Making futures? Technology start-ups in Singapore

Kripe, Z.

CHAPTER TWO

Technopreneurship and Singapore's Future

1. Introduction. Historicising futurities

In 2000, as the Dot-Com Bubble was bursting in the USA, an American researcher studying technopreneurship in Asia provided in his blog an analysis of what was happening in Singapore:

> "1996 was the year in which the Internet first began to boom in Singapore, and since then the country has witnessed an equivalent boom in entrepreneurial spirit. Inspired by the tales of the initial Internet-made millionaires from America, Singaporeans have jumped on the Internet and technological bandwagons and intend to ride them for all they're worth. The term "technopreneur" has become one of the hottest buzzwords in Singapore to describe people who are willing to embrace risk and take the entrepreneurial plunge into industries ranging from IT to biotech. With the founding of hundreds of new technology startups in the past few years, the government has decided to promote technopreneurship and reap its rewards. For technopreneurs in Singapore, this translates into the paternalistic support of a government that is suddenly bent on facilitating the success of homegrown startups." (Burnett 2000)

The author identified the dominant tropes within the knowledge economy - entrepreneurship, information-based industries such as IT and biotech, risk-taking individuals, "get-rich-fast" success stories, and Singapore's particular brand of overtly controlling government. However, locating the beginnings of technopreneurship in Singapore in the mid-1990s, even if not wrong, might be somewhat misleading. I argue that taking a more historically embedded perspective reduces the risk of seeing technopreneurship as a preoccupation merely inspired by American success stories and the knowledge economy as a 'global' phenomenon that gradually spreads over the world

as a new stage of economic globalisation. Instead, what I aim to show in this chapter is that the shift towards a knowledge economy and technology entrepreneurship is much older and has acquired a meaning that is particular to Singapore. Even if it is a global trend that heightened in the 1990s, the way it comes to life is local, and particularly Singaporean.

In this chapter, I propose that to study futurities ethnographically, one needs to approach them historically and in local settings. I view technology entrepreneurship or technopreneurship and start-up culture to be part of a larger shift towards a knowledge economy in Singapore, which is also occasionally referred to as the 'new economy'. Importantly, it articulates a particular vision of the nation's future that fits in a longer trajectory of how Singapore has been self-identifying as a nation and how it has generally approached the future. Singapore should not be seen as 'copying a standard' when it comes to fostering its start-up environment; there is no pure 'original' that gets tainted by local particularities. Therefore, in this chapter, I argue that technopreneurship, how it became a buzzword in the 1990s and captured the minds of my interlocutors during the years of my research, needs to be seen in the context of Singapore's knowledge economy aspirations, which are rooted in the political economy of development and Singapore's colonial history, consolidation of power by Singapore's only leading political party - the People's Action Party (PAP), nation building and Singapore's geopolitical considerations just as much as the success stories rising predominantly from the United States and circulating via international media. This more historical approach towards start-up activity comes in contrast with the predominantly future-oriented stance of my interlocutors, who very often assumed that 'the start-up space in Singapore' was always just 'recently' active and everything exciting was yet to come. Moreover, most of my informants constantly looked to the entrepreneurial success stories as the ones that define what start-up entrepreneurship is and should be and compared their efforts to them. Focusing on start-up entrepreneurship, particularly Singaporean, I aim to avoid comparison but examine how it fits or clashes within a longer historical trajectory.

Overall, this analysis of how the knowledge economy future has been articulated by political elites in Singapore will highlight the instrumentality of futurities in claiming power and control. Paying attention to the politics of claiming futures directs this chapter to planning and the organisation of space within Singapore. The futurities associated with the coming of the knowledge economy presupposed a necessary urban transformation. This chapter will zoom in on one such infrastructure project called one-north (written in lowercase in official documents), aimed at welcoming the knowledge economy in Singapore. Focusing on space will reveal both the multiplicity of futurities and contestations regarding them.

While planning is considered to be central to how modern nation-states engage

with futurities, this chapter will draw attention to the limits of planning, especially when examining spatial transformations and how those shaped people's experience of place-making. Discourses materialise in many ways, and I argue that looking at how they relate to space is a particularly productive approach when studying futurities ethnographically. When materialised into space, futurities gain different levels of permanence and malleability. I will show how exactly, in relation to spatial arrangements, people were articulating their concerns about the future proposed by the government and its viability, questioning whose future this will be. It is also in relation to space that I could ethnographically engage with the multiplicity of futures and the work of 'unimagining' and 'unseeing' necessary to imagine the coming of the knowledge economy.

First, I will introduce the historical narrative of Singapore's past and its emergence as a nation-state and how this very specific narration that relied on the fear over the non-viability of the future for Singapore, which has been instrumental in how Singapore's leading political party has managed the republic. What will become apparent in this chapter is that the knowledge economy with start-up entrepreneurship is a vision of the future for Singapore proposed and actively pursued and endorsed by the government. Based on an analysis of secondary sources regarding the coming of the knowledge economy, I will distil two narratives dominant in explaining how the future of the knowledge economy is arriving in Singapore and where the agency over this future was located. I will show that it was positioned as either external or in the hands of the government. Notably, both legitimised serious interventions in education, labour management, urban arrangements and infrastructure. While on the one hand, discussion of the coming of the knowledge economy usually is framed around how different the new stage of economic development is, this chapter will show that its narration in Singapore relies on a longer tradition of how Singapore's future has been discussed. Therefore, attending analytically to how futurity is narrated can give a more balanced perspective above certain hypes. Much like earlier visions, knowledge economy futurity relies on a typically modern imagination of unilinear growth and development, where the future is considered open for creation and empty to produce economic wealth. Singapore's government has tried to control tightly the futurities that could emerge within the nation-state.

Acknowledging that people can engage with politics of temporality in relation to space, this section then picks up on some of the tensions that arise in relation to the coming of the knowledge economy in Singapore's society, such as concerns about increasing inequality and density of urban life. This chapter concludes by zooming in on Blk 71 - a former factory building planned to be demolished to give way to one-north development, yet temporarily given for technology start-ups. Looking at Blk 71 will show how, despite a strongly controlled narrative over the future, the daily practices and material

infrastructures also challenge such master narratives and reveal the ever-present multiplicity of futures.

2. Knowledge Economy as the Future for Singapore

From the moment your plane lands in Singapore, you are struck not only with the humid boiling heat of the tropics and the way it clashes with the icy crisp air-conditioning the moment one walks indoors but also the incredibly well-planned, clean, fashionable and organised space. The latter will strike you even more strongly if you arrive from any of the neighbouring countries in the region. As scholar Victor Savage has pointed out in his description of Singapore:

> "What the landscape epitomises is the human mastery over nature. Like the economic and political sectors, the Singapore landscape reveals absolute planning. Nothing is left to chance. Practically every tree and dustbin is in a designated public space, a product of overall design and conscious policy making." (Savage 1992, 235)

Indeed, the following ride from the airport with a GPS-equipped taxi or with the air-conditioned metro which has been described by one CNN article as 'oozing future' (Kristensen 2015) brings you smoothly in the centre of Singapore showcasing wide highways surrounded by well-groomed tropical flower beds, parks and organised high rise living blocks along the way. When you reach the downtown or the central business district, you'll be blasted with a stunning view of spectacular, sparkling skyscrapers and globally iconic massive structures such as one of the world's largest ferris wheels called the Singapore Flyer, or the impressive ship-shaped Marina Bay Sands hotel and casino skyscraper. The city glisters. It is a spectacle of and for capital. For example, Singapore's Economic Development Board's (EDB's) email newsletter with business news sent to presumably foreign audiences interested in economic opportunities in Singapore has a motto: "Singapore - Future Ready". The urban environment certainly tries to amplify and confirm this slogan. The surface is seemingly clean, green and neatly organised.

Singapore's associations with the future are no coincidence. Ever since the establishment of independent Singapore, its appearance has been meticulously planned and groomed to appeal to such business-oriented people as the recipients of EDB's newsletter. Lee Kuan Yew, Singapore's first and longstanding Prime Minister is quoted saying that "In wooing investors, even the trees matter" (Koh 2000, 40). Environmental law

scholar Koh, for example, explains that part of the rationale behind Singapore fashioning itself as a 'garden city' had a lot to do with showing the grip the government has over its territory in order to convince investors that their future investments will be safeguarded: "well-kept trees and gardens were a subtle way of convincing potential investors, in the early crucial years, that Singapore was an efficient and effective place." (Koh 2000, 40) The tiny city-state is known worldwide for its dramatic transformation "from third world to first" during the second half of the twentieth century. This economic, social and technological development success is often attributed to the Singapore government's strategic planning and tight management (Kuan Yew 2000) and the control over space is meant to exemplify this.

Even if Singapore has been internationally critiqued for its strict management of the population and repression of political opposition, many people I worked with appreciated Singapore exactly for how organised the space is. Illustrative of the kind of relation that this organised space evokes in many people who arrive in Singapore is a conversation I overheard between two Europe-born entrepreneurs and investors based temporarily in Singapore. One explained -

> "When I land in Changi [airport], I feel like I want to kiss the carpet-covered floors because I know that from this moment on, no one will attack me, no one will try to rob my wallet or steal my laptop."
> "Yes," the other joined in laughing, "the floor is so clean that you can actually do it. And you know that the taxi uncle will bring you to your destination without cheating you, there won't be any delays and you actually can get work done."

My interlocutors here emphasised the sense of security and what they called a 'no-nonsense' environment where one can proceed with doing business smoothly, unhampered by problems such as crime, pollution, malicious service providers, surrounding poverty, or bad infrastructure. The environment in Singapore presents itself as optimised for productivity and capital accumulation. There is seemingly no friction. It celebrates a story known as 'Singapore's success' and projects it into the future. Yet, the government and most Singaporeans will be quick to remind you that it wasn't always so and should not be taken for granted.

Unpromising beginnings - historicising future making

> *"(..) Singapore did not seem to be able to survive. (..) We survived. Later we prospered. How did it happen?"* (Lee Kuan Yew, 'Lee exhorts the young to know about the past', Straits Times, 16 November 1984, quoted in: Hong and Huang 2008, 5)

Contemporary Singapore is praised and admired for its incredible economic success over the course of its history. Yet, this story of success is always presented against the backdrop of the 'unpromising beginnings' of Singapore. According to the founders of Singapore's nation-state, there was 'no future' for an entity such as Singapore - an idea of independent Singapore back in the 1950s was thought of as a 'political joke', an inconceivable scenario for the same political elites which later, on August 9, 1965, announced the establishment of independent Singapore. Understanding how this perceived 'lack of the future' for Singapore has played throughout the years is crucial for understanding how the idea of Singapore's future tied to the knowledge economy was introduced.

The official narrative of Singapore's official history starts in 1819 (Hong and Huang 2008), when on the swampy island at the tip of the Malaysian peninsula, humid and swallowed by the jungle, Sir Stamford Raffles arrived with his vision of establishing a trading post for the British Empire. From 1826 till 1959, Singapore's territory was part of the Straits Settlements, administrated by the British East India Company. Chinese, Indian and Malay migrant populations flocked to Singapore's harbour to serve the entrepôt economy. The Japanese occupation in 1942, however, revealed the fragile position Straits Settlements play in the Britain's Imperial plans. The occupation had left Singapore impoverished, with destroyed infrastructure and dysentery plaguing its malnutritioned population. The violence of Japanese occupation and the inability of the British government to protect and care for Singapore's inhabitants led to anti-colonial (yet not necessarily anti-British) political activism, resulting in the right of self-government in internal affairs. The struggle for colonial independence in Singapore, however, was not conceptualised in terms of Singapore's nationalism. Instead, the territory of Singapore was thought of as part of Malaya (later Malaysia). Consequentially, the emerging political elites in Singapore promoted and achieved Singapore's inclusion into the Federation of Malaysia. Yet, political struggle and racial conflicts led to Singapore's severance from the Federation only two years later.

This moment of separation was also simultaneously the birth of an independent Singapore. According to historical commentators, it couldn't be more dramatic - trauma in the national psyche in a Freudian-like manner - rejection of the tiny and weak

Singapore in the stormy waters of Southeast Asia, expelled to be alone and perish. Singapore's emergence, which is often described as "unpromising beginnings", plays a crucial role in the way Singapore's future has been conceptualised by its political elite and understood as part of its historical trajectory.

The fragility of Singapore's condition at the time of separation from Malaysia is exemplified by the "moment of anguish" when, on August 9, 1965, Lee Kuan Yew broke down in tears announcing the news of separation. The following day the Straits Times gave an account of Lee Kuan Yew's speech and emotional collapse:

> "Everytime we look back to the moment we signed this document this is for us a moment of anguish." Tears. "For me it is a moment of anguish. All my life, my whole adult life, I have believed in merger and unity of the two territories…" His voice faltering, Mr. Lee added: "We are connected by geography, economics and ties of kinship …… It broke everything we stood for." Mr. Lee broke down. Tears rolled down his checks. For a moment he buried his face in his hands. He started to speak, then broke down again. Apologetically, he said he was far too angry to go on with the subject. (Sam 1965)

The depiction of the early years and their vulnerability are supported also by describing the unstable international political climate, communist tendencies within Singapore as well as outside it, Indonesian aggression towards Malaysia as well as the decision of the British to withdraw their military basis from Singapore, which at the time contributed to roughly 15% of the newly established state's economy. These narratives, which have been thoroughly incorporated into the way Singapore's history and consequentially national identity is narrated, establish Singapore as a tiny island with no resources, no economy, a poor population and a new government, which is threatened by internal and external political adversaries.

19 years after the establishment of independent Singapore, at the opening of National Exhibition, Lee Kuan Yew asked, "Many wrote off independent Singapore. We survived. Later we prospered. How did it happen?" (Hong and Huang 2008, 5). Singapore's remarkable development is always depicted against this dramatic and bleak background, which emphasises the fragility of Singapore and the nearly supernatural insight of its political elite, which has allowed it to surmount the obstacles. Terence Chong (2010), the editor of the second monumental edited volume which explores the success of Singapore puts it together fluently:

> "It [the story of Singapore] is a story of a little island, cut

> from its hinterland and saddled with the challenges of mass housing, high unemployment and an uncertain future. Regardless of storyteller, the Singapore success story has always unfolded in a consistent manner. It begins with the "moment of anguish", a painful self-realization of an unformed nation, the existential fear for one's self, followed by the Herculean effort to overcome all the odds, and finally, the achievement of success. Through hard work, pragmatic policies and sound leadership, the island made the transformation from an "absurd proposition" to a global city." (Terence Chong 2010, 1-2)

Consequentially Chong notes that the "obstacle-triumph binary" has become a leitmotif of Singapore's story and crucial to the Singaporean identity (see also Boon-Hiok 1978). Singapore's success story, epitomised in its cityscape, has been built on an 'obstacle - triumph' binary ever since the very beginning of Singapore's independence.

According to arguably Singapore's most prominent sociologist, Chua Beng Huat, such framing is exemplary of what he calls the 'ideology of survivalism', which, together with 'pragmatism' has "served as the basic concept for the rationalisation of state policies that extend beyond economics to other spheres of life." (Chua 1995, 4) Chua rightfully notes that survivalism "creates a state of uncertainty, providing operational room for the second concept [pragmatism], which given the context, meant 'doing whatever is necessary to survive'." (Chua 1995, 37). What is of importance here is that through such particular temporal framing, political power is able to control the understanding of the present and define the appropriate manner in which to proceed. Controlling the future is a political strategy in the present.

Questions regarding survival are questions regarding the possibility of having a future. In this regard, Sandra Wallman (1992) has argued that "Belief in the future underpins the sense of self and its survival," and "changes in those beliefs, however generated, can work radically to alter the way individuals and groups relate to each other, to the natural environment, and to culture itself." (Wallman 1992,16). Thus, the existential threat that is formed to be part of the existence of Singapore allows us to define the present as in need of a 'pragmatic' response. Rendering Singapore's future as fragile and endangered evokes the notion of crisis. 'Crisis' as Janet Roitman reminds us is a powerful temporal category. Roitman explains that the construction of crisis requires a normatively charged imagination of the difference between the past and the future and, more importantly, that evoking crisis "allows certain questions to be asked while others are foreclosed."(Roitman 2014, 94). Claiming a sense of crisis enables political players to resort to a much wider arsenal of political tools for control and to redefine what was and what needs to be.

Essentially, it was under the rhetorics of survivalism and pragmatism that the People's Action Party (PAP) was able to consolidate its power and implement the dramatic modernisation and industrialisation programs that, as the story goes, 'transformed the tropical island into a metropolitan city'. An important effect of discussing Singapore's future in terms of survival is that it limits the discussion of multiple possibilities. For example, Savage (2004) has argued that the political discourse emphasises a lack of margin for error. Either Singapore succeeds or perishes, two binary options. Thus, any alternative to the government's vision that wouldn't be 'pragmatic' would mean the opposite of Singapore's survival, which in Singapore is predominantly defined in terms of economic progress (See Chua 1995, among others).

It is through the use of such diametrical contrasts that Singapore's government gains its legitimacy, leaving very little 'grey' area for discussion of alternatives. While it is more common to think of nation-building rhetorics as based on the imagination of a utopian future (Dzenovska 2012) and in particular, development narratives needing to be based on the future-positive scenario (Mosse 2005), in Singapore's case the fear of 'perishing' or the fear for survival serve as equally potent background that is necessary for any promise about a better future to work. Thus, in Singapore's case, the fragility of futurity is an element that crucially structures the present and the near future possibilities.

Historicising the way national future(s) are narrated provides two benefits. Firstly, it opens up the notion of 'future' as a politically neutral temporal category of the times to come and explores how futurities get defined in a process of negotiating power - the power to define what has been, is and will be. Secondly, it enables us to explore recurring patterns in how temporal trajectories shape the introduction of new ideas, in this case, the knowledge economy, and are used to delineate the relevant actors and available actions. The next section will turn to the question of the knowledge economy as Singapore's future.

Naturalised vision of an inevitable future

The articulated direction towards the knowledge economy in Singapore dates back to the early 1980s, when the government published its Economic Development Plan (1981). The plan stated the ambition for Singapore to become a "modern, industrial economy based on science, technology, skills and knowledge." (Yuen 1992) Singapore's economy until then focused on manufacturing, albeit already higher-end manufacturing. For example, between 1986 and 1996, 45-50% of the world's hard disk drives were produced in Singapore (McKendrick, Doner and Haggard 2000). Singapore was also the

first location outside the USA to produce Apple computers.

Even though the plan was later abandoned (Heng and Low 1993), the approach towards increasing higher value production, focusing on services and fostering computerisation grew in importance. Anna-Katharina Hornidge has argued that the arrival of the knowledge economy in Singapore has been "offered as a visionary guide for collective action and a focal point of collective identity reducing feelings of insecurity and uncertainty" (Hornidge 2010, 785). Economic development has been the prime priority in policy planning and is characteristic for the so-called 'Singapore's success story' (see, for example, Roy 2011). I agree with Hornidge in that the knowledge economy in Singapore has been introduced as a path of action towards long-term economic prosperity, and thus provides a utopian future-positive vision, but as this and the following sections will show Singapore's future relies not only on the future-positive imagination, but also gathers it's strength from future-negative scenarios. The fear of a dystopian future turns out to be an equally powerful motivation.

Either way, though, as a vision for the future, the knowledge economy in Singapore has been narrated by various officials in a highly deterministic manner, naturalising its coming as inevitable if Singapore wants to 'succeed'. For example, Coe and Kelly (2000) note that while it is hard to pinpoint the exact moment when exactly the knowledge-based economy (KBE) started to dominate the public discourse in Singapore, "By mid-1999, the term 'KBE' had seemingly entered the common vocabulary of all Ministers, bureaucrats and media commentators in Singapore." Drawing parallels with the notion of 'globalisation', they explain that "Rather like the notion of globalisation, the KBE has assumed an air of inevitability; it is an unassailable trend in the global economy to which Singapore must respond." (Coe and Kelly 2000, 418)

It is this aura of *inevitability* and how it features in the variations of knowledge economy narratives in Singapore that I wish to explore in more detail. Based on a reading of a range of sources such as economic reports, policy documents and public speeches, I suggest there are two main narratives of the knowledge economy and how it relates to Singapore. I call them the 'incremental growth' and 'fragility' narratives. Both of these narratives naturalise the knowledge economy as the future and present its arrival as the only possible way to ensure a prosperous future for Singapore. Both are argued in relation to neoliberal market principles. In one case, progress is a result of internal economic development; in the other, progress is external and needs to be caught up with. Thus, both, in a similar way, foreclose any possible discussion about alternative futures. They are not clear-cut and very often, despite their contradictions, are used together in public speeches, policy documents, academic analysis and media in explaining why and how the knowledge economy relates to Singapore. Together they preclude any meaningful discussion of alternatives.

The 'incremental growth' narrative

The 'incremental growth' narrative regards the coming of the knowledge economy in Singapore as a seemingly *natural* process. The next logical step, so to speak, is the development of Singapore's economy. It is a future unfolding and there is little or nothing that can be done about it. This view sees continuity in Singapore's economic development and seems to be slightly more popular amongst academics, especially economists and analysts of Singapore's innovation systems (see for example Wong and Singh 2011; Koh and Wong 2005; C. Y. Kuo; Linda Low 2001; Corey 1991).

The incremental growth narrative is partially rooted in the way the knowledge economy was initially identified in the 1960s and 1970s through the works of Fritz Machlup (1962) and Mark Porat (1977), who saw progression towards a more service-based economy as a 'typical' trend amongst industrialised countries. So, for example, in 1983, economists Jussawalla and Cheah published a journal article titled "Towards an Information Economy: The Case of Singapore", explaining that "recent empirical studies have documented the emergence of information-based economies in developed countries within Europe, the U.S.A., Japan, and Australia. Casual observations suggest that the newly industrialising country of Singapore is proceeding towards a similar trend" (Jussawalla and Cheah 1983, 161) and proposing that it's important to account for the contribution informational activities make to Singapore's national economy.

More recently, such a view has also been encouraged by the knowledge and skill 'spillover' concept in economic theory, popularised by the influential strategist Michael Porter (whose intellectual influence amongst Singapore's government has been tremendous). According to this narrative, Singapore's economic strategy had always relied on industrialisation and increasing connectivity with the rest of the world. As Singapore's economy developed, so did the technological capabilities and the skills and know-how of its manpower. Eventually, then, it was somewhat '*natural*' that Singapore moved on to more and more knowledge-intensive production. Occasionally, this narrative harks back to the arrival of Sir Stamford Raffles to Singapore in 1819 to show the historical continuity of Singapore being the hub of the region. Projecting this 'Singapore as the regional melting pot' position back into history implies the naturalisation of Singapore's current position as the information and services hub of the region (see, for example, Bishop et al. 2004).

The 'fragility' narrative

The other strand, which I call the 'fragility narrative', however, takes an opposite stance. Instead of suggesting that Singapore's move towards a knowledge economy was a natural evolution, it emphasises that it was a radical break from its earlier pol-

icies, a forced survival strategy that Singapore had and still has to rapidly implement in order to survive in the dramatically changing international context. It emphasises that Singapore, being a small territory with an open economy and highly dependent on the external environment, just has no other choice than to start moving towards a knowledge-based economy and higher value-added production. The sweeping nature of globalisation and the rise of competition from India and China, as well as neighbouring Southeast Asian countries, are presented as risks for Singapore's future and, therefore, require Singapore to devote whatever resources it can to be one step ahead of the rest of the world. This narrative, instead of presenting a seemingly 'natural' continuity in economic development, displays a break in Singapore's economic development approaches. It similarly acknowledges the growing importance of the knowledge economy but presents it as a global trend that Singapore can either join or 'be left behind'. For example, scholars Heok and Luyt, analysing the discourse of Singapore's first IT plan IT2000 issued by the National Computer Board, note:

> "Singapore could not afford to be left out of the race. There was a palpable sense of urgency that could not be shaken as readers of the report were buffeted by images of Singapore's vulnerability, of it being a "small player" and "compelled to be 'open' in order to flourish", how it was subjected to the "full blast of the 'new information order'." (Heok and Luyt 2009, 82-83)

This version of the knowledge economy in Singapore seems to be more common among politicians, government-issued reports and policy documents.

Even though these narratives are contradictory, they do not necessarily mutually exclude each other. A range of scholars have depicted a combination of these narratives, where Singapore's future is threatened by external sources but despite that, its economy has always been on its progressive path. This mixed narrative usually focuses on the superb supervision by Singapore's foresightful political leaders (see, for example, Meng 2010; Lim and Lee 2010, 153; Yue and Lim 2003; Yue 2005).

Both of these narratives stem from a much wider discourse that is familiar in Singapore - they align with the 'obstacle / triumph binary' in which Singapore's 'success story' has been narrated historically. They represent the utopian and dystopian endpoints of a spectrum in which Singapore's past, present and future are discussed. The 'incremental growth' and 'fragility' narratives draw their power from Singapore's success story that relies on the 'obstacle-success' binary. Both narratives seem to take economic growth as the core measure of progress and the passing of time, where the future is accessible through economic growth. This deterministic narrative, which, rather than describing

any 'objective' reality, serves political and economic interests, should be understood historically. Importantly, it should be clear that such instrumental use of 'future' legitimised a whole array of interventions and transformations, one of which, one-north, will be the further focus of this chapter.

3. Planning the Future and Urban Space

Planning is often understood as central to the way modern nation-states engage with and craft futurities. It is assumed that through plans, particular ideas about the future are laid out - plans usually express certain visions of the future and assumptions about the necessary action to achieve that vision. Scholars studying changing forms of future have remarked how future has increasingly become an area to govern and in particular, to be governed through blueprints and plans:

> "By the time the idea of progress had taken hold, people rather than their gods were in charge of the future. (..) Like any other territory which was subject to human design, planning, management and regulation, the future became a realm to be administered. This in turn brought forth new experts on the subject, in this case not experts who would predict what was going to happen to the lives and plans of individuals and groups but specialists in producing futures to blueprints, which meant achieving desired results in and for the present." (Adam and Groves 2007, 80)

As such, planning should be understood as a typically modern way of dealing with the future. Planning as a practice relies on a certain form of future - namely, an *open future* - a future that is imagined to be open for human intervention. However, it is not only open but also available to be imagined in a way that the present sees necessary. This form of open future is what enables much of the planning that goes on and creates the discrepancy between the projected future and the actions made in present. As Adam and Groves describe the open future:

> "Emptied of content and meaning, the future is simply there, an empty space waiting to be filled with our desire, to be shaped, traded or formed according to rational plans and blueprints, holding out the promise that it can be what we want it to be." (Adam and Groves 2007, 11)

Urban planning

Singapore's approaches to development planning are instructive in highlighting how planning as a mode of governance relates to futurity. What characterises most development policy visions is that, for the most part, they are 'future positive' - they argue that the future will be better (Mosse 2005) if the policy measures are implemented properly. Also, in Singapore, we see how planning and projecting are some of the central ways the government organises its relationship with its subjects. Importantly though, planning happens *in space*: "Planning is a form of conceptualizing space and time, and the possibilities that time offers space." (Abram and Weszkalnys 2013, 2) It was through the planning and control over the physical space that Singapore's government gained its legitimacy and trust not only in the eyes of its population but also in foreign investment to which Singapore has tied much of its economic development.

Thinking of planning as a technology and exercise of government (Scott 1998) then points us to the state's ability to control the present moment as much as the passage into the desired future. In that regard, Singapore is often characterised as highly controlled and managed - a space where the *high modernism* with its goal of "sweeping, rational engineering of all aspects of social life in order to improve the human condition" (Scott 1998, 88) has been brought to its fullest. Architect Rem Koolhaas has put it very illustratively:

> "It is managed by a regime that has excluded accident and randomness: even its nature is entirely remade. It is pure intention: if there is chaos, it is authored chaos; if it is ugly, it is designed ugliness; if it is absurd, it is willed absurdity. Singapore represents a unique ecology of the contemporary." (Quoted in: Olds and Yeung 2004, 491)

In Singapore, urban development is usually organised through a three-level planning hierarchy. The overarching planning is done through the so-called Concept Plans - plans that outline a specific vision of the whole country for 20-30 years, reviewed on a 10-year basis. For example, multiple scholars have pointed out that the 1971 Concept Plan "hinged on far-sighted planning for industrialisation and economic growth." Yet the 1991 Concept Plan "has been described by one of its planners as a 'far-reaching plan for everyone, touching on all aspects of life from business to leisure. Its powerhouse is economic growth.'" (Eng 1992, 178) The Concept Plans are followed by "Development Guide Plans (DGPs) which translate the broad objectives and policies of the Concept Plan into specific plans for individual areas." (Eng 1992, 183) And those are followed

by Master Plans that layout zoning of the land for the following 10-15 years, reviewed on a 5 year basis (Heng and Low 1993, 238). These urban development plans need to be seen in the context of and in relation to national and economic plans also produced by the Singaporean government.

Yet, Abram and Weszkalnys (2013) rightfully point out that overemphasising the intentions of planning often ascribes too much coherence to the planning process and too great unity to the complex infrastructure that bureaucracy is, assuming that the results reflect the intentions. In a poignant analysis of urban transformation in Kuala Lumpur, Baxtrom shows that "while the plan must gesture to 'the future', this gesture does not often require the specification of 'a future' to function in a highly effective manner in the present." (Baxstrom 2013). That means that while plans might lay out certain visions of the future, the significance of the plan lies not so much in what it envisions but in what this envisioning allows in the present. To use the words of Abram and Weszkalnys: "At the state level, planning is a way of managing the present, of governing and organizing the relationships between the state, citizenry and other entities (..)" (Abram and Weszkalnys 2013, 2). Thus, while the plan might map out a certain future, it tells us more about the present.

Indeed, also Singapore's planning process can be described as a complex process that involves negotiations between various government and nongovernment actors. Additionally, despite Singapore's appearance as a tightly planned space, many scholars have noted that Singapore's management throughout the years has relied more on ad-hoc rather than long-term, transparent planning (Heng and Low 1993, Chua 1995, Eng 1992). As Chua (1995) has pointed out - survivalism and pragmatism are based on ad-hoc rationality, therefore, often at odds with a larger utopian vision of a country's development. According to him, the 'crisis mentality' of PAP characterises the often incoherent and quickly changing policies that PAP implements depending on "the economic growth picture at a specific point in time." (Chua 1995, 69)

Urban change

It is also in relation to the dramatic urban changes that Singapore's miraculous success in economic development is articulated. In a presentation introducing Singapore during one of the start-up events, the speaker showed a presentation slide of a town in Switzerland from the 1960s to the present. Visually, there didn't seem to be a big difference between the two images. Then, he contrasted the Singapore of the 1960s with the one of today just five decades later - in place of dirt roads and low attap roofed squatters homes, the audience would see Singapore's glittering skyline telling a story about

developmental success and the benefits of globalisation. “From a village to a metropolis in a bit more than half a century” is a popular narrative repeated in the start-up space.

During my fieldwork, urban change was ongoing; the city was always partially under construction, even if most of it happened behind huge curtains covering the construction places. Large screens and gates covered the deep holes from which new skyscrapers were erected and new metro lines zigzagged the underground. Public housing skyscrapers built just 20 years ago were demolished to erect new, taller, more modern ones to continue increasing the property value and house even more of Singapore’s expanding population. “Here will be xxx. Your future home,” announced the banners covering yet another massive construction site across the street from where I lived. In his editorial to *Etnofoor* on Landscape and Media, Onneweer has described how mediations of landscape are charged with politics of temporality by framing the moment through an imagined past or the future, or “seeking a mythological timelessness to overcome the effects of change.” Onneweer argues that in contrast to preoccupation with the past and memory as the most dominant temporalities for landscapes, “The temporal inverse of memory is potentiality, a relation with the future through the landscape.” (Onneweer 2009, 48) Singapore’s landscape then is very outspoken about the immediate and near future, seemingly having one foot already ‘there’. A running joke I encountered was that even Google Maps, copyrighted a year ago, won’t be accurate in Singapore because the city changes too fast.

Population White Paper - the limits of infrastructure

It was in this experience of the city - navigating it through the increasingly busy streets, metro lines and escalators- that people also often articulated their understanding of Singapore’s current state and raised their concerns about the future, which included dissatisfaction with the kind of development trajectory the government had been pursuing. The breakdowns and delays of the metro, which was supposed to ‘ooze future’ as described earlier, just as plumbing disruptions, gave context to raising complaints about Singapore’s infrastructure not being able to handle the increasing density of the growing population.

Aside from regular grievances in everyday conversations and on social media about the fully packed metro lines and traffic jams, in January 2013, this turned into one of the first mass political protests in decades. Early in the year, the government released “A Sustainable Population for Dynamic Singapore: Population White Paper”, which discussed how to maintain Singapore’s development in the context of a rapidly ageing population and low birth rates. One of the core mechanisms suggested to ease

this problem was to continue relying on immigration. The White Paper proposed that by 2030, Singapore's population will increase from 5.3 million to 6.5 - 6.9 million inhabitants, out of which 4.2 to 4.4 million would be immigrants (permanent residents and citizens)(*A Sustainable Population for Dynamic Singapore: Population White Paper* 2013). This proposed vision propelled the so-called 'Population White Paper protests' where reportedly 2000 to 5000 people gathered in the Speakers' Corner, the officially designated place for public protest, with posters saying "Save Singapore — Say NO to 6.9 million", "Singapore for Singaporeans" (Adam 2013b) and news reports eagerly reported that "Singapore's population has jumped by more than 1.1 million since mid-2004 to 5.3 million" (Adam 2013a) largely by increasing the amount of foreigners who at the time constituted 2 million inhabitants.

Additionally, many Singaporeans felt that the government's immigration policy, which favoured well-educated and wealthy immigrants, put them in a worse position when it came to being able to find jobs and affordable housing. In 2013, Singapore was announced as the world's most expensive city. This news spread like wildfire, even if it only resonated very strongly with the experience of many people who had trouble making a life as they desired. This indicator, together with the references to rising inequality, were often cited to me by Singaporeans to articulate their concern about Singapore's present and future development trajectory.

Government officials responded to the protests by explaining that 6.9 million is not a population *target* but an *indicator* around which to coordinate infrastructure development. However, that didn't do much to ease the fear that many people felt they quite literally wouldn't have *space* anymore in Singapore and its projected future. These protests were rather striking, as for the first time in 50 years, Singapore's future as laid down by the government had been openly challenged in a political protest.

Aside from such 'sanctioned' political protests, the authorities rendered other protest actions as 'hooliganism' or 'vandalism'. For example, during my 2012 fieldwork, stickers with various slogans in Singlish, such as 'Press until Shiok', 'Press to Time Travel', etc., appeared on streets, bus stops, and traffic lights alongside a spray-painted 'My Grandfather Road' on multiple roads in the central business district. The artist Sam Lo, dubbed 'Sticker Lady', was quickly arrested. The arrest sparked a discussion about freedom of artistic expression (Lee 2014b) and was picked up briefly also by start-up media with pleas to not arrest her "for the sake of Singapore's entrepreneurial future" (Lee 2012). The artist, through their work, had critically commented upon and challenged Singapore's seemingly unanimous drive towards continuous progress and change. Their decision to proceed with the spray painting and stickers reportedly was to "take back the streets to make Singapore feel like Singapore again" (www.peoplepill.com/i/samantha-lo).

Photo of one of the Sam Lo's stickers I encountered on my way by traffic lights. Photo by author.

The next section will zoom in on a particular urban transformation project meant to herald the coming of the new economy, further examining the ways in which urban space was transformed in the name of welcoming 'the future'.

4. one-north

At the very heart of the urban transformations aimed at establishing the knowledge age has been the one-north project. Commenced by the National Science and Technology Board (Lee 2001) and included in the T21 plan (Boo 2000), it was initiated in 1998 when the government announced it would allocate S$5 billion for its development. To be gradually developed over 20-30 years, it was envisioned to become the home for biomedical, ICT, media, physical sciences and engineering research & business.

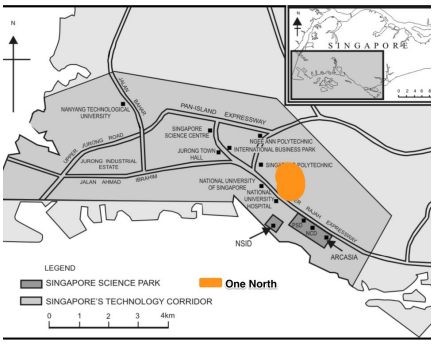
Jurong Town Corporation (JTC) was the major player in realising the Singapore government's industrialisation programs by building factories and industrial estates. According to the developer, one-north was the "ideal work-live-play-learn environment conducive for creative minds to excel and where innovation reigns. It would be a melting pot of talent, ideas and business opportunities."("One North," n.d.) Such an approach was also reflected in the design planning of the area. In many semi-official descriptions, the one-north project was often called "a city within a city", emphasising the confluence of work and live environments in this so-called mixed-use development that aimed to accommodate approximately 140,000 people once finished.

Initially under the name of Buena Vista Science Hub (Phillips and Wai-Chung Yeung 2003, 714), in 2001, it was rebranded to one-north (Wong and Bunnell 2006) to "represent Singapore's unique location - one degree North of the equator" (Lee 2001). At the opening of the master plan and unveiling of the new brand identity, the then Deputy Prime Minister Dr Tony Tan Keng Yam introduced one-north as Singapore's plan for the New Economy and as one of the necessary "intellectually stimulating and vibrant physical environments where a critical mass of talents, entrepreneurs, scientists and researchers can congregate, exchange ideas and interact." (Tan 2001; Lee 2001). At the time, Singapore's knowledge economy aspirations were already linked to Silicon Valley's success. JTC believed that building this new infrastructure 'from scratch' would give Singapore an advantage compared to Silicon Valley because Singapore can bypass "the headache of having to retrofit old buildings with fibre-optic cables, an essential for dot.coms." (Boo 2000) What can be seen in this expectation is a typical modernist assumption that one can start from a 'clean page' and invent a future that has nothing to do with the embeddedness of the previous realities, or futures unfolding.

The one-north area is located at the northwest of the city (and one degree north of the equator, as its name suggests), and it sits at the very centre of Singapore's Technology Corridor. The Technology Corridor was first laid down in the Technology Corridor Concept Plan as part of the 1991 National Technology Plan (NTP). The NTP, in turn, was developed in close accordance with the Strategic Economic Plan (SEP), which was also issued in the same year. The Corridor itself was drafted through a policy plan following international examples of how to foster a knowledge economy. This is also evident in the positioning of one-north near Singapore's Science Park, Jurong Industrial Park and a range of research institutions.

One-north is embraced from the southwest by Ayer Rajah Express, from northwest by North Buena Vista Road, from east by Commonwealth Avenue and from southeast by Queensway and Portsdown Avenue. Facing the one-north across the Ayer Rajah Express from the south is Singapore's Science Park, while at the northwest sits the campus of the National University of Singapore and north of it is Singapore Polytechnic.

The master plan of one-north was developed by internationally renowned, London-based company Zaha Hadid Architects, who, in designing it tried to embrace "the spatial repertoire and morphology of natural landscape formations" ("One North Master Plan," n.d.) and aimed at creating "a complex order rather than either the monotony of Modernism or the chaos you find in contemporary cities" (Ouroussoff 2008). Zaha Hadid is the author of many large-scale mega projects in various 'global' centres of the world such as Paris, London and, involving her, signalled Singapore's ambitions to position itself at the centre of cutting edge. The development of the Science Park was established in the Technology Corridor Concept Plan, strategically locating the Science



Adapted image from Phillips and Wai-chung Yeung 2003, 716. The Location of Singapore's Science Park and Technology Corridor" with approximate marking of one-north area in orange by author.

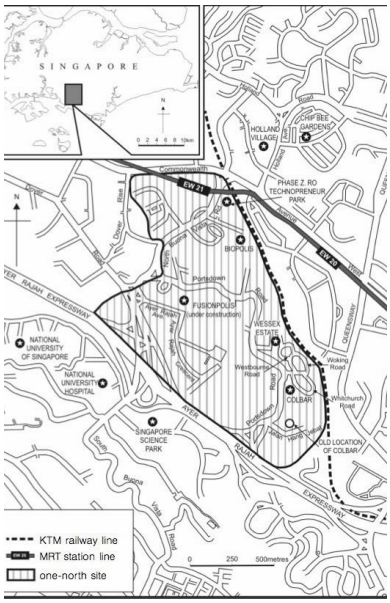


Image from Wong and Bunnell 2006, 71 depicts "The one-north project in Singapore" area.

Park near other research and tertiary institutions and Jurong Industrial Park. In the vision of one-north, the buildings, roads, and parks all would seamlessly merge into one natural form. Yet, according to the New York Times writer Nicolai Ouroussoff, apparently, the actual implementation hadn't lived up to the vision and expectations of the architect:

> "Yet once construction began, the design of the buildings was left to local architects hired by the developer. As the towers rose in clusters scattered across the site, it was difficult to read the formal intent. With more than 20 blocks now complete, parts of the city look surprisingly conventional." (Ouroussoff 2008)

Nevertheless, JTC touted one-north as a "cluster of *world-class* research facilities and business park space" (emphasis mine, "One North ," n.d.) as the project is continually developed in stages with the expected deadline of finishing receding further into future despite the intense tempo in which landscape changes occurred in Singapore.

As such, the one-north project repeated much of what was being done in many other places worldwide, wanting to facilitate the development of a knowledge-based economy and stimulate industrial reorganisation. One of the ways policymakers attempt to stimulate the growth of the information economy is by establishing high-tech parks, science parks or creative clusters, knowledge hubs, innovation zones, etc. (Keane 2011). While with different connotations, all these terms indicate the highly intellectual form of economic production and the particular spatial structure based on proximity. As elsewhere, these projects are architecturally spectacular and developed by world-renowned architectural bureaus to signify an international and future-oriented ethos. Along with such state investments also go (private) property developers and increased land values.

Historically, the idea of industrial districts was articulated by Alfred Marshall in the 1920s, but as productive spaces for post-industrial economic development, they became internationally popular in the 1980s. Inspired by the success of Silicon Valley and Route 128 in the USA and resonating with the spread of neoliberal policies, business parks and incubation centres sprung up in cities around the world. Typically, they combined higher educational centres with highly productive high technology industry (Massey, Quintas and Wield 1992), based on the idea that the clustering leads to 'creative spillovers' and 'serendipitous encounters' of people and companies working in disparate areas. The expectation is that physical proximity will increase the chances of them getting to know one another, which would potentially facilitate the discovery of new methods or products and lead to innovation. This is one of the underlying assumptions of why such clustering is desirable. The other one is based on the principle of 'economies of scale' - many companies in the same field need similar support and have similar costs, which they can reduce by collaborating. Often discussed as 'the networking effect', it is evoked to explain that when many companies share resources, each added company adds overarching value to the group (Feld 2012). National emphasis on developing such areas was encouraged in the 1990s through the popularity of the work of Michael Porter on national competitive advantages. (Keane 2011)

While much of the economic and management literature and policymakers celebrate the role of such centres (even if struggling to quantify the exact economic output of such science hubs), scholars from other disciplines have been much more critical about the actual significance of such parks. For example Massey, Quintas and Wield have described them as:

> "based on a rigid and not necessarily very productive model of invention and innovation; they are expressions of a highly hierar-

> chical social structure which itself is intimately related to that founding model of innovation; and they are as geographical entities constructed around notions of difference and status which both reinforce the social hierarchy and further rigidify the technological model." (1992, 3)

Keane, for example, has provided analysis of how, in China, the creative clusters often serve the interests of various stakeholders, such as regional political elites who need to fashion themselves, property developers who need to raise prices and stimulate gentrification, etc., more than actually help creative production. Human geographers have noted that the contemporary patterns of production locations are rather complex. Out of these, cultural quarters, creative clusters or districts do stand out as places where "cultural production, ancillary consumption and amenities, and spectacle" take place together (Ho and Hutton 2012, 220). Usually, they are located centrally, close to the central business districts, and they offer various services such as restaurants, cafes, and cultural venues, as well as celebrating lifestyles where leisure is merged with production. In many creative clusters' accounts, this trend has also meant gentrification and increasing property prices.

In the case of one-north, it is embedded in very particular local discourses and practices. While 'clustering' is promoted as a preferable spatial logic in the new economy (in this way also revealing the inner contradiction about the actual relevance of place in a presumably immaterial and space-less economy) in Singapore, it has its particular meanings and expectations associated with it making it also a 'particularly Singaporean' practice.

Local meaning of one-north

Much of the one-north promotional material imagined the one-north community to form an "international", world-class centre of excellence. Yet, the protests against overcrowding in Singapore, and the perception of foreign talent receiving premium treatment in Singapore illustrated that the relationship was filled with tensions related to social inequalities. Time and space are "multiple, heterogeneous and uneven" (Thrift and May 2001, 5) and play out differently within the city (Sassen 2000). If one-north is an area that brings 'the future', will the benefits be distributed to those not located physically within this future? If clustering means not only concentration of capital but also 'bringing together' particular types of people in "self-contained" spaces for "living, working and playing", it means that the very same people will be bound to particular

localities within the city. In his book "City of Quartz: Excavating the Future in Los Angeles" (2006), Mike Davis has skillfully analysed how urban architecture transformations reflect and enforce spatial divisions between different social groups and reflect larger ideological changes that underlie these spatial transformations. Therefore, in the rest of this section, I will examine how the spatial segregation between one-north and other parts of Singapore is reflective of social and power relations and hierarchies.

One of the ways the tension about rising social inequality starting in the 1990s was articulated in Singapore was through a discursive division of Singapore's inhabitants into two distinct groups - 'heartlanders' and 'cosmopolitans' (Chua 2003). The discussion about the 'heartlanders' and 'cosmopolitans' gained prominence in the late 1990s and rose out of Singapore's internationalisation policies, which stimulated Singaporeans to venture outside Singapore and become more 'cosmopolitan' in order to be globally competitive. These categories of 'cosmopolitans' and 'heartlanders' were introduced in the political and popular discourse by Prime Minister Goh Chok Tong in 1999 (Ho 2006) to address the need for presumably different groups of Singapore's society to become closer. What was understood with 'cosmopolitans' was the younger, more mobile Singaporean generation which spoke English, had travelled and obtained a good education and was internationally oriented. 'Heartlanders', however, were considered the more conservative, older generation Singaporeans living in HDB housing, speaking Singlish, and loyal to Singapore and 'traditional values' (Ho 2006). Tan (2007) has argued that the 'cosmopolitans' and foreign talent formed a new elite segment in Singapore society. In this context, the government's vision was that the cosmopolitans would populate one-north. It is interesting to note that the 'foreign workers' are entirely invisible in this discussion as they are cast as not belonging to Singapore. Human geographer Natalie Oswin has argued that low-skilled migrants, just like queer Singaporeans, are trapped in Singapore's dominant hetero-temporality, which precludes them from future in the city-state, drawing our attention to how "heteronormativity works through teleological narratives of progress and social reproduction in Singapore" (Oswin 2014, 412). Singapore state was particular and definite about who, for how long and for what purpose could be in Singapore.

Singapore as a hotel

Around 2006, a particular metaphor gained popularity to articulate this perceived division and increasing inequality amongst different groups in Singapore. Supposedly articulated by an opposition politician Eric Tan before the 2006 General elections, it

described Singapore as a hotel:

> "Singapore is like a 6 star hotel. In this hotel, the elite are either managers or guests. The managers want to retain the hotel's 6 star status and attract foreign guests who will pay the expensive room rates. You don't need three guesses to guess who the managers are. The elite locals on the other hand enjoy the good facilities and can afford the expensive room rates. However they are guests with no ownership and have no desire to contribute to the running of hotel apart from paying high room rates. Both the foreigners and local elites use our country as a good place to make money but when it becomes uncomfortable they move out. The rest of us are the worker bees: chamber maids, waiters etc. We work hard for our children and dream they will become either managers or the guests of the hotel. This hotel, although a good one, is home to no one. There is no soul of a nation in a hotel." (As quoted in Lim and Lee 2010, 149)

The criticism of Singapore as a hotel, not a home, directly pointed to the perceived inequality in Singapore, which was seen as composed of 'cosmopolitans' (both foreign as well as local) and the 'heartlanders', where the former enjoy high mobility and treat Singapore as a temporary location for profit or convenience. Note that once more, the foreign workers are entirely invisible in this depiction.

Importantly, this metaphor also touched on the question of who contributes to the running of the state and how invested different groups are in what kind of future of the nation. The heartlanders in this depiction had very little power to determine what went on in the space they were bound to. It depicted them as their dependent for their livelihood on the existence of this hotel, yet threatened by the transience and mobility of the cosmopolitans. It also suggests divergent aspirations of the two groups, where the cosmopolitans are depicted as concerned with maintaining their lifestyle and making profits. At the same time, the heartlanders aspire to make a life for themselves and their children, and they have invested through generations in the presence of Singapore. Thus, structurally, in this metaphor, two different future visions are allocated to different societal groups. While social inequality is a multifaceted phenomenon that would defy such a sweeping over-generalisation of two groups in society or neatly condensed in a metaphor, it is a useful example to illustrate the kind of tensions that pervaded "the making of place in the space" to use the words of Gupta and Ferguson (1992) in Singapore at the time of my fieldwork.

Spatial segregation

Political theorist Terrell Carver has argued that spatial segregation has been a discursive strategy of the Singaporean government distinguishing between its core supporters living in the 'heartlands' and the new 'creative industry subjects'. He has argued that:

> The strategy was therefore almost one of cultural apartheid between presumed social classes, to be managed spatially through a built environment of culturally 'creative' spaces distanced in geographical and semiotic terms from 'traditional' ones where 'family values' reigned, undisturbed by anything 'objectionable' (2010, 389)

Indeed, spatial segregation has been a strategy of how the Singapore state has managed its population and labour in many ways - starting with the continuation of the colonial division of ethnic enclaves such as 'Chinatown', 'Little India' and Kampong Glam and continuing to the present day, most notably with the enclaving of the foreign workers in dormitories established in urban fringe. Many scholars have written about the spatial segregation practices used to manage foreign labour - low-skilled temporary immigrants and the 'rest' of Singapore (Yeoh and Lam 2022) emphasising the spatial justice problems as part of the 'global city' dynamics in Singapore (Goh 2014).

In this case, spatially imagining one-north as a 'city within a city' continued the practice of spatial segregation, differentiating between those supposed to produce value in the coming knowledge economy and 'the rest'. Moreover, when it comes to production in the knowledge economy, another tension was brought to the fore, namely that Singapore's economic development was ideologically framed as a result of the 'Asian values' characterising its labour force. Asian Values, in turn, were often positioned as in diametrical contrast to Western liberal freedoms (Hill 2000) and therefore created a 'cultural problem' for the political elites of how to integrate economically productive forms of 'creativity' while at the same time limiting their potential to disrupt. Ideologically speaking, Western creativity required challenging authority, but Singaporean subjects respected authority; whereas creativity was about individualism, Singaporean subjects supposedly prioritised the collective.

With the coming of the knowledge economy, this perceived clash was picked up by political elites arguing that Singapore now needed to cultivate entrepreneurial subjects. I discuss the Asian Values discourse and the clash with an ideal entrepreneurial subjectivity and the cultivation of it in more detail in Chapters Three, Four, Five and Six, but in this chapter, it is important to address the strategies that the Singapore state adopted

to deal with this necessity for cultivating productive creativity. One of Singapore's strategies was to import 'foreign talent' and position itself as a cosmopolitan and creative global city both discursively as well as through specific reforms aimed at establishing new institutions and spaces for new types of education, art and entertainment (Ooi 2010; Lee 2004; Lee and Lim 2004).

There are two points to elaborate. One is that around the turn of the millennium, Singapore's knowledge economy was imagined to be developed with the help of foreign talent. For example, Prime Minister Goh Chok Tong's 1997 National Day Rally speech as quoted in The Straits Times, 30 August 1997 pointed out:

> "In the information age, human talent, not physical resources or financial capital, is the key factor for economic competitiveness and success. We must therefore welcome the infusion of knowledge which foreign talent will bring. Singapore must become a cosmopolitan, global city, an open society where people from many lands can feel at home." (Yeoh 2004, 2436)

Similarly, George Yeo, Minister for Trade and Industry is quoted in The Business Times on 22 May 2000 arguing:

> "Having a cosmopolitan work environment, like that of Silicon Valley's, is necessary if Singapore is to attract and retain top talent. … I don't think [we] will succeed in Singapore unless we replicate some of this environment in Singapore, which means being fully aware of what's happening in the world, and not being small-minded, petty or prejudiced in the way we look at human beings. … If you start wanting to recruit only those you like, because of the way they look, or the way they sound or dress, then you're not in the game. We must make sure that we're getting our fair share of the weird and wonderful from China, India, the West, and the rest of the world. If we can do that, then we're in the running." (Yeoh 2004, 2436)

The other point is that there was particular attention paid to the spaces where the foreign talent would mix with Singaporeans and cultivate the new subjects. One-north was seen to be one such space. Kris Olds has described how the economic restructuring also led to opening up of Singapore's higher education to collaborations with prestigious foreign universities, hiring foreign professors and led to "emergence of a complex of Western university campuses, programs, and joint ventures in Singaporean space, and substantial local university reforms" (Olds 2007, 972). Ong, who also who calls

such spaces 'environments of calculation' describes how educational institutions were not only aimed at training scientists and engineers, but also how they had to cultivate scientists-entrepreneurs: "The goal is not merely to train world-class engineers; it is also to transform them into entrepreneurs, scientists who can convert their knowledge into marketable products." (Ong 2004, 180).

The tension for the Singapore government and rationale for spatial segregation is premised on the idea that creative elements in society can be disruptive to the respect for authority. This fear is rooted in a typical Western narrative that links creativity with liberal political freedoms, especially freedom of expression. The 'Asian values' concept was developed to counter 'Western deviancies' at the time associated with the counter-culture in the USA, which also happened to be, to a large extent, the cultural roots of the digital revolution. I treat 'Asian values' as a political discourse that was actively involved in nation-building rather than a culturally accurate depiction of some essentialised Singaporean identity. Similarly, I am critical of the definition of creativity that favours white middle- and upper-class American males (for a more inclusive approach to understanding creativity, I recommend viewing Hallam and Ingold 2007).

While Singapore has always awed with its economic success, politically, it has been seen by the West as 'problematic' from the perspective of human rights (death penalty and caning as punishments are practised in Singapore, also PAP's censorship practices as well as the way it has dealt with opposition have been criticised). Thus, often Singapore's ability to perform in the knowledge economy explicitly or implicitly is linked to a discussion of 'opening' and 'loosening up' of Singapore's political control (Tan 2003), or inspires arguments that the Singaporean government is only 'pretending' to foster knowledge economy (Lee and Lim 2004).

The political concern about 'balancing' the creative elements productively without 'disrupting' the rest was expressed in a discussion about 'little bohemias'—spaces where more liberally oriented international foreign talent lived but did not interfere with the 'heartlands' and their sensibilities.

Human geographers Wong and Bunnell, in studying the new economy discourse in Singapore, have described how in the development of one-north certain residential areas, like Chip Bea Gardens in Holland Village and houses at Portsdown Road, were reworked as 'little bohemias'. Wong and Bunnell quote the then Senior Minister Lee Kuan Yew saying that in the emerging 'little bohemias', entrepreneurial subjects can do their own thing "but not disrupt the heartlands." (2006, 77) A Similar argument has been put forward by Tan (2007), who explains the dual audiences as a result of the government's preference for bringing in and fostering the 'creative class' as described in the works of Richard Florida (Florida 2002), aka foreign talent in Singapore.

To summarise, one way to claim futures is through materialising them in space and

spatial transformations. One such state-led urban transformation project in the name of a knowledge economy-focused futurity was a one-north development plan that imagined containing the creative workers responsible for production in this new economy. While for economists, the spatial dynamics related to the knowledge economy, such as clustering and concentration of particular groups of people in particular locations, are mostly viewed in terms of economic benefits, the spatial segregation between one-north and other parts of Singapore shows how it is reflective of social and power relations that have long historical, social, and political roots. Therefore, the one-north case allows us to view such projects not only as part of the 'global city' trend but also as particularly local, accentuating local issues of justice and inequality. Social divisions became more visible in relation to the use of urban space. In the context of the coming of the knowledge economy, looking at one-north also stressed the question about which groups of people could claim what futurities in Singapore are and on what terms.

The next section will zoom in on one particular building block within the one-north development area to illustrate how analytically focusing on space helps to engage with a multiplicity of futurities, as futurities materialised in space have different levels of durability.

5. Blk 71

Instead of simply producing the desired effects, each attempt to create a certain future in a particular local context also has to deal with (latent) futures set in motion earlier. Such futures of the past manifest themselves in various forms – as diverse as existing infrastructures, routine embodied practices, policy planning documents, press releases or boundary work done by various players who want to make their own future claims. Acknowledging the multiplicity of futurities that underlie any given context can help to question the idea of "the future" and explore the power relations that characterise claims for "the future".

Block 71 in Singapore is a case in point. The flatted factory building from the 1980s was part of the Ayer Rajah Industrial Complex for light industrial production and stood in the area that was marked for the eventual development of the one-north media sector. Yet, in 2010, converging interests between the Media Development Authority (MDA), the National University of Singapore (NUS) Enterprise program and Singapore's telecommunication investment arm SingTel Innov8 led to allocating Block 71 for temporary use as a "prototype" for the eventual media start-up ecosystem that was envisioned in the one-north masterplan. As a result of this seemingly ad-hoc "interim" plan of MDA,

in 2011, a new incubation space and program called "Blk 71" was opened at Block 71, providing very cheap and, for some start-ups, even entirely free office space. Zafar, who studied entrepreneurship in Singapore, has described the converging interests of NUS, which was looking for a next-level incubation on top of the already existing incubation programs run on campus, and MDA, which was looking to "bring coherence to the start-up sector in the city" (Zafar 2016, 94).

Upon opening Blk 71, the three main institutional actors introduced this project as a "comprehensive eco-system for start-ups" and the working area "as a one-stop-access space" where all the relevant facilities for the start-ups would be provided to facilitate their growth. The reality, however, was less exciting. In 2011 the surrounding area was very much a landscape in progress - few of the planned one-north buildings were finished, and arriving at one-north felt more like entering a remote construction site than a thriving knowledge economy node or all-encompassing live-work-play environment that JTC touted one-north to be.

Some entrepreneurs I worked with frowned upon the bare arrangement of the factory block, which scholar Zafar has aptly described as a "no-frills cement block" (Zafar 2016, 93), taking this as an indicator of their low standing in the knowledge work hierarchy within the government. Rather than building new buildings with expensive labs, start-ups were just placed in an empty factory building. An especially telling example of how incompatible the place felt for start-ups were the old signs at the doors of the toilets at the end of each floor, which distinguished "Executive" from regular bathrooms – reflective of social hierarchies that are commonplace in industrial production sites but antithetical to the flat social organisation of start-up world.

A sign on the door marking separate 'Executive' women toilets at Blk 71. They typically were locked. Photo by author.

In addition, the local food court's working hours at the time were synced with manufacturing shift work schedules - opening up in the wee hours of the morning and closing in the early afternoon and staying closed during the weekends. Start-up entrepreneurs who preferred to work during the evenings and weekends were often forced to travel quite far for food. Some of my interlocutors even commented that Block 71 is located "in the middle of nowhere". They contrasted it with culturally rich and actively populated areas of Singapore such as Kampong Glam, where Hackerspace was located, or Tanjong Pagar and Little India, where many start-ups were based, along with various cheap food courts, trendy cafes and shops. Blk 71, as a vision of MDA, NUS Enterprise and Singtel Innov8, then seemed to be caught up between the not-yet realised futures of the one-north masterplan and the past futures of industrial manufacturing that manifested themselves through the physical infrastructure of Blk 71 and the working rhythms of the food centre.

Blk 71. Photo by author.

Should you be here?

In my discussion of one-north, I emphasised the spatial segregation of different groups of society in Singapore. This aspect was made strikingly obvious to me in an encounter on an afternoon in 2014 when I had taken a brief break and sat down outside at the back area of the Block 71 building, sipping my iced coffee to get some energy and last through the evening hours. I had gotten cold in the air-conditioned office and enjoyed the hot evening sun and air. Suddenly, someone said, "Hi, are you from Switzerland?" and sat down next to me. It was a Chinese man in his 50s, wearing a white long-sleeved button-up shirt and black suit trousers and carrying a stuffed black leather

briefcase. He was wearing glasses in silver frames and holding his mobile phone in his hand.

I was startled to see him kneeling and sitting next to me. His bureaucratic look and the fact that it was not common for local people to begin a conversation just like that made me fear that I had done something wrong by sitting there and that I was about to be scolded. Instead, the man shared one of the most appreciated observations. He looked at me and said, "Wow, I didn't know there are so many." he paused, "What we call - foreign talent." He had tried to find a polite way of saying that I was obviously a foreigner. "Look," he pointed at two white tall men in the distance - "two ex-pats there!" He switched from the 'foreign talent' to the more common way of referring to white people as ex-pats. And then he pointed to me, too. "Who is your employer?" He asked me. After I briefly explained that I was doing research there, he commented again that he was surprised to see so many foreigners in this area. I asked him to explain what he meant. He chuckled and said that it's uncommon to have so many ex-pats in a place "like this". According to him, this place is a local small and medium business (SME) place where local people usually work. It is more common to see white people at places like Fusionopolis; he pointed to the white and blue glass skyscraper across the field, where the large multinational companies were located.

In a pointy and sharp manner, which is common for older people in Singapore, he questioned me about my research and the length of stay, and I tried to use every opportunity to learn more about him. He told me he was 'in insurance' and that he graduated in mechanical engineering at NUS. Why did he change from engineering to insurance? He explained it in the following way: Seeing the future of electronic manufacturing as an industry made him think that it was not a 'good future'. It's not only that it was bound to be relocating away from Singapore eventually, but he also emphasised that 'it just doesn't create enough value'. The way he meant value was both in an ethical as well as a commercial way because he referred to the need for Singapore's national economy to grow as well as his own wish to work in an industry where he can help people by making their health insured. He pointed out to the large smartphone he was holding in one of his palms covered in a black faux leather case, saying that this is just garbage that is produced and it causes global warming. We briefly spoke about my enjoying Singapore, and we wished each other good luck. I stood up and took the stairs back up to the office.

This interaction struck me not only because it was so uncommon to be approached in spaces other than start-up offices, but also because his comments captured so well how the Block 71 was in between the different types of economies - the older forms of production, predominantly occupied by Singaporeans, and the aspirations of the new, knowledge economy that will be done by Singaporeans, but in collaboration with 'for-

eign talent'.

Contingent and overlapping future-making projects

Despite these reservations, Blk 71 very quickly became a central point for Singapore's technology aspirations. Technology start-ups and services supporting them were occupying not only the few floors initially allocated by the three founding organisations but the whole building. In 2014, The Economist named Block 71 "the world's most tightly packed entrepreneurial ecosystem" ("All together now: What entrepreneurial ecosystems need to flourish," 2014), and it was set for a further expansion under the title "Launchpad@One North" rather than the initially scheduled demolition.

The first entrepreneurs who had relocated to Blk 71 were already associated with either NUS Enterprise, MDA or Singtel Innov8, which expected the start-ups they were working with to use the space and provided it at no cost. Other entrepreneurs who were not directly related to these founding institutions could rent the space for significantly lower prices than they could elsewhere in the city. This was important for many start-ups working in one of the world's most expensive cities. More broadly, beyond the alliance of NUS, MDA and Innov8, and the overall expanding financial and ideological support the government was providing to the technology start-up scene, there were also many smaller private initiatives that had identified themselves as involved in the business of making Singapore's start-up ecosystem (discussed in more detail in the next chapter).

They ranged from start-up incubators and accelerators to private investors and early-stage venture capitalists, bloggers and start-up media platforms, lawyers, accountants and marketing advisors helping technology start-ups. For such players, it made sense if not to directly relocate to Blk 71, then at least to organise, attend and contribute to the events and discussions at Blk 71. For example, The Accelerator convened weekly Open House events, inviting everyone interested in Singapore's technology scene to network in an unofficial setting over drinks and snacks. Such initiatives and the way they resonated in the online and offline media contributed to a broader sense that Blk 71 was the one concrete place where all these various actors could find one another. This, in turn, attracted even more people and foreign visitors such as myself; Blk 71 was introduced as "Singapore's Silicon Valley". For those not in the know, the "Future starts here" slogan embellished the walls of Blk 71, announcing that this is the place for Singapore's technology entrepreneurship.

Side wall of Blk 71 facing the highway announced to everyone that “The Future Starts Here”. Photo by author.

Launchpad@One North development in the process. Fusionopolis on the left. Photo by author.

Launchpad@One North development in the process. Blk 71 on the right. Photo by author.

Works for the first expansion of Launchpad@One North begin. View from Blk 71. In the background Fusionpolis on the right, next to it INSEAD business school. Photo by author.

While in the next chapter, I discuss critically the social relationships and practices of 'openness' and 'sharing' that characterised start-up spaces such as Blk 71, it is also worth highlighting that there was an overall sense of collegiality in Blk 71. Also, Zafar, in her analysis of Blk 71, describes how, unlike in other spaces, she felt easily welcomed and supported by the people who were working at Blk 71, who helped her find her way and made introductions (Zafar 2016).

Yet, despite the somewhat unexpected way Blk 71 gradually emerged as the hip version of Singapore's innovation and technology entrepreneurship future, it is essential to recognise that there was no singular futurity. Rather, the different participants and tenants had their varied images of the future, and these future-making projects always could clash.

For example, in 2014, many of the initial tenants had to move out to make space for younger start-up companies, as the original tenancy was based on a three-year term. Initial tenants felt that they had contributed to the success of Blk 71 and yet were being denied the opportunity to reap the benefits. Another example was when one tenancy was prioritised over another in the selection procedure. Or when the tenants wanted to arrange their space in particular ways, they thought would be beneficial for growing their businesses, but managers of the building were concerned that these configurations would negatively impact their ability to find new tenants in the future. Many entrepreneurs worried about the large influence of the government and government-related institutions that steered the Blk 71 project, wondering whether the government's institutionalised success metrics are aligned with the ones entrepreneurs have. Similarly, many worried that Blk 71 and all the accompanying start-up activity could be relocated to another, less expensive area as the land value at one-north kept rising. In an unofficial conversation with a representative of JTC this notion was casually confirmed in an off-hand obvious manner: indeed, based on the Urban Redevelopment Authority (URA) zoning and the property market dynamics, Blk 71 would have to give way to 'something bigger' eventually.

The Blk 71 success was rooted in institutional agendas of different educational and governmental institutions, balance sheets and survival interests of private companies, personal growth aspirations of individuals, rising rent costs elsewhere in the city, narratives about Asia on the rise as well as many coincidences that characterised the various reasons why people came together at Blk 71. Therefore, the success of Blk 71 can be best understood as a result of contingent overlaps of various interests by different players rather than an example of central planning.

Discussion of Blk 71 in terms of a singular future would be to ignore the people and companies who were forced out of the premises as Blk 71 was established, overlook the futures of companies that did not want to or could not afford to be at Blk 71, or the ones

who had to move out after the initial start-up phase. Importantly, such a framing would discount the futurities of those actors who did not want to associate themselves with Blk 71, or the alternative clusters of start-up activities elsewhere in the city either associated with Singapore's other universities or private initiatives. It would overlook the often divergent interests of different governmental institutions such as the URA, JTC, MDA, SPRING, as well as often competing interests of various institutions of higher learning such as National University of Singapore (NUS), Nanyang Technological University (NTU) and Singapore Management University (SMU). Correspondingly, talking about Silicon Valley as "the future" ignores the various alternative ways the creative economy develops around the world, rooted in very particular material and ideological contexts, building up and clashing with other futures set in motion earlier.

6. Conclusion

From the perspective of the Singapore state, the facilitation of technology start-up activities belonged to the area dubbed 'technopreneurship'. It was part of the broader national shift towards the knowledge economy as Singapore's national economic future. Technopreneurship was seen as an important element contributing to the commercialisation of innovation and, therefore, held the potential for national economic growth. For that to flourish, Singapore's local entrepreneurial talent had to be cultivated, which was seen as possible through collaboration and interactions with 'foreign talent'. Singapore's government allocated specific areas and built specific spaces in Singapore where that could happen. This chapter focused on one such infrastructure project, called one-north, which was, from the state's perspective, central to bringing the knowledge economy future.

In this chapter, I argued that studying futurities, such as the coming of the knowledge economy, should better be done by viewing them as local phenomena - examining how they emerge as local visions that resonate from within rather than as global phenomena fuelled by some innate logic sweeping the globe. This allows to approach futurities historically and as embedded in and emergent from local contexts. In Singapore's case, this chapter showed how turning to a knowledge economy as a national vision for the future resonated with a longer understanding of Singapore's state as small, devoid of natural resources but able to cultivate its human resources. While American success stories played a role in this process, Singapore's start-up culture should not be seen only as an attempt to replicate an existing standard.

The knowledge economy and the desire for start-up culture in Singapore are rooted

in unique practices, institutional settings, discourses, narratives, and particular spatial arrangements that gave particular meaning to the knowledge economy in Singapore in response to and in relation to its internal historical, political, and sociocultural processes as well as external currents. This chapter contextualised historically the emergence of technology start-up culture in relation to the state and how this emergence accentuated cultural tensions rooted in ideologically shaped understandings of 'Asianness' as antithetical to creativity. The development of technopreneurship, therefore, should be seen as embedded in Singapore's political, economic, and sociocultural history.

Approaching this historically also illustrated how 'the future' has been instrumental in claiming and consolidating power for Singapore's political elites. A deterministic view of futurities allowed to legitimise the state's and political elite's actions and constricted the space for discussion and contestation as it limited the possibility for 'future-positive' alternatives. The only other option was to 'not have a future'. Singapore's government has legitimised its interventions in education, labour and urban infrastructure by narrowing and tightly controlling 'the future' through the notions of survival and pragmatism in the name of nation-building. Thus, paying attention to how futurities are used in order to negotiate power and define what is possible is crucial when studying futurities ethnographically.

Planning is typically imagined to be the central way in which states engage with futurities; yet the limits of planning as a 'future-making practice' become visible when examining spatial transformations and how those shaped people's experience of place-making. Discourses materialise in many ways, and I argue that looking at how they relate to space is a particularly productive approach when studying futurities ethnographically. The analysis of Blk 71 revealed that the role of planning is limited, and what is seen as a 'coherent' state - is better understood through the negotiations of different institutions. I also argued that Blk 71's success resulted from overlapping interests and contingent developments, where the state's actors and funding played a crucial but just one of multiple roles.

Moreover, even if planning and especially urban development in Singapore relied on the imagination of a blank slate as a starting point, in practice, it was about the multiplicity of different futurities that were stabilised and made more durable through material and social infrastructures such as old buildings and working hours of food stalls. As environmental anthropologist Kregg Hetherington has beautifully articulated this:

> "The tense of infrastructure, like any development project, is, therefore, the future perfect, an anticipatory state around which different subjects gather their promises and aspirations. Yet any given infrastructural intervention does this differently, and the

> materiality of infrastructure enables the gathering of pasts and futures in novel ways." (Hetherington 2016, 11)

In the previous chapter, I argued that in the case of technology start-ups, the entrepreneur's and investors' vision of global imaginaries deemed relevant for futurities was discursively aligned, even if the practice was tension-filled and the burden of absorbing these frictions was placed on the entrepreneurs. In this chapter, I illustrate how the coming of the knowledge economy also accentuated tensions within Singapore about the rising social inequality and cohesiveness. It drew attention to the discourses about different groups within society as being offered different visions of futures and on different terms. These discourses and how they related to urban planning practices also showed how one-north reflects global trends in knowledge economy hubs but was deeply embedded in local discourses and spatial segregation practices.

In conclusion, studying futurities historically, locally, and through their spatial materialities allows us to develop ethnography-based insights into how future visions are constructed, contested, and realised. Singapore's technopreneurship and knowledge economy are not just products of global trends but are deeply rooted in the country's historical and local contexts resulting from overlapping interests of differently situated players. The analysis of projects like one-north and Blk 71 highlights the importance of considering the durability and a multiplicity of futurities as analytical starting points. The ethnographic examination of Blk 71 and one-north showed that futurities are always multiple, dynamic, context-dependent, and subject to contestation. The next chapter will continue to be located at Blk 71 and the one-north area for the most part and explore the social relationships within these spaces of innovation.