site usage in the past, the collection of archaeological sites before construction, or making respective adjustments due to the project or the plan.

The chance to find archaeological evidence underground.

Since 1999 when archaeological works in Bangkok became systematically conducted, archaeological remains have constantly been discovered and reported during various construction projects such as finding cannon balls, cannons and pieces of clay artefacts in a large quantity around Sanam Luang .

Archaeology to service the society, community and locals.

From 2007 onwards, knowledge from archaeological work has been used in museums and learning centres, i.e. Siriraj Bhimuksthan museum, and Bang Lumphu museum. There are exhibitions presenting the knowledge gained from excavation and archaeological evidence discovered, particularly on the origin of the site, the objects of the past and the production technology, fortress, past movement and livelihoods of those living along the canal.

Urban archaeology in Bangkok is archaeology in the city or of the city, and it has 3 important characteristics:

1) Archaeology in Bangkok usually links to construction projects. Archaeological projects serve the purposes of development of privately-funded building constructions and government-funded constructions of infrastructural structures. All of the archaeological excavations were considered as rescue/salvage archaeology.

2) The data collected from various sites provide insights into the construction technologies and episodes and how the site was used spatially. These aspects become what local archaeologists focus on. However, the more important issues, such as the development of the city, have been neglected. This may be due to some working limitation, such as the hiring contract or the absence of research questions to control how the site should be studied.

3) Interpretation of the study results focus on simple questions, such as the construction processes, location of origin, dates, construction techniques and its description of the appearance, the side, the format, the decoration and the technology. However, theoretical or interpretative frameworks have rarely been incorporated into research which perhaps allows one to address those beyond fundamental questions. It can be said that the archaeological works are mainly practiced in the form of a hiring contract that only focuses on a single site rather than an attempt to explore Bangkok overall.

The future direction of archaeological work in Bangkok will support the conservation and development project in three aspects. First, archaeology should take Bangkok's property development plan into consideration. Second, archaeology work in Bangkok should be more related to rescue archaeology and work closely with infrastructure development projects such as the mass rapid transit projects. Finally, urban archaeology deals fundamentally with a "living" city and its people; therefore, archaeologists should be committed to working closely with local communities in preserving and managing their heritage and its values as well as promoting its significance to wider audiences.

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