

## The “Urban density” question in Hong Kong: From absolute space to social processes

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### Abstract

Urban density has been the focus of attention in urban agenda. Being a typical high-density city, Hong Kong is chosen as case study to review the conceptualization of urban density question. Oversimplification of density as physical and technical construct has overlooked the multi-dimensional nature of density. There is a need to reconceptualise urban density beyond technical and absolute space so as to better understand its diverse meanings and implications by situating it in a wider urban settings and processes. Using the case of Sham Shui Po, one of the densest districts in Hong Kong, this paper highlights the need for a new research agenda which calls for reinterpretation of urban density in processes.

Keywords: Urban density, Space, Hong Kong

### 1. Introduction: Politicizing density

*“It seems apparent that no study of ‘tall buildings’ and ‘high density’ can have either intellectual or social significance when limited to technical definitions of such phenomena”.* (Cuthbert, 1985, p.81)

Cuthbert has brilliantly highlighted the importance of understanding urban density beyond its technical definition. The density question has long been the focus of attention in urban agenda. As early as the work of Simmel (1900), high density is conceptualized as a peculiar feature of cities which has produced “a shift in the mediums through which we orient ourselves in the urban milieu” (quoted in Cuthbert, 1985, p. 81). It is further established as one of the three primary features of city by Wirth (1938) in his famous piece of work “*Urbanism as a way of life*”. Since then, urban density is often evoked in academic debates revolving round the concept of space (Castells, 1977; Durkheim, 1964; Saunders, 1981). It is

commonly manifested as the concentration and agglomeration of material, mental and social phenomena, namely, human being and their social relations, movements and daily practices, architectures and transport networks, media and information, ideas and ideologies, in cities (Shelton, Karakiewicz, & Kvan, 2011, p. 12).

Apart from the academic circle, the discussion of urban density has also extended to the policy community as an option to cope with land scarcity problem. In many Asian cities which are densely populated, how to utilize land resources efficiently and effectively has become a critical issue. Hong Kong is not an exception. In terms of physical density, Hong Kong has been recognized as one of the densest cities in the world (Burgess, 2000; Shelton et al., 2011; Yeh & Yuen, 2011a). Some scholars even describe Hong Kong as, instead of simply 'high', 'hyperdensity' (e.g. Abbas, 1997, p. 81). Statistically, there is no lack of data in depicting such situation: with more than seven million people and 1,068 km<sup>2</sup> of land, population density of Hong Kong increased from 6,352 persons per km<sup>2</sup> in 2006 to 6777 in 2016 (Census and Statistics Department, 2017). At street block level, the numbers can be even astonishing: as high as 400,000 to 600,000 persons per km<sup>2</sup> (Yeh, 2000). The ubiquitously high-rise, uniformly and compactly built constructions and bustling streetscapes are also an iconic scene of Hong Kong. Given such situation, there is no denying that the physical density of Hong Kong, as a ubiquitous spatial and geographical issue, has long been a research focus.

Prevailing in both academic and practical realm, the importance of urban density is hardly doubted and ignored. Technically, high urban density is regarded by sociologists as a basic characteristic of urbanism attributing to certain social functions (Cuthbert, 1985), and by urban researchers a major geographical trait and fact of a city with heightened significance for contemporary human condition when more and more people are living with such urban reality. Although there is a burgeoning literature on density in urban studies (Cheng, 2010; French & Lee, 2013; Yeh & Yuen, 2011a, 2011b), sociology (Philips, Siu, Yeh, & Cheng, 2004; Yip, La Grange, & Forrest, 2009) and architecture (Ng, 2010; Zhu & Chiu, 2011), there is neither an informed understanding nor detailed articulation of the density concept. Oversimplification of urban density as physical and technical construct has overlooked the multi-dimensional nature of density. Such conception of urban density in Hong Kong, whose objects and forms of technical knowledge have been altering over time but without radical change, are insufficient to keep up with and unable to spot in-depth urban processes behind the passive physical vessel of city. It is argued that there is a need to reconceptualise urban density beyond technical and absolute space so as to better understand its diverse meanings and implications by situating it in a wider urban settings and

processes. This paper challenges the conventional thinking of ‘urban density’ and investigates the extent to which the density concept is able to fully unravel the urban reality. Being a typical high-density city, the experiences of Hong Kong can enrich our understanding on urban density in the existing literature. Through the case study of Hong Kong, it is hoped to review how urban density is conceptualized in the literature.

This paper is mainly divided into three parts. The first part will review the existing literature on urban density in Hong Kong. It will be followed by the discussion of the deficiency of this conventional thinking in understanding urban density as it divorces the density issue from wider socio-political processes in cities. The final section highlights the need for a new research agenda which calls for a reinterpretation of density in processes.

## **2. Evolution of the density concept**

High density implies that there is a relatively large amount of people or material (e.g. buildings, rooms, roads, vehicles, etc.) in a given area, “providing a relative shortage of space” (Sundstrom, 1978; quoted in Chau, 1981, p. 3). In some cases, however, “high density” is a loose term referring to a universal phenomenon, that is, the physical setting of Hong Kong in which precise and rigorous mathematical operations are not demanded, except some general statistics about total or district population density and occupancy rate/density in order to highlight Hong Kong's extraordinary urban conditions relative to that of other cities all over the world.

### **2.1. Population density and pathologies: from animal to human**

Density is not a new issue in urban research. A growing interest in the study of density and animals' pathological behaviour in the 1960s (Calhoun, 1962; quoted in Galle et al., 1971; Christian et al., 1960; quoted in Stokols, 1972) further inspired a series of research on the human pathological behaviour in overcrowded living areas. Earlier researches concluded that high population density would have serious inhabiting effects on animals though the effects varied with animal species (Galle et al., 1971, p. 3). Following this line of thought, scholars began to question whether same effects will happen in human environment.

Whilst the pathological behaviour of animals in a spatially constrained environment is well established in the literature, the relationship between population density and social pathology has not been proved with evidences in human environment. Some earlier studies on the correlation between population density and indices of social pathology revealed a considerable degree of association (Chapin, 1957; quoted in Schmitt, 1963;

Gallion, 1950; quoted in Schmitt, 1963) while other experimental researches by social psychologists tend to conclude that no negative impact on human performance was found in high-density environment (Ehrlich, 1971; quoted in Stokols, 1972; Freedman, 1970; quoted in Stokols, 1972). It is argued in later studies that other factors (other than density) might affect human behaviour in a spatially constrained environment (Chombart de Lauwe, 1959; quoted in Stokols, 1972). Jacobs is one of the few scholars who challenged the conventional thinking of pathological effects of density in the 1960s. In her famous work *The Death and Life of Great American Cities* (1961), she highlights that density can maintain the diversity of cities which are crucial for a lively and attractive urban environment.

## 2.2. From density to crowding

Given the belief that density may not be necessarily problematic, some scholars have called for a differentiation of crowding from density in unravelling the effect of density. To them, density refers to the physical condition of space whereas the psychological experience towards such condition is crowding. Urban density is commonly conceived and defined by two related concepts: the first and also the dominant one is the physical dimension of density, metaphorically as a ‘vessel’, within which ‘things’ (e.g. built environments and social relations, etc.) are contained and as a component of ‘absolute space’, which is static, fixed, objective, physical, and statistically and geometrically measurable (Harvey, 1997, 2006; Lefebvre, 1991); and the second one is the mental, psychological responses of such physical states, i.e. the perceived dimension of space. Earlier research on human environment suggested that density can be interpreted as subjective and psychological perception by differentiating “high physical density” from “overcrowding”. It is a “perception and estimate of the number of people present in a given area, the space available and its organization” (Rapoport, 1975; quoted in Cheng, 2010, p. 12). Physical environment (e.g. residential space, street, workplace, etc.) and its condition of density are integral components of such perception but socio-cultural background, economic status, education level and health conditions also contribute to it. Crowding or overcrowding is then a psychological stress resulted from a negatively perceived density, subject to factors such as the duration, the physical condition of being situated at a socially overcharged state with people interactions and contacts, as well as one's prevailing mood, etc. (Cuthbert, 1985, p. 120; Hassan, 1975). Therefore, high density itself is not necessarily problematic or pathological. In the early 1970s, there was a wave of quantitative biosocial surveys which aimed at discovering whether there was any relationship between physical density and social well-being such as mental health, the

perceptions of social interaction, family relation, living satisfaction, and social pathologies, and also individual attitudes and development like preference for privacy and social contact etc. Statistical operations like simple liner regression are deployed in these studies in which spatial elements are artificially converted into mathematical variables linked by correlations with differing covariance. These researches generally suggest that the relations of various corporeal, psychological and social pathologies with physical density in itself are either inconclusive to support its existence, or, if any, rather weak. Instead, other cultural, socio-economic factors, and psychological conditions resulted from or associated with material density contribute more to the pathologies and should therefore be given more attention when discussing possible impacts of physical density on individuals.

These western researches also shed lights on the cultural differences in the perception of density. Different cultures and ethnic groups have different spatial requirements and perceptions (Hall, 1966; quoted in Galle et al., 1971). This embarks on a new research area of studying density in high-density environment in the East. Hong Kong, as a compact city, has witnessed a growing interest on urban density.

### **3. Naturalizing urban density in Hong Kong**

Chau (1981, p.1) points out that “Hong Kong was preoccupied by the fear of high density up to the early 1960s”. As influenced by the western literature, Schmitt’s (1963) article marks the beginning of “disenchantment” against the fear and the “demonization” of high density in Hong Kong. In the 1960s, after a wave of rapid population growth by immigration, he observed daily life of residents living in various types of housing, such as squatter shacks and resettlement estates located at urban Hong Kong, and found with astonishment that people dwelling in extremely and undesirably crowded environment, compared to western standard, were not accompanied with severe social pathology and health issue. He concluded “the experience of Hong Kong proves that an urban population can survive and even flourish under conditions of density and overcrowding that today seem unthinkable to many Americans ...”, and in turn urged that “[p]erhaps planners should re-examine their standard in the light of these considerations” (1963, p.216).

These findings with an academic ‘disenchantment’ have influentially brought heightened focus on planning and urban studies under high density setting since the 1970s. A belief that high density per se does not cause social disorders but poor planning does become a virtually taken-for-granted postulate prevailing in the researches. Few scholars, including Lai (1993) and Lee (1981), articulate a critical, sceptical attitude towards

the methodologies and the findings of the past studies, while others like Chau (1981, p.6) refutes accusations by Liang (1975), for instance, against the correlation between detrimental social and environmental effects and physical density through questioning the validity of findings.

On the other hand, Anderson's (1972) anthropological study might meanwhile act as a catalytic to strengthen such belief. By observing behavioural characteristics of the Chinese traditions, norms, unwritten rules for sharing dwelling space with family members or unrelated others, and ingenuity of using space in dealing with crowded living environment, he concludes that a high tolerance of high density living conditions and a mechanism of adaptation are general features among the Chinese. Influential as it might be on succeeding literature, this inquiry has been criticized for being not methodologically rigor that no sufficient qualitative or quantitative evidences were provided, or being overgeneralized to each of the individuals with particular socio-economic traits and empirical life (Lai, 1993; Lee, 1981). In any case, since then the academic "hostility" or "doubt" towards high urban density development has been truly dissipating.

Whatever stance on these notions researchers or planners held, the principle of "good planning", which has hitherto remained influential, is of universal acceptance and adherence. Therefore, the question is no longer "how do we avoid high density urban development?" but "how do we plan and design a sustainable and successful high density city?" Despite many observations of the disadvantageous side of high urban density, it is believed that through an encompassing, sophisticated, and detailed planning mechanism to adjust, modify or create (new) material settings, negative impacts can be alleviated and environment-friendly development achieved. Given a seemingly apparent and unchallengeable "fact" (or more appropriately, "myth") of "scarce land with huge population in Hong Kong", high density development has effortlessly gained its legitimacy, and becomes a pragmatic need suggested in the literature.

Since then, efforts on unravelling the relationship between population density and social pathologies are ceaselessly put in researches in the field of urban studies, biology and ethology, and socio-environmental psychology. For planning, housing and urban studies, there is a wide range of themes including urbanization in high density development (Dwyer, 1971; Prescott, 1971); urban planning of Hong Kong (Chau, 1981; Gilchrist, 1994; Haddon, 1972; Lau, Wang, Giridharan, & Ganesan, 2005; Lee, 1981; Lee & Chan, 2008; Pryor, 1997; Pun, 1994; Schmitt, 1963; Yeh, 2000; Yeh & Yuen, 2011a, 2011b; Yeung & Drakakis-Smith, 1980; Zaman, Lau, & So, 2000; Zhang, 2000); housing or building policy in high density urban environment (Chan, 1979; Chau, Wong, Chan, & Lam, 2011; Dwyer,

1975; Lai, 1974; Lai, 1993; Lai & Ho, 2001); transport and policy (Barden & Runnacles, 1986; Dimitriou & Fouchier, 1994; Tong & Wong, 1997); architecture (French & Lee, 2013; Lampugnani, 1993; Shelton et al., 2011), urban greening in compact city (Tian, Jim, & Tao, 2012); and accessibility in compact city (Lau & Chiu, 2004), etc. For social studies, the themes are quantitative biosocial/biopsychic survey (Chan, 1978; Chan, 1979; Hassan, 1975; Liang, 1975; Millar, 1979; Mitchell, 1971; Traver, 1976); and quantitative sociological study (Forrest, Grange, & Yip, 2002; Philips et al., 2004; Yeh & Yuen, 2011b; Yip et al., 2009). Environmental sciences and sustainability studies embrace the diverse subjects of urban morphology and sustainable housing design (Chan & Lee, 2009; Lau, 2011; Zhu & Chiu, 2011); urban climatology and urban design (Givoni, 2010; Lau, Ng, & He, 2013; Ng, 2010; Ng, 2010b); energy studies and building design (Hui, 2001); and waste management (Poon & Jaillon, 2010).

Among these studies, only few of them focus on the evolving institutional processes of managing density (e.g. Lai, 1993; Yeh, 2000) and the conceptual understanding of density in context. They are mostly descriptive, prescriptive and normative. Some are descriptive as an explanation on current urban forms and physical conditions. Others simply introduce forms and patterns of density in Hong Kong, focusing on the aspect of architectural design. Some literature are prescriptive and normative as the strategies of planning what Burgess (2000) calls an ideal 'compact city'. Evaluation or criticism on the effectiveness of policies related to density control (e.g. zoning, planning regulations) is also provided with suggestions for improvement.

In the 2000s the academic inquiry of high density issues in Hong Kong witnessed a "scientific turn" in research methodology. Except three sociological studies which contributed to a revival of quantitative inquiry into correlation between high density living environment in Hong Kong and social relations, including residential satisfaction (Philips et al., 2004), residential mobility (Yip et al., 2009), and senses of neighbourhood and community (Forrest et al., 2002), investigations on planning for high density environment has switched to environmental sciences and sustainability study. Two monographs edited by Ng (2010) and Yuen and Yeh (2011) are major contributors to such turn. Under the aegis of mathematical and computerized models to simulate dynamics of physical environment in more sophisticated and precise fashions, scholars have offered recommendations for optimal modification or design of urban built forms in terms of ventilation (Ng, 2010), urban design (Chan & Lee, 2009; Lee & Chan, 2008), and energy consumption (Hui, 2001; Lau et al., 2013). Lau et al. (2005) describe how multiple and intensive land use (MILU) as a strategy of spatial planning for 'compact city' is applied to Hong Kong by constructing elevated pedestrian walkway network and high rise

residential tower with connected podium and underground public transport node.

Although there is no lack of literature on high-density environment, there is neither adequate theoretical articulation nor informed understanding on the concept of high density in urban and social processes. In the literature, high density is often treated as the outcome of topographical restriction of the hilly and precipitous terrain in Hong Kong as well as the political considerations of colonial government that strictly controlled development of New Territories and regarded it as a strategic space and a buffer zone between the Mainland China and urban Hong Kong by preserving land lease and lifestyle of indigenous residents (Liang, 1975). Moreover, it is also the outcome of high land price policy in which limited land supply has resulted in a situation that merely high-rise buildings can maximize government revenue and efficiency of capital accumulation (Yeh, 2000; Yip et al., 2009; Zaman et al., 2000). However, the question of how densities are related to socio-spatial processes remained unsolved. To unfold a full picture of high-density development, the context can be re-examined with the embedded dynamic of urban space, history and society.

## **4. Missing dimensions of density**

### **4.1. Density in processes**

We do not intend to reject the notion of conceptualizing urban density as an absolute space, but we should note that the nature of density is intrinsically more complicated than one might imagine and conceive in his everyday life and experience. The conception of density as merely a “thing” is an over-reductionist approach abstracting only physical reality and at most its superficial relations with human agency while obscuring underlying processes orientating such relations. Problems regarding density are relegated to merely planning effort, and a person in such conception is reduced to a self-existing being psychologically and behaviourally subject to any stimulus of physically dense living space, simply reacting to it or transforming it in order to alleviate its impacts. The problem is that the position of human as an agency of actively shaping the spaces of everyday life has been weakened, and even been reduced to passive responders to the stimulations and transformations of surrounding environment and spatial elements. Nevertheless, human and space entail own historical development, geographical features, and social elements, determining how a space is produced and reproduced and how people live their unique processes of everyday life in such a space.

Being absent in the literature, more questions are worth considering: for instance, what are the mechanisms of, and who has or hasn't power for perpetuating high density space and certain spatial imaginations? How



does such space evolve, rather than simply distribute, historically? How do people live their everyday life relationally in different kinds of space with varying density, not only residential one but also those where their routine practices take place? How do people imagine, come to accept, and think about their way of life within such space and in turn resist or persist in their living situations? These questions related to ‘density as social processes’ extend human-space relations to a broader dimension and reveal more social and political implications linked to all urban elements of density.

#### 4.2. Depoliticization and oversimplification of human-space relationship

Most of the studies oversimplify the complexity of individuals, as simply an element subordinated to space, affected by its features, and thus generating negative or positive feedbacks, which represented by a set of variables and mathematical values indicating their social and psychological conditions. Space is no more than a measurable, modifiable and malleable container of people. To define and categorise a person only by individual features, i.e. biological characteristics (sex, age) and socio-economic status (e.g. income reflected by the size of housing unit, education level, etc.) instead of social roles, and merely as subjects bounded to living space and interacting with adjacent people with consequential psychological feelings, one overlooks diverse relations and interactions (conflictual, competitive, beneficial, etc.) between agents, and also their historical and experiential uniqueness in high density space. A person can have multiple identities: as a property owner, a tenant, a landlord, a member of property developer, an administrator, or a shareholder of particular interest group, etc. Having adhered to such social identities, the implication of ‘density’ differs greatly. For example, for a person residing on such extremely crowded space as cage house, partitioned flat or cubicle, it may mean a physical suffer (yet not necessarily mental), but for a property developer, it can refer to an abstract process of capital accumulation through a concrete and active process of producing high rise, high density dwelling space. Thus, assuming that it is merely density which affects individuals by simple perceptual interaction in single, independent space blurs their ingenuity and active role in shaping, harnessing, experiencing, or even resisting the socio-spatial meanings of “density”.

This leads to another problem. Most of the existing literature is devoid of a critique of inequality and injustice in resource distribution. In everyday life, certain social classes who are incapable of controlling the mechanism of the production and reproduction of space, will suffer, struggle, or resist; whereas the privileged enjoys and reinforces such repressive processes.

Moreover, the literature overlooks the diverse meanings of space which are not only absolute and consequential but socially and historically produced, abstract, imaginative, lived (Lefebvre, 1991), relative, relational (Harvey, 1997, 2006), or symbolic (Cuthbert, 1985). Cuthbert (1985) made such critique at the day when inquiry on high density development in Hong Kong had been already flooded with work conducted along the line of reductionist conceptions, arguing that “[b]ecause of this context, the implementation of ‘solutions’ concentrates on the manipulation of the effects of political action and the alleviation of symptoms, rather than on the creation of policies for structural social improvements” (p.128).

### 4.3. Fragmented space

Existing literature tends to treat density in a separated medium (such as a flat, a room, and a tower) which is unrelated to its external environment. Human conditions are deliberately bounded to phenomenon occurring only within that particular medium. Obviously, people do not confine everyday life in a dwelling, and housing is not the sole medium of density. A person experiences (non-)density throughout entire urban reality, where human activities are practiced and concentrated with spatio-temporal variations subject to the features of a particular space (dwelling, workplaces, street space, etc.), people's own spatial imaginations, and the abstract orders of space. They are not to be unfolded by simply deciphering a physical reality.

Accordingly, rhetoric about the merits and the shortcomings of ‘compact city’ or ‘high density urbanism’, and about significance in modifying urban elements with pertinent planning in order to mitigate negative effects of density, is also found deficient to fully unfold the complexion of man-space issues. An extreme example comes from Chau who defends high density development by supporting the inconclusive relationship between physical density and pathologies, holding that “high land value is a matter of demand and supply and has very little to do with the density” (1981, p.6), and “high density is not the direct cause of urban problems” (1981, p.8). While the opposite is hardly mentioned, advantages of high density development are further enumerated: resources like lands, amenities, and infrastructures are of economic efficiency in use; it helps preserve recreational or rural land and open space; economically liable public transport system can be established and fully utilized due to stable clientele; and it builds up community life with strong social cohesion and interactions, etc. The merits, he argues, hinge on principle of ‘good planning’: ‘comprehensively planned and implemented’ development scheme, sufficient provision of compatible facilities, incessant and pertinent maintenance and management (Bertaud & Renaud, 1994; Chau, 1981). Similar ideas are seen in others' work (Pun, 1994; Tong & Wong,

1997; Yeh, 2000; Zhang, 2000; Zhu & Chiu, 2011) but in a relatively balanced way that both the pros and cons are considered. Arguing that planning should not only focus on physical one, Lee (1981) goes one step further to advocate social planning of housing and community life when developing public housing, but it is confined to establishment of social network and interpersonal relationship between neighbours and within neighbourhood. In terms of the principles of physical planning for intensive urban development, the literature related to environmental sciences and sustainability studies are even purer than their previous counterparts, in the sense that their debates entirely pivot on technical and scientific side of density. Ng (2010), for instance, discusses proper layout of constructions to achieve optimal ventilation and thermal comfort from the perspective of wind engineering, concerning with permeability of wind and air path between and within buildings.

These findings have not only overwhelmed the academic inquiry on density issues but more importantly diverted our attention to a thought that density is simply a matter of planning effort on physical environments, concealing the nature of planning itself as an ideological and political tool complying with processes of capitalist mode of production (Cuthbert, 1985), in which its consequences, whether beneficial, neutral, or detrimental, are not homogeneously distributed to all affected agencies, resulting in more social and political implications beyond the reach of those studies.

#### 4.4. Absence of temporal dimension of urban density

Last but not least, the temporal aspect of (high) density has also largely been dismissed. The literature focuses on a fixed moment of condition between space and man, rather than an evolving socio-spatiality. If we accept that density should be interpreted as both an assemblage and a linkage of diverse temporal variations and development of space, practices, and elements affecting such development, some research questions such as “the degree of density to which a person can tolerate” would become problematic, as they selected only one fixed, physical and temporal point of observation. In reality density varies from space to space and time to time (e.g. streets or dwellings; peak hour or business time in daytime or home staying at night, etc.), constituting a complete everyday life of every inhabitant experiencing urban intensities differently. Sometimes high density is necessary for vital day-to-day practices with certain degrees of duration while at some moments it is undesirable in the cases of, for example, overcrowded cubicles and unwanted social contacts. Therefore in studying urban density in Hong Kong, the dynamic and processual dimension of social space and time is still under development, if not totally void.

## 5. Beyond absolute space: density in processes and everyday life

With a few exceptions, the density concept as conceptualized in the existing literature is unable to fully unravel the urban reality. Three researches which adopt alternative approaches in dealing with human-density relationship may exemplify our notion of a need for broadening the dimension of urban density.

Cuthbert (1985), on the basis of Harvey's Marxist geographical analysis of capitalist mode of production, distinctively and innovatively brought high-density housing forms of Hong Kong back to the perspective of social processes. To him, planning and architecture reflect ideological, cultural, economic, and social processes from the production and reproduction of spatial patterns of high-rise, high-density buildings and the way perpetuating them. The mechanism and conflicts of capital accumulation in controlling or in relation to flow of rent, reproduction of labour force, land ownership and monopoly, property development and market, are all subject to political decisions and policies of the government, Chinese cultural tradition and its associated psychological processes weakening people's political resistance or aggression against the government. He suggests that they contribute to and facilitate the form of high-density development in Hong Kong. Using the cases of four public housing estates as evidences, he shows how social processes resulted in their own layouts and interior architectural design, as opposed to speculative private property development. Although Cuthbert has been well-informed with multifaceted theories of space, his analysis is still built heavily upon physical space and treated the density form as an outcome induced from different coalescences of social processes instead of being part of the processes, and with weak historical linkage among the processes. Despite this flaw, his work has still provided a pioneering and insightful attempt to decipher profound meaning of the "density" that people usually overlook.

At individual level, Cheung's (2000) sociological and ethnographical study illustrates a huge contrast to technical, quantitative researches. Through participatory observations, he depicts daily life of three cage house dwellers in the same apartment in Tsuen Wan. Widely recognized as humiliating, extremely crowded and undesirable living environment from the lenses of both local and western media, the cage apartment, he however argues, is more than a concentration of substandard spatial elements and setting, as well as psychological reactions and responses to such surrounding. Rather, he "observed how societally given spatial classifications, functions, and meanings of the cage apartment have been diverted, interrogated, and transformed, in both quantitative and qualitative senses" (2000, p.259), and concludes that "[t]hrough their

occupants' spatial sensitivity and ingenuity in making everyday life possible under impossible conditions, the caged bedspaces were in effect multiplied and diversified, from a mere location or refugee site to a home defined by the tenants' specific inclinations and purposes" (ibid.). Physical adversities, in his observation, are not necessarily a suffering plight that is a sole element defining living space where the cage dwellers had to be confronting with. They established, however, habitual behaviours, such as seeking consumption and entertainment outdoors or indoors and placing stuff at a particular place, for fully utilizing or evading limited available space, where social interactions and community life accompanied with manifold emotional responses and reactions were shaped. Through these activities, meanings of space were created and articulated. Cheung's study exemplifies a need of being meticulous in probing into the meaning of "space", which is being harnessed, produced, reshaped, articulated, felt, and perceived by subjectivity in everyday life. In addition, it complements the meagre academic inquiry on density issue in tenement setting and in turn offers us a glimpse of active role of agent coping and living with density in Hong Kong.

Probing deeper into human-density relationships than Cheung does, Rooney (2003), being a professional of interior design, goes beyond the scope of physical elements, presenting a more comprehensive work to decipher in-depth and convoluted linkages between individuals and their dense living space. Elucidating historical development of housing in Hong Kong at a macro-level, she argues there are spatial knowledge and imaginations that individuals hold towards methods, decisions, needs and actions of configuring, modifying, and using their dwelling space, moulded by the government's building policies and regulations, social fashion of lifestyle, traditional Chinese cultural inertia and economic structures. She conducted interviews with fifteen households in public rental housing flats, investigating overall arrangement of spatial elements, ways of interacting with crowded home or family members, as well as underlying rationale and consideration of such configurations and actions. The results reveal that their decision-making processes and perception on space are not only affected by the physical conditions of flat and residents' own needs, but also by socially created expectations, competing with each other through time, and alteration of family structure, life stages, knowledge, emotions, experiences, values, education level, endowment, religious beliefs, and cultural and personal "conscious model" derived from particular social system (2003, pp.120–121), etc. To her, "high density space is never static" (2003, p.134) but "constantly changing" (2003, p.197). She gave respondents an opportunity to articulate, whether verbally or behaviourally, imaginations on space and density. However, this study,

again, solely focuses on indoor space rather than external one where density issues are also manifested.

It is beyond doubt that the existing literature is still dominated by the conventional thinking of treating densities as things rather than as social processes. Such a high-density urban form is not merely a physical space, but rather a manifestation of dynamic processes of political and socio-economic relations on space. Space is “a set of relations determined by the objects and processes that constitute it” (Bulter, 2012, p.40). This produced space (high-density urban form) is “the outcome of a sequence and set of operations, and thus cannot be reduced to the rank of a simple objective ...” (Lefebvre, 1991). As Dikeç’s (2009, p.79) has pointed out, “form and process are inseparable and should be considered together”. Our sense of high-density, then, depends on a richer genealogy of these processes.

Prevailing in the literature is the spatial container concept. Some scholars draw our attention to the complexities that space mediates high-density. Ignorance of the social, social justice in particular, in the production of space has hindered us to fully understand high-density phenomenon. Dikeç’s (2009, pp.79–80) highlights that the production of space not only manifests various forms of injustice, but also produces and reproduces them (and, therefore, maintaining established relations of oppression and domination). Dikeç’s spatial dialectics of injustice sensitises us to injustice embedded in space and spatial dynamics. High-density development is a case in point – the produced injustice requires serious attention. By exploring the dynamic processes involved, the dialectical approach proclaims that their operation may in fact produce and reproduce dominant and oppressive established structures.

In order to illustrate how the density issue and socio-spatial processes should be studied, Sham Shui Po (SSP) is chosen as a case to highlight the approach and direction for future research.

### 5.1. Reconceptualise high density in Sham Shui Po

Hong Kong is recognized to be the model of high-density development. In understanding the development of high-density environment, a framework interwoven with urban historicity, spatiality, and sociality is essential. At the territorial level, one needs to unravel the processes that shifted from the provision of homes for shelter in the 1950s to the construction of commodity housing, perpetuating the land (re)development regime since the 1980s. These dynamic processes produce and reproduce various forms of injustices which is manifested in the production of space in SSP. Besides, there is a need to analyse the concrete interweaving of spatiality and injustice at the district level. While some unjust processes have specific

spatial manifestations as high-density development in SSP, the latter acts as the medium for the perpetuation of injustice at the societal level (Tang, 2014; 2017).

SSP has developed into a high-density commercial/residential area since 1898. In the early colonial era of SSP, physical density was already experienced in interior living environment due to subdivision of room for working class in tenement housing. Massive influx of Chinese immigrants in the post-war era resulted in a spatial transformation brought by the construction of squatter settlements at hillsides to the north of SSP. These squatters challenged the imposed conceived spaces shown in leases and outline zoning plans. These dense structures were unwillingly tolerated by the colonial government given a humanitarian concern as well as the fact that the land occupied was not highly potential for real estate development (Smart, 2006). On the other hand, the booming of light industries in the 1950s led to the rise of cotton mills, textile and garment factories, fabric and button shops, garment wholesale market and sewing machine shops which attracted many residents and consumer service activities in the form of street vendors. It was obvious that manufacturing industries in SSP played a role in generating socio-economic agglomerations with respective spatial practices and conceived spaces over streets, commercial premises, and dwellings, subject to reconfiguration in order to keep pace with the social demands of inhabitants, mainly urban grassroots whose everyday life was rendered spatially and temporally disciplined and scheduled. All these dynamic processes have contributed to the production of space and spatial practices of SSP residents. The decline of manufacturing industries then marked the outset of a redefinition of the overall SSP's material space. In the 1980s, the reterritorialization of industrial activities from Hong Kong to the Mainland China rendered, without exception, many redevelopments of original low-rise industrial premises into high-rise private residential buildings, replacing the traces of obsoleted industrial-commercial activities. One typical example is the Golden Building comprising of the Golden Computer Centre and the Golden Computer Arcade.

Later, large-scale reclamation, the booming of real estate industry and the intervention of urban redevelopment basically changed the urban form through replacing tenement building by huge residential blocks with small units and massive commercial premises. The old tenement housings in the inner-city area of SSP had also undergone changes. Neither the dilapidated tenements attract buyers as self-occupier except investors, nor do property owners, desiring for URA's acquisition as tenement market is declining and dwindling, will rehabilitate their physical structure. For speculators, flat partition is the best choice to keep on consuming the space and extracting its exchange value as much as possible until the

arrival of material reset under enhanced conceived spaces. Prior to this, such space was still the home of a great deal of the underprivileged. Quantitatively, these practices made SSP denser than ever. Yet, the process of becoming denser in the past decades has produce the urban space which is unjust to the underprivileged, shaping the social relations in SSP and, more broadly, the urban Hong Kong. Consequently, SSP is notorious for having a high concentration of poor people and disproportionately large elderly population. This reveals how residential space in SSP has been stagnant and finally trapped physically by adjacent material spaces and abstractly by increasingly rigid processes in producing, consuming, and imposing values on space.

By tracking SSP's historical development of material spaces and spatial practices of individuals through field observation, interviews and documentary analysis, it is possible to understand how the high density is a continuous spatio-social process, 'projecting' the urban activity rhythms at the territorial level on the concrete ground of the everyday life in SSP. The nature of the textiles industry and its related growth, the high concentrations of working class, new immigrant and poor families and elderly households, and the abundance of public housing estates make up a peculiar social production of space. In order to capture variations of spatial practices under the prevailing socio-spatial processes, the choice of subjects for investigation should represent the multifaceted aspects of urban density in SSP: in terms of (i) residential dwellings (major types of dwellings with different living densities) such as, tenement flats, non-tenement private housing flats, rooftop houses and subdivided unit; (ii) social identities (local inhabitants and new immigrants) which shaped their physical and mental experiences with urban density; and (iii) everyday life and temporal variations of spatial practices. All these individual practices illustrate more vividly the form of spatialisation and sociality in SSP.

The above portray the urban reality of SSP: spatial manifestations of some injustice processes, and the ways that the high density of SSP has acted as a medium. In the end, we can assess how the high density as a spatio-social process that is historically contextualised produces the unjust urban space.

## **6. Conclusion**

This article has deliberated on the literature on urban density development in Hong Kong. In sum, we find the literature on urban density is still wanting. Unless we have broadened and deepened the concept of space by probing into the everyday life of residents, it is difficult to understand the multi-dimensional nature of high-density



environment. The discussion reveals several drawbacks of the current conceptualization of “density” in the literature: a domination of absolute space, constricted spatial interpretations and representations of density (e.g. visualized, statistical forms), a shrieking and oversimplified role and relationship of human agencies *vis-à-vis* social space, an attribution to unrelated historical events, and weak socio-political implications on (re)production of high density space. It is pertinently doubtful to accept that urban questions can be resolved by simply appealing to the mastery of modifying living environments. Urban density is not only a physical-spatial reality. More substantially, there lies the subject of density: complexity, diversity, and interaction of individuals over the spaces, which are not fixed but produced and reproduced purposefully through time, and over the social processes exerting influences on every geographical level. It also relates to an issue of extending our spatial imagination: how a person and a group practice everyday life in space-time, how space is imagined and represented, how space is lived with meanings and values (Lefebvre, 1991), being competitive, contradictory, or compromised, and how these elements are related to each other, etc.

Based on the arguments above, the case of Sham Shui Po suggests that simply applying the traditional conception of urban density does not suffice to examine recent urban social issues, such as individuals’ everyday life in extremely dense environments, the production of overly crowded dwelling spaces, and spatial justice for the right to decent living space. There is a need for a reconceptualization of urban density *per se*, and its development trajectory beyond the dichotomy of physical density, points towards a framework interwoven with urban historicity, spatiality, and sociality, as well as their internal relations.

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