

“Where to draw the line?”

That is a land use planning question for the land surveyor and the town planner*

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*This paper is dedicated to my planning dissertation supervisor at the University of Sydney Professor John P. Lea, Ph.D, D.Sc.

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Abstract

Inspired by the pioneering work of **Bleakley and Ferrie** (2014) informed by **Libecap and Lueck** (2011), this paper develops the thesis of **Lai** (1996, 1997) that spatial partition of land is a basic land use planning activity, whether by governments or private bodies, which involve decisions on boundary delineation. The primeval foundation of this activity is laying out private property boundaries, which is a metonymic *land unitization* exercise that defines “clearly defined property rights” in the Coase Theorem and has often been forgotten as a *bona fide* planning one. All major constitutional changes in nations commence with such a layout exercise, in which the land surveyor plays a principal role; and all land use planning innovations build upon and property development are constrained by this primeval foundation, which has huge transaction cost implications. A Colonial Hong Kong example, the Kowloon Walled City, is used to demonstrate the

importance of the proper state ordering of property boundaries. The actual postwar-boundary of this City has hitherto been ignored by all commentators. The emergence of modern “cross-boundary” issues resulting formally from overlapping formal land boundaries and created by industrialization and information technology does not alter this characteristic of planning generically as drawing and redrawing of boundary lines. Some land use policy issues related to cross-boundary environmental problems and land registration are discussed.

Keywords: Land surveying, land unitization, land registration, property boundary, Coase theorem

I. Preamble

We are face to face with the gravest economic problems arising out of landed property; and when we turn to economic treatises we find little to help us in their solution (**Ely** 1917: p.18).

One of the most striking features of the Scottish countryside is its geometric appearance...The origin of this field pattern can be found in the spread of ideas current in England and the Continent...The *land surveyor* played an important role in the making the new landscape...for the land surveyor not only made cartographic plans but also practised *planning* in the modern sense of the word (**Adams** 1968: pp.248-249, italics author's).

For those economists with a sustained interest in it,¹ the hint on how to solve the great mystery of land property by **Ely** (1917) almost a century ago, as quoted above, may be the passages of **Adams** (1968), which were also quoted above. Private property rights on land, being *in rem*s rights (**Arruñada** 2012), have a spatial dimension because they involve boundary delineation, which is *bona fide* land use planning. The story of Scotland, predated by what happened to Roman cities and the capital cities of Imperial China and Japan, was repeated in Canada and the United States of America's homesteading practices (**Allen** 1991). However, no one seems to have realised that the laying out of private property boundaries is an act of land use planning that continues to affect the effectiveness of government planning intervention.

II. Introduction

Land use planning is definitely not simply a matter of drawing lines on a piece of paper. However, it always involves drawing lines to produce, in mathematical terms, a loop (or loops) which encloses (enclose) an area (areas) on a map intended as a plan to govern land use and/or building etc in specific locations. As cadastral boundaries of private property, which are a form of "*fiat boundaries*" (**Smith** 1995; **Smith and Varzi** 2000), these lines are all at once means to assign rights and obligations that run with the land and constraints on

¹ Economists' "production functions," which stand for the relationship between inputs and outputs, have never been able to capture land as an input or output. To treat land as depreciable capital input, "K," is problematic insofar as land means three-dimensional space.

development and redevelopment. As a primeval form of zoning, the lines delineated on maps and their identification on sites are the work of land surveyors. Furthermore, there is a *metonymic* relationship² between the planned loops (or “zones”) and the states. While these zones “contain” land for various uses, they are contained within the boundaries of the state.

Such primeval state planning boundaries, often in existence well before the rise of the modern planning professions, can be adopted or disregarded by modern town planners, except during discussions of “land adjustment” in “other countries” for the purpose of government planning by edict.

This is not a new idea as **Lai** pointed out 20 years ago (1994: p.90; 1997: p.234) that boundary delineation is a neglected *ontological* attribute of land, “extension”, and boundary delineation is zoning broadly defined. This concept was used in the empirical development inquiry of zone separation by **Lai and Ho** (2001). **Lai and Zoppi** (2011), following in the footsteps of **Hillier** (2010), applied the term to communicative planning articulation, which is, however, not spatial, but relational.

In this light, it is surprising that the connection between land surveying and town planning in terms of property rights has been underdeveloped. This is due probably to division of

² The author was informed by the work of **Davies** (2006: p.189), who used the term to compare the ocean to a container that is itself contained.

labour between the two professions and separation of academic endeavour. The neglect of such a fundamental dimension of property rights delineation and planning is gradual and this is an area worthy of in-depth inquiry. As far as planning is concerned, the opinion of this author is that it was due to the rise of a-spatial social science in planning theory, a point mooted by **Lai** (2014).

This paper re-connects them in terms of their focus on property boundaries, which are the foundations for land use planning and development, both predicated on land surveying, in a market economy. The very important practical and theoretical considerations for this connection are twofold.

First, the spatial “partition” of land (i.e. *zoning*) is a basic feature of private property rights over land (**Buchanan** 1993) and use planning activity (**Webster and Lai** 2003), whether by government or private bodies, which involves practical decisions made on boundary delineation by land surveyors and town planners. Note that the distinction between surveying and planning as distinct professional realms has a British origin and is standard in most English-speaking jurisdictions. Surveying is further divided into marine surveying, land surveying, estate management and quantity surveying. In non-English-speaking countries, as in the case of China, these two activities are often subsumed under the engineering profession. The need or significance of land surveying for development has been mainly articulated in terms of land reforms in developing nations, as epitomized in such informative works as **Takigawa** (1972), **Feder and Feeny** (1991), **Shlezfer** (1994), **Hendrix and Rockcliffe** (1998), **Bogaerts Theo et al.**(2002), **Barnes**

(2003), **Cashin and MacGrath** (2006), **Lusugga Kironde** (2006), **Maandi** (2010), **Parsa et al.** (2011), **Van Westen** (2011), **Wang et al.** (2012), **Colin** (2013), **McCluskey and Trinh** (2013), and **Simbizi et al.** (2014). The economic analysis of **Bleakley and Ferrie** (2014) is an interesting exception, as land surveying is related to land use outcomes, though not specifically land use planning, and their theorization is conducted under the Coase Theorem. The research design of **Bleakley and Ferrie** (2014) was influenced by **Libecap and Lueck** (2011) and **Libecap et al.** (2011), who considered that a rectilinear way of laying out property boundaries (the so-called “Rectangular Survey” system) saves more on transaction costs than the old “Metes and Bounds” method. The same was observed by **Lai** (1996) for Hong Kong, where the “metes and bounds” (basically earth bunds that were used as access and, at the same time, dividers of paddy fields) were characterized as “Demarcation District Lots” inherited from imperial China, as surveyed and recorded after an 1899 survey by staff seconded from the British Indian administration. Lai did not go far enough.

Second, this primeval foundation of spatial partition by laying out private property boundaries that are within, if not exhausting the meaning of the assumption “clearly defined property rights” for the Coase Theorem, is itself a land surveying and unitization exercise and has often been forgotten as a *bona fide* planning activity. This assumption is often taken literally by theorists as referring to detailed manifestations of different modes of property rights such as law or governance. This is sound in a general theoretical sense,

but the strict original meaning of “clearly defined property rights” that corresponds to the facts of Coase’s story is also important for appreciating the contribution of the Coase Theorem to land use planning because it actually refers to “clearly delineated property boundaries”(Lai 2007: 357). This is elaborated on in the following section.

III. Theoretical Context: the Coase Theorem and Land Unitization

The Coase Theorem has been applied by a few trained economists to address such spatial matters as town planning and real estate. But their writings seldom appear in “mainstream” economic journals, which concentrate on a-spatial applications. This is interesting, as the Theorem was born out of a spatial and, indeed, land use planning story told by Coase in the first part of “The Problem of Social Cost” (Coase 1960).

The story is about a hypothetical conflict of interest between a cattle rancher and wheat farmer whose properties adjoin. The analysis was on how the effect of cattle intruding onto the wheat farm and eating the crops could be handled under alternative legal regimes that assign liability against either party. While economists recognize that Coase’s analysis qualifies Pigou’s solution to *ex ante* externalities, which are *cross-boundary* and represented by the straying cattle in the story, their interest lies more in the a-spatial dimension of the Theorem, namely a contractual solution that does not depend on who owns the rights against trespassing.

Once economists realise that the story is about land use planning, they focus on the contractual solution rather than the starting point for the pre-contractual negotiation, which is the very existence of a property boundary that demarcates or “zones” two different plots of land. It is true that this boundary is subject to negotiation and can be imagined as movable to internalize any external effect, upon mutual agreement, in such a direction so as to maximise the joint value of both types of activity. It has been well-argued that this private or market solution is as good as state planning intervention by zoning under zero transaction costs. Yet, an initial property boundary must be identifiable and agreed on by both parties in the first instance. **Lai’s** (2007) interpretation of the Theorem identified its assumption of “clearly defined property rights” so as to not double-count the other assumption of “zero transaction costs” as “clearly delineated property boundaries” (**Lai** 2007: p.357). **Lai’s** (2007) graphical illustration of the two pieces of private land in Coase’s story by way of two loops with a common border as a line of partition can be further improved by placing these loops within a larger loop that stands for the spatial boundaries of the polity, which draws the loops and adjudicates and enforces private property rights.

In other words, any contractual solution reached under the Coase Theorem must refer to an original property boundary in such private planning settlements on land use compatibility. This explains the significance of property boundaries in land use planning. The drawing or laying out on a map of such boundary lines, in which the land surveyor plays a principal role, is itself a major planning activity because it

encloses units of private land use planning. These land units are the natural units and prime movers of property development.

They are “natural units” so to speak because they are privately owned and will be developed or left vacant according to the preference of the owner using common law rights that prevail in the polity that spatially contains them. Where they are under planning by contract, their development is protected under the doctrine of privity of contract, subject to property law that protects third party interests. Even when they become subject to planning by edict, modern planning law typically recognises the rights of the owners of these units and third parties (i.e., stakeholders outside their confines) to be informed and consulted.

Indeed, all major national or regional constitutional changes commenced with such a layout exercise, as in the case of the compilation of the *Domesday Book* from 1085 to 1087AD (**Galbraith** 1942, 1961); the homestead system in the U.S. and Canada from 1862 to 1934 and 1872 to 1930, respectively (**Allen** 1991), the Demarcation District survey of Hong Kong’s New Territories in November 1899, and all modern land use planning innovations built upon and were constrained by this primeval foundation, which has huge transaction cost implications.

Modern land use planning by the state and market has evolved a lot since the formation of the modern planning profession. Room for third party comments, objections, vetoes, and interdictions has been created by planning legislation or

administrative policies, resulting in either rent dissipation in the classical “planning game” or win-win solutions, in which a change in the mindsets of all for a better future occurs, depending on institutional design. This was predicted by the corollary of the Coase Theorem (**Lai and Lorne 2006**). However, other than newly-released or opened development areas (often called new towns) planned by the state or market on “greenfields,” such an evolution has to pay respects to the spatial framework of property zone boundaries, often the same as public roads or paths. Being both “fiat boundaries” (**Smith 1995; Smith and Varzi 2000**) recognised by law, their transaction cost consequences differ significantly according to the nature of modern planning due to variations in the congruence between these two types of boundary.

In situations of “planning by edict” (i.e., when modern planning boundaries are imposed by legislation), greater transaction costs are incurred because private property rights are often taken away or withheld and can only be regained by obtaining planning permission. Though theoretically private property rights can be enlarged by upzoning, practically none of this “windfall gain” can be reaped, as they are not owned. When an imposed zone does not neatly contain private property zones or is contained by a private property zone, additional transaction costs are incurred, as the basic unit of private planning does not fit the imposed one. Note that the implementation of any planned uses within imposed units depends on the natural units for development because the former cannot generate development.

In instances of “planning by contract” (i.e., when the modern planning boundaries are reached by mutual consent between property owners), there is perfect congruence between the boundaries of the pre-existing units and those of the negotiated units. Both are natural, as they are privately-owned and can be realised. Compared to planning by edict, this scenario incurs much lower transaction costs from a land unitization point of view.

The influence of the way property boundaries are demarcated upon development efficiency is demonstrated in the Hong Kong example below. Interestingly, it serves to qualify both: (a) the proposition of **Libecap and Lueck** (2011), and **Libecap et al.** (2011) that a rectilinear system is more efficient than metes and bounds; and (b) the libertarian case in favour of private planning.

IV. The Kowloon Walled City case: Failure of Private Planning?

In around 1846 to 1847,³ Imperial China built Kowloon City,⁴ or Kowloon Walled City in Chinese works, as a fort equipped with canons and surrounded by a wall of granite blocks on the Victoria Harbour facing foothill of a knoll right outside what later became British Kowloon in 1860. Its dimensions were recognised by **Sinn** (1987) and others as those of a fort that

³ **Lo** (1988) opined that it took at least five years to complete the construction.

⁴ “Kowloon City” was the name for the fort on English maps for Hong Kong.

measured roughly 700 feet by 400 feet to enclose an area of 6.5 acres. It had a magistrate office cum residence (yamen), residence for a small garrison (about 550 soldiers), a communal school, and a temple.⁵ A pier was built outside the City. From early survey plans, one can affirm that private land parcels for houses and cultivation existed. They were owned and occupied by Chinese subjects.

After the British obtained a 100-year lease for the “New Territories,” where the fort was situated, from China in 1898, this fort remained, in the eyes of successive Chinese Governments (i.e., Nationalist; the puppet Nanking government which administered several parts of China including Canton controlled by Japan; and Communist), under their rightful jurisdiction.⁶

⁵ For a good early history of the City, see **Sinn** (1987) for details.

⁶ China became a republic, the National Republic of China, in 1911 when the Manchu emperor abdicated. The forces of this Republic fought the Japanese Army on Chinese soil from 1937 to 1945. From 1932 to 1945, Japan erected several puppet regimes in China and one of them nominally administered Nanking and Canton. Soon after the surrender of Japan, a full scale civil war broke out and the Nationalists were defeated by the Chinese Communists. In 1949, the Nationalists fled to Taiwan. With the exception of those serving the puppet Canton Government, Chinese officials in Canton often actively intervened in the affairs of the City whenever the Colonial Hong Kong Government sought to clear it in accordance with Hong Kong land law. For the constitutional and legal background of the Kowloon Walled City from the British angle, see **Wesley-Smith** (1973), **Miners** (1982), and **Sinn** (1987). For a patriotic Chinese viewpoint, see **Leung** (1995). For a social discourse of the demolition of the Walled City, see **Tyrwhitt-Drake** (1999). Although **Leung**, a historian with a doctoral degree from the Chinese University of Hong Kong, included in a sketch of the City what is described as Sector A (as shown in **Figure 3**) in this paper (1995:

The Colonial Government did not officially accept the Chinese sovereignty standpoint. It expelled all Chinese officials and soldiers in May 1899, contravening a clause in the Sino-British Convention of Peking, before government land officers (typically surveyors) seized private lots and regranted them to original owners five-year leases and established a land court office in the communal school (Sinn 1987). The colonial administration granted new leases only to charities and Protestant churches operated schools and other institutions inside the City in this way. The administration conducted squatter clearance with a view to developing a walled garden in 1940,⁷ in accordance with the 1922 Town Planning Scheme⁸ (**Bristow** 1984). By then, the City had become a tourist attraction due to its then-scenic setting and Chinese architecture. This state of affairs ended in 1941 when Hong Kong fell into Japanese hands. After it returned to power in 1945, the Colonial Government made the first and last post-war round of attempts to clear the City from December 1948 to January 1949 (**Leung** 1995: pp.146-217), but abandoned the attempt under pressure from the Nationalist Chinese Government. From then on, it did not, for political expedience, normally apply the usual civil law in Hong Kong regarding land use, building, and planning to the “domestic” affairs inside the confines of the City, which, by the 1970s, constituted the

p.8), none of these works paid attention to the actual boundary of the Walled City in relation to the locations of post-war squatter clearance by the government.

⁷ See **Kowloon City District Council** (2005: p.38).

⁸ See 1: 7920, map dated 23 May 1921. “1921 Initial Planning of Hong Kong,” Lands Department Reference HD27.

squatter area demarcated to the east by Junction Road, north by Tung Tau Tsuen Road, east by Tung Tsing Road, and south by Carpenter Road. The last was paved before the war and resulted in a *de facto* anarchic state of affairs, as no effective Chinese laws applied there either. The “*bona fide*” boundaries of the City were physically destroyed in two main stages. It lost its perimeter stone walls during the Japanese occupation of Hong Kong when they were quarried to provide building materials for the Kai Tak Airport expansion. The impact of this destruction of its metes and bounds on the local population was minimal, and more people established residence in the City as Hong Kong’s population swelled after the war. Soon after the signing of the Sino-British Agreement Concerning the Future of Hong Kong in 1984, the Colonial Government announced in 1987 a scheme to demolish the part of the City between Tung Tau Tsuen Road and Carpenter Road. This scheme stemmed from a request by China, which conferred clear rights to the Hong Kong Government over land in the City. The scheme was duly executed in 1993 and the City’s occupants were compensated and/or deliberately dispersed⁹ by being rehoused in public housing estates throughout Hong Kong. A Chinese garden has stood on its site since 1995.

From 1948 to 1987, before the Colonial Government was given a “free hand” by China to deal with it, the City was an *ideal real life laboratory for observing private planning* on the basis of the pre-war property boundaries, since there was virtually no government regulation. What happened until it was demolished was a gradual process of population growth

⁹ The same happened to the Rennie’s Mill settlement.

and densification of the use of the land, with taller buildings replacing shorter ones and built without any reference to a Crown lease, sub-division code, building code, planning law, or fire regulation. No permission from any government body or court was needed. The only matter the government's Building Authority bothered with was to demolish any structure in the City that violated the statutory Airport's height restrictions to protect the flight paths aircraft landing at Kai Tak International Airport which was an ideal place to photograph aircraft with their landing gear lowered on their final descent into Hong Kong. The government did not supply water,¹⁰ but provided postal services. Still, these were not regulations, but could be regarded as trading activities. The police regularly raided the City to arrest suspects who hid there or to seize illegal drugs, but did not maintain a permanent police presence in the City. Its land was not subject to rates or business turnover tax assessments. There was a unique difference between the situation inside the City from a Medieval or other setting, as described by an authority such as **Blumenfeld** (1949). At least during the long period from the government's post-war attempt to clear it in 1948/1949 to the 1987 decision for its final clearance, the City was free from the bondage or protection of any customary law or legislation. Thus, its development was a near-pure case of private planning in the

¹⁰ The water supply came from wells through pumps inside the City. By law, electricity supplied in Kowloon had to be sold by the franchised China Light and Power regardless if the customer was a squatter or lawful property owner. Therefore, as in other squatter areas, both Sectors B and C had a power supply, without which they would not have been habitable.

absence of the state protection of property rights. There is no known scholarly work on the formation of private property rights in the absence of the state, but one can imagine that it was a matter of might makes right. Property transfers in the City were made through market transactions.

The author's interest here is not in Coasian transactions, which certainly occurred on real (land) and personal properties in the absence of official land registration and the police, but in the *physique of the built forms* within the City closer to the time the New Territories were leased (**Figure 1**¹¹) and before it was demolished by the state in relation to the *initial property boundaries* as found on the earliest available survey maps and maps that were published at around the time of its demolition, as conceptually depicted in **Figure 2**. The social reason for demolishing the City was that it had become an unsightly, overcrowded, and chaotic slum with illegal trades of all imaginations. While some artists may praise the City for its pathetic beauty only suitable for viewing in films and it was healthier than it appeared, its built form was nothing a pro-private planning advocate would champion. For a City with a total size of 2.6 ha, the absence of vehicular access for fire-fighting and servicing and the lack of open space to allow in natural light is hardly defensible from a consumer point of view and in professional planning terms. Then what was the reason for such a disappointing *private planning disaster* in terms of physical outcome?

¹¹ Viewed from the south, around present Carpenter Road as indicated in **Figure 1**. Photo courtesy: Government Information Service, Government of the Hong Kong Special Administrative Office.

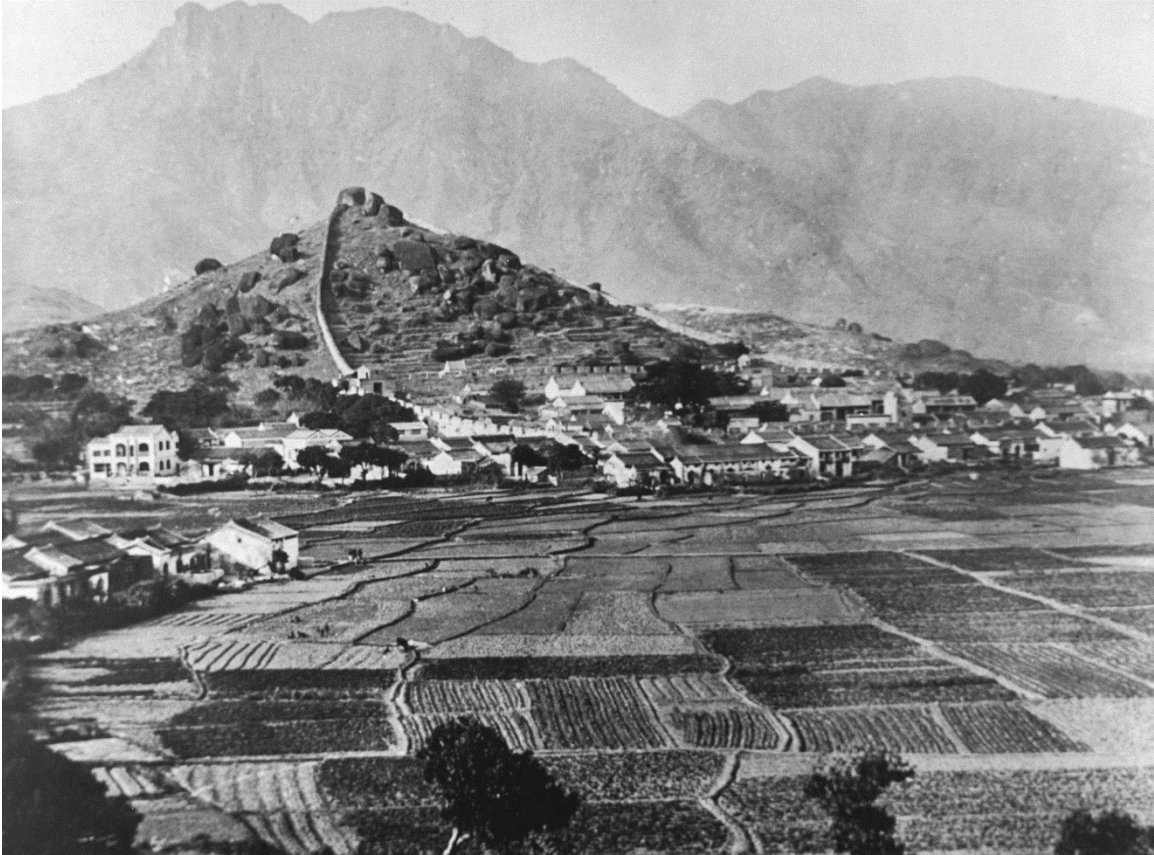


Figure 1: Kowloon Walled City in 1906 (Photo courtesy: Government Information Services Department, Government of the Hong Kong Special Administrative Region)

The City is gone and all extant research work on it is basically legal and historical rather than neo-institutional or land use-related. One simply cannot conduct a survey or field trip therein anymore. The answer offered here, therefore, is essentially conjectural based on the best official documentary evidence of survey maps and aerial photos. Subject to this caveat, the evidence relied on is reliable and in the public domain for verification.

A government lot map of 1905,¹² and a government photo of 1906 (**Figure 1**), reveal that the private property boundaries of the City, recognizable by its metes and bounds, went beyond the 6.5-acre fort (Sector B in **Figure 2**), but included an outer triangular defence area up to the eastern portion of the knoll (which was 263 feet in height) (Sector A in **Figure 2**), which made sound military sense. Sector A was delineated by a thinner stone wall whose significance has been ignored by historians and political scientists.

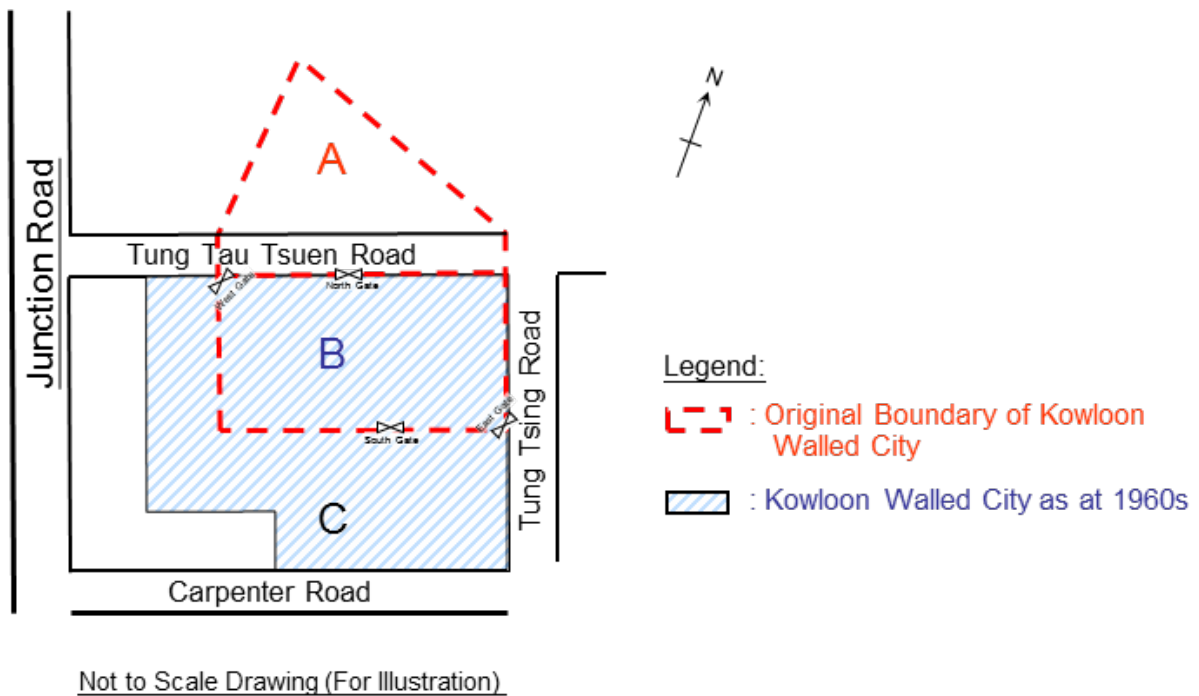


Figure 2: Conceptual boundaries of Kowloon Walled City

¹² Survey District Map Sheet 4, 1905. The configuration of the Walled City inclusive of the walls up the 263 feet knoll appeared in the “8 inch” (8 inches = 1 mile) Hong Kong maps of 1902, 1924 and 1947. See **Empson** (1992: p.180-181, 185).

Chinese documentary evidence for Sectors A and B with measurements in Chinese units are as follows:

One city (Sector A) built of stones, a perimeter defensive wall of 1800 feet in total length, 18 feet in height, 14 feet in width along the east, west and south, 7 feet in width along the north side. *On the hill (Pak Hok Shan) behind built a coarse stone wall of 1,700 feet in length, 8 feet tall and 3 feet wide.* One martial god temple, one deputy general office, one inspectorate office, one martial art shelter, one armament factory, one gun powder factory, 14 shelters for soldiers, 4 guard houses on the wall, 6 store rooms, one water pond, two water wells, signal house for Tiger Head Pass, signal house for Kowloon Pass, 2 smoke signal stations (**Chiu and Chung 2001: p.56;** translated with author's brackets and italics).

The 1,700-foot stone wall enclosed Sector A to the north of Sector B.

Sector B, then with its stone wall, was still elegant, intact, clear, and rectilinear. Although the lot layout was not “well planned” by modern planning standards, it was no worse than any old settlement in Europe like Assisi in Italy. There was much open space, mostly under cultivation. A government cadastral survey plan¹³ made in May 1961 shows that all open spaces had gone and the City, now without any perimeter wall, was intensively sub-divided.

¹³ 1:600 Survey Plan No.180-NW-1, Survey and Mapping Office, Hong Kong Government. See **Lai** (1996: p.34).

Interestingly, as shown in **Figure 2**, the footprint of the City *migrated* southwards after all its walls were demolished circa 1943 by the POWs pressed into labour by their Japanese captors. Sector A was lost to post-war government development and severed from Sector B along the former northern wall of the fort by Tung Tau Tsuen Road. The emerging urban built form in Sector B sprawled southward until it hit Carpenter Road, paved before the war, to form Sector C. Junction Road to the West halted any westward sprawl from Sectors B and C, which became popularly known as “the Kowloon Walled City.” Until about 1964, lot sizes in Sectors B and C did not expand or shrink, while those for the additional plots remained, more or less, the same and the original land parcels/building clusters shown in the 1905 map (and shaded in **Figure 2**) were largely retained. There was then no evidence of “land assembly”. Public goods in the form of pedestrian paths (with names), which permeate the settlement, an alms house (run by a religious institution using the former Imperial Chinese official building), a chapel adjoining a school operated by another religious body, several more schools, and a Tin Hau temple were present. Industrial uses in the form of weaving factories were concentrated in one corner. Aerial photos of 1963 and 1964 show that the buildings were generally only 2 to 4 storeys high. However, between 1964 and 1972, some of the buildings in Sector B (but not Sector C) became 11-12 storeys high with bigger footprints (**Figure 3**, a site photo taken by the colonial government in December 1972¹⁴), implying that a land assembly of the lots

¹⁴ Viewed from the east, near present Tung Tsing Road, as indicated in

had occurred. However, the public goods listed above were not destroyed, showing that a high degree of respect for them was maintained. What existed, therefore, was a degree of basic physical and even social planning to enable the City to remain a habitable place. Surely, this state of affairs would not have been possible had the Colonial Government not supplied the City with ~~water~~ or a degree of law enforcement and protection and the rest of Hong Kong serving as its ecological, economic, and social hinterland.

Figure 3: Kowloon Walled City, December 1972



Figure 3. The site to the right and the treated slope were part of Sector A and would soon be used to develop Mei Tung Estate, a public rental estate. Photo courtesy: Government Information Services Department, Government of the Hong Kong Special Administrative Region. Also see **Lai** (1996: p.32); **Kani** (1997 ed.) and **Kowloon City District Council** (2005: pp. 42-45) for photographic impressions of the City in history.

What was the real cause of the post-war land use structure – the sprawling and built form of the City? The evidence *rejected* the popular local notion that it was total *anarchy* (total absence of state involvement) in the City or the idea that it was *purely privately planned*. Our documentary analysis shows that this was not a case of the absence of any state planning – the City was *initially* planned well on a suitable location by the Imperial Chinese Government, which selected the site on a knoll near the coast and laid out the City. It built a thick wall to define its boundaries for settlement and a thinner wall on the knoll for better defence. It also constructed official buildings and a communal school inside the wall and a pier outside it. It equipped the fort with cannon and sent officials and soldiers to garrison it. The British exerted *de facto* control of the City in 1899 by driving out the Chinese officials and military, assuming ownership of the land of its original owners, registering their holdings (in Sectors A and B) on “survey sheets” and giving them a five-year lease, laying out further private leasehold land parcels for charities, and clearing out “squatters”. These allocated lots helped define the *de facto* configuration of subsequent squatter structures.

That the City assumed its configuration until right before its demolition was mainly due to the fact that the government did not have time to lay out roads and land parcels within Sector B or C (in accordance with the 1922 Planning Scheme), which strictly should not have attracted any international dispute, leaving much land “in common” open to squatting when it chose not to exert its power due to an absence of a clear *de jure* authority, as well as diplomatic pressure exerted

by a Nationalist and then Communist China with leverage in a new international political order. In due course, Sector B became part and parcel of “the City” as a large squatter area, although its *de jure* land status amazingly appeared to have prevented it from being built higher and entitled it to receive government water supply and waste collection services, while Sector A, originally uninhabited, was largely forgotten as an integral part of the Imperial Walled City. It is uncertain if the forced clearance of squatter structures in December 1948 and January 1949 (**Leung** 1995: pp.146-217) occurred in both Sectors B and C or just one of the two.

In terms of our interest in property boundaries, the saga of the Kowloon Walled City testifies to the importance of property boundaries as fiat boundaries set by an effective state to clearly position land use planning as a power reserved for the state. First, it shows that a rectilinear boundary pattern (of Sector B of the City as a single natural unit) does not, in itself, *guarantee* orderly private development unless its internal subdivisions are also planned or controlled by the state so that a lower level of rectilinear units or refined land unitization can be achieved. The story of a pre-existing grid town pattern shaping subsequent informal developments in the Kowloon Walled City is similar to stories told by such specialists as **Atun and Doratli** (2009) and **Odemir** (2014). This places the propositions of **Libecap and Lueck** (2011) and **Libecap et al.** (2011) in a proper political-economic perspective and relates the discussion to the broader research of international

boundary disputes¹⁵. It also demonstrated that private planning *cannot* be satisfactory in the absence of state ordering of property boundaries or land registration. The “spontaneous planning” of “squatters” did not result in a well-planned settlement that attracts a lot of tourists or local business investment. However, note that private urban renewal by land assembly and the construction of better buildings occurred without government help (**Figure 3**). From the experience of a government building surveyor who visited his classmate from his high school days during the early 1980s, “the City did not sting or dirtier than many parts of Hong Kong but buildings were certainly poor in natural lighting.”

That the City neither shrank in area nor sprawled out of its original perimeter, as defined by the Manchu Dynasty, beyond Carpenter Road, as designated by the Colonial Government, and was at least habitable after the war was a metonymic result of that perimeter serving as an effective *de jure* horizontal international boundary that was respected and enforced by the Colonial Government. The “capture” of Sector C by the City was probably a result of the government tolerating Sectors B and C as a general squatter housing area, pending rehousing, once the Sino-British diplomatic dispute over the New Territories was resolved. Sector C was not cleared to serve as a buffer zone between the ordinary private lots to the south of Carpenter Road and Sector A. The four roads mentioned above not only defined the limit of the City’s expansion, but also came with public sewers and portable

¹⁵ See, for instance, **Sobseh** (2013), who interestingly cited the work of **Coase** and Smith referred to in this paper.

water to service the settlement right up to the original boundary of Sector B.

There is no question of “ambiguous property rights” in terms of disputes over *de jure* or *de facto* rights or a gap between *de jure* and *de facto* rights (Lai and Lorne 2014) regarding the entire City as a natural unit of private property rights of land. Land unitization of the City under the Peking Convention was clearly defined with the help of the bunds and metes of the stone-built city wall. There was, however, *state-constrained* ambiguity of property rights of private land in Sector B of the City after the Second World War due to a big, but stable, gap between *de jure* and *de facto* rights left by the Colonial Government on the horizontal spatial partitioning or repartitioning of the natural unit of land, as defined by the former city wall. The loss of the wall for Sector B “liberated” the southern edge of the City, which merged with Sector C to form a “new Kowloon Walled City” without additional walls, but such expansion halted at Carpenter Road. The height of the new City was defined by the airport height restrictions and constantly monitored by the Kai Tak Airport air control radar system and enforced by the Building Authority of the Hong Kong Government. In other words, any private planning and building occurred within a three-dimensional space defined and secured by the state, which allowed for the free passage of goods and people into and out of the City, but not the extrusion of buildings from within.

There is no ambiguity regarding private property rights of things other than land. Hong Kong property laws applied to private properties within the City, but in a negative manner:

they were deemed illegal and non-registrable with the government's Land Registry. Furthermore, while Hong Kong citizens or visitors could freely and lawfully enter and leave the City and persons born within the City were registered as births in Hong Kong, there was no attempt by the China to exercise immigration control or any other form of jurisdiction inside the City after the unlawful expulsion of Chinese officials in May 1898 until the return of Hong Kong to China on 1 July 1997. Triad societies controlled and ran illegal businesses within the City, but did not exercise total control over it due to the presence of the police, who could blockade the City and raid it with numerical and qualitative superiority.

While well-known as an anarchic development, the City was actually planned and initially allowed by the state to evolve according to the basic metes and bounds and fiat boundaries of public roads delimiting the scope of its expansion. Second, its original stone walls and land lots, which were affirmed by the Colonial Government – subject to a height ceiling imposed for airport safety – were also allowed to change. The effectiveness in tackling cross-boundary planning issues by the state or the private sector was conditioned by property boundaries as natural units.

V. Challenges to the Modern Planning Built upon the Surveyors' Demarcation of Private Property Units

It is fair to say that a major factor that has shaped modern land use planning is the emergence of issues that are cross-boundary or trans-boundary and far more complicated than the *in-situ*, *localized*, and largely *non-footloose* environmental

issues of Kowloon Walled City. This factor can be formal and substantial.

Formally, such issues pertain to what **Baker and Wong** (2013: p.92) explained in terms of various layers of administrative boundaries, as generalised earlier by **Rae and Wong** (2012: p.883) and defined in terms of a “scalar mismatch”. While such “fiat” boundaries are purely political, most are proprietary and pose as development constraints or opportunities. Research on them, therefore, points to the reality that land use planners, whether in public service or private practice, are experts in getting a better picture of the conflicts over formal boundaries, which are identified by such techniques as “map sieving”. However, those who are more interested in cross-boundary issues other than the application (or inapplicability) of (the corollary of) the Coase Theorem do not regard boundaries as *conceptual* entities *per se*, but as substances or persons that *physically* traverse them.

Animal husbandry, industrialization, and the spread of roads have caused pollution that is not merely local or regional, but global. A growing scarcity of clean water and the generation of power by nuclear reactors have become security issues that are beyond the district or even national confines. Globalisation and the migration of ethnic groups have rendered many societies multi-racial and truly pluralist in language, culture and religion.

The planning portfolios of democratic governments tend to align themselves towards tackling the challenges posed by the above issues. However, government land use planners at

all geographical levels and in all sectoral concerns are constrained by this simple fact: any chance of success relies on the ability and willingness natural planning units, which are occupied by households or firms (including charities, NGOs and religious bodies) and delineated by private property boundaries.

The trouble is that a willing natural unit is unable or an able unit is unwilling to protect the environment. Typically, the former is a developing country and the latter a multinational company (MNC) whose boundaries span the surface of the earth. A major cross-boundary concern is tax justice for MNCs, which often use accounting measures to shift their tax liabilities from one place to another to avoid taxes (**Christians** 2012). This has ecological implications, as a cross-boundary tax arrangement can deprive countries that directly bear the ecological costs that arise from localized, i.e. non-footloose, pollution (due, for instance, to the mining of the necessary funds to handle pollution or undertake compensatory measures) even when they are willing to do so.

A better solution to the cross-border environmental issue was provided by the Kyoto Protocol which, likewise, allows the shifting of burdens across frontiers, i.e. international boundaries (**Anderson**, 1997). A Coasian solution regarding greenhouse gases has been devised and put into practice by many countries under the this Protocol, which main idea is to view the natural unit suffering from pollution damage by greenhouse gases as the *whole world*, so it matters not where in the world the actual polluter is located and environmental compensation is made to reduce greenhouse gases say by tree

planting provided it can be done somewhere. In other words, this frees the polluter from assuming any local responsibility and poses an environmental ethics problem.

For health, security, and public accountability considerations on the one hand and efficiency and market transparency on the other, one important policy development area, in light of the Coase Theorem, is to make available to the public sufficient information on the natural units in planning. In all fairness, accurate state registration and the public disclosure of who owns which piece(s) of property and the exact property boundaries of these natural units are essential. This would not compromise a privity of contract or privacy, as the private ownership of land is essentially a social, rather than a purely private, matter of an isolated individual. In light of the so-called Fourth Coase Theorem advanced by **Lai and Lorne** (2013), which holds that the state has an advantage in collecting land and property information (**Lai et al.** 2014), the establishment of a state property boundary (surveying) registry and title registry is a highly important policy that should be adopted.

VI. Discussion and conclusion

This work does not reduce planning to physical planning or land surveying, but points out an important practical concern that the planned development of specific sites in a market economy, which critically depends on voluntary action by proprietors and stresses proper property boundary delineations or title registrations. In terms of political

economy, it is a logical refinement for the intra-state partitioning of land to be enclosed by the frontiers of a state (**Anderson**, 1997). Scholars of surveying and development are certainly aware of this concern, as evidenced by the number of papers on land surveying in this journal alone. Some examples are **Barnes** (2003); **Bogaerts et al.** (2002); **Cashin and McGrath** (2006); **Colin** (2013); **Hendrix and Rockcliffe** (1998); **Lai et al.** (2014); **Lusugga Kironde** (2006); **McCluskey and Trinh** (2013); **Parsa et al** (2011); **Simbizi et al.** (2014); and **Wang et al.** (2012). In this context, this paper reconnects land surveying to land use planning, two professional jobs once basically done by the same person (**Adams** 1968, **Rees** 1980), by focusing on the ontological (i.e., the “what”) nature of land use planning in terms of boundary delineation on the grounds that the activity is *location-specific*. Such delineation, as an act of man, is necessarily purposeful.

Surely, this purposeful act must be accomplished through a series of acts, i.e. *process* (**Davidoff and Reiner** 1962, **Faludi** 1973) in the true sense. Such process can be methodologically, substantially and communicatively highly simplistic or complicated, piecemeal or comprehensive, local or regional, by edict or contract (**Lai** 2010, 2014), or succeed or fail in part or whole to attain normative or quantifiable goals.

It remains that this process is conditioned by individual natural units of planning, viz. well-delineated private property parcels that are themselves defined by the state and contained within its boundaries from which not even the most dramatic case of *in-situ* private or “spontaneous planning,” which is location specific, could be free. **When theorists applied the**

process view of planning to the specific domain of land use, the fundamental fact that land use occurs on land with boundaries was spirited away. Hopefully, this paper will put land back to land use planning in terms of a metonymic sense of “boundary”.

In a nutshell, drawing lines on a map is a necessary, though not sufficient, element of land use planning, which inevitably involves drawing loops that define private property in terms of *area* and *location*. Private property boundaries, as loops defined and protected by the state in specific geographical locations, are natural units of development. Their laying out by loop formation (i.e. enclosure or zoning) has significant economic and environmental consequences (**Boyle** 2003, **Colin** 2013), as demonstrated by the Kowloon Walled City example. In light of the Coase Theorem as developed by **Bleakley and Ferrie** (2014), it is worth further investigating whether or not and to what extent the original *de jure* property boundaries within and near the City shaped its subsequent private development in the near-absence of state regulations of development. For that matter, land surveying techniques to precisely identify and compare property and building boundaries are indispensable, reaffirming the neglected truism that land economics and land use planning involve surveying.

VII. References

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