The Co-construction of Citizens and Sexual Behaviours:

A Case Study of HIV/AIDS Prevention Campaigns in Singapore

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Abstract

Despite the long-running HIV/AIDS campaigns by the Singapore Ministry of Health, every year, more Singaporeans are infected with HIV, and each year, the greatest number of infections occurs among the middle-aged, heterosexual men – the very primary target of the Ministry's campaign efforts. In this research, I will therefore carry out a critical re-examination of the Singapore Ministry of Health's HIV/AIDS campaigns targeted at the so-called general population. Quantitative evaluations have been conducted in the past, producing quantifiable, "scientific" measurements regarding the quality and effectiveness of these campaigns. It has also been the results of these evaluations that have been used to justify the Ministry's policies.

However, in this research, I wish to argue that HIV/AIDS campaigns are not neutral and value-free "facts" but that these should be seen as "scientific activities", which are socially and materially constructed, and which are consciously undertaken by specific actors. I argue that by evaluating the methodologies and techniques used in these campaigns using conventional public health tools such as KAP (Knowledge-Attitude and Practice) surveys, one remains trapped inside the particular social and material construction. I believe that a more productive approach is needed to examine the way that health education campaigns are socially and materially produced, and that this can be achieved by taking a more holistic and a critical approach that can capture the dynamics and processes involved in their construction.

Using the theoretical approaches suggested by Sociology of Scientific Knowledge (SSK) and Science and Technology Studies (STS), I will argue that these HIV/AIDS campaigns are intended to produce a network of a certain set of knowledge about HIV/AIDS in Singapore, and further that this network is in fact a product of an on-going heterogeneous engineering undertaken by a particular actor, namely the Singapore Ministry of Health. I will also discuss some of the possible reasons why the particular set of knowledge is being produced in Singapore, and whether or not the knowledge can remain durable, intact from the effects of globalisation in which the movement of all sorts of social and non-social entities (e.g. information, technology, discourses and materials) are becoming increasingly boundless. I however neither intend my research to give a definitive solution nor pose as a grand meta-theory. Rather, what I seek to do is to produce a local and a contingent study of a specific network, and hope, theoretically, to contribute to a critical assessment of the current thinking about health education/promotion, and practically, contribute to halting the HIV/AIDS epidemic in Singapore.

Content

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"...the critical era no longer consists of giving philosophy the right to judge everything

—a regal position from which it makes ruling right and left on everything

– but the responsibility to create, to invent, to produce..."

Serres, M. 1995

1. Background

The sprawling region of South and South-East Asia contains a variety of AIDS epidemics, and a higher total of HIV infections and annual AIDS deaths than any region except sub-Saharan Africa.

The regional analysis of HIV/AIDS by UNAIDS began its report with such a warning (UNAIDS, 2006). Indeed, the estimates at the end of 2004 show the number of adults and children aged between 0 and 49 living with HIV to be 7,100,000, including 890,000 adults and children newly infected in the previous year. The report then went on to talk about India, and how the AIDS picture in the region was dominated by the epidemic in India. It also gave a brief overview of those countries that were hit early, such as Cambodia, Myanmar and Thailand, as well as those that were "only beginning to experience the rapidly expanding epidemic" (ibid.), such as Indonesia, Nepal and Vietnam. The report concluded by stating that other countries, including Bangladesh, East Timor, Laos, Pakistan, and the Philippines, were still seeing extremely low levels of HIV prevalence, even among people considered to be at high-risk, and therefore "have golden opportunities to pre-empt serious outbreaks" (ibid). Nowhere in this report was Singapore mentioned.

In 2002, when I had decided to undertake a Ph.D, I was scanning through stacks of papers and reports, books and Internet pages, on HIV/AIDS in Southeast Asia, in the hope of finding a topic that would interest me for the following three years. I came upon the UNAIDS regional report, and noticed that Singapore was not mentioned, but initially thought nothing of it. I knew Singapore quite well (or so I thought), as I had several

friends there, and I had also visited the country on a few occasions. And Singapore, as I knew it, was a democratic and a modern nation, perhaps a little authoritarian with certain social regulations, but otherwise just like any other industrialised countries of the West. Just out of curiosity though, I had decided to check out the situation of HIV/AIDS in Singapore.

Yet, the figures that I had downloaded from the homepage of Singapore Ministry of Health revealed a startling picture. Ever since HIV was first confirmed in 1985, the figures said, the number of Singaporeans being infected has been spiralling up. The figures also seemed to suggest that the epidemic was not confined to any particular social group, such as commercial sex workers or homosexual men, as is often found in other western countries, but was spreading among the heterosexual men – the group often regarded as constituting the general population. Singapore's HIV prevalence of 0.20% may be considered low, if compared with neighbouring countries such as Cambodia (1.60%), Thailand (1.40%) and Myanmar (1.30%) (UNAIDS, 2006). And considering its wealth, it may not be surprising that Singapore is not on the top of the list of nations that UNAIDS should be concerned about. Yet precisely the fact that the HIV/AIDS figures of a country, which claims to be the financial, trading and technology hub of the Southeast Asian region, has never for once indicated a decrease seemed worthy of concern. Singapore's apparent failure to contain the epidemic appeared even more striking when compared with its neighbour country Thailand, which had succeeded in drastically reducing the number of new HIV infections over a period of just a decade, from 140,000 in 1991 to 21,000 in 2003 (UNAIDS, 2002, 2006). Surely, the consequences of an epidemic in Singapore would be devastating, not only for the country but for the economy and political stability of the entire Southeast Asian region.

However, when I set to find a little bit more about the situation of HIV/AIDS in Singapore, I came to realise that in fact there were very few critical studies that examined Singapore's national HIV/AIDS policy. A brief search on the Internet for literature gave me a few Knowledge-Attitude-Practice (KAP) surveys, which reported that in general, Singaporeans had relatively good knowledge of HIV/AIDS, and evaluations of the Ministry of Health's education campaigns that repeated that people's knowledge increased after interventions. But none of these studies really answered my question; why was the Ministry of Health failing to halt the rising epidemic in its country? I then remembered what one of my Singaporean friends once told me about a Speaker's Corner, which was set up in 2000 by the People's Action Party (PAP; the ruling party in Singapore since its independence), in an attempt to ward off domestic as well as international criticisms against government censorship. "If you want to speak in the Speaker's Corner, you have to register with the police, and the police have to check what you are going to say. You say anything bad about the PAP, you're on the black list" (personal correspondence with the author's friend). He said it jokingly, but he certainly was not joking. It was true that those seeking to speak had to first register with the police, and their speeches also had to avoid topics relating to religion or any issues that may be perceived as being capable of inciting racial hostilities. This meant that Singapore's strict defamation and slander laws, which had for long bankrupted opposition politicians and other government critics, equally applied to the speakers registering for the Speaker's Corner.

I thus wondered whether such constraints also existed in the academic world; that is, whether in Singapore, there existed any formal or informal restrictions on the freedom to speak and think critically. And I wondered whether such restrictions, if they did exist,

had any effect on the *type of studies* on HIV/AIDS policy carried out in Singapore, on the HIV/AIDS policy itself, and ultimately on the epidemic. It thus now seemed that much more than public health was at stake with HIV/AIDS in Singapore. Hence I found the research question for my Ph.D; why was the Ministry of Health seemingly failing to halt the HIV/AIDS epidemic in Singapore? At the same time, I also decided on the research tool; it was going to be some sort of a critical, sociological approach that would allow me to examine the relationship between science, knowledge, power and HIV/AIDS. I will further elaborate on the theoretical resources on which I eventually chose to base my research in the Literature Review section. In the following sections, however, let me go on to briefly describe the situation of HIV/AIDS in Singapore as it is today, as well as to outline the overall objectives and directions of the Ministry's HIV/AIDS policy.

Singapore - the country

Box 1: Map of Singapore
Source: World Fact Book[1]

Before I go on to present the epidemiological facts and figures of HIV/AIDS in Singapore, I wish to set the scene by briefly introducing the country. No disease could be studied in isolation to the social and material environment that surrounds it, and HIV/AIDS is not an exception. In Singapore, the historical and cultural context within which the rising trend of HIV/AIDS is being observed is certainly unique, and I believed that the meaning of HIV/AIDS in Singapore could not be understood without knowing at least a little bit about the specifities of this disease in its local context.

Singapore is a small island city-state located between Malaysia and Indonesia, in Southeast Asia. It has the area of about 692.7 km^2 and the population of just over 4.5 million. The population today consists of Chinese (76.7%), Malays (14.0%), Indians (7.9%) and other minor ethnic groups (1.4%) (Source: World Fact Book)[1]. The main religions are Buddhism, Islam, Christianity, Taoism, Hinduism, and Sikhism[2] but as a country, Singapore is a secular state. The official language is English, however it is quite normal for a typical Singaporean to be speaking three to four, if not more

[1] http://www.cia.gov/cia/publications/factbook/index.html

[2] Sikhism is a religion that has strong roots in the religious traditions of Northern India. Today, more than 90 percent of Sikhs live in the Indian state of Punjab, however, migration beginning from the nineteenth century have found significant communities in Canada, the United Kingdom, the Middle East, East Africa, Southeast Asia and more recently, the United States, Western Europe, Australia and New Zealand.

languages and dialects. The English spoken by local Singaporeans is also unique and is often referred to as "Singlish" (I will elaborate on "Singlish" later on in the Methodology section).

Historically, Singapore was founded as a British trading colony in 1819, and it joined the Malaysia Federation in 1963. The merger however was extremely controversial, as it drew fierce opposition both from without and within. Indonesia on the one hand strongly opposed the merger and adopted a policy of *Konfrontasi* ("Confrontation") while within the Federation, tension flared up between the Malay-dominated government and predominantly Chinese Singapore. Facing possible communal violence, the then Malaysian Prime Minister decided that Singapore should separate from Malaysia. Thus, on 9 August 1965, with the entire Singapore delegation abstaining, the Malaysian parliament voted unanimously in favour of separation, forcing unwilling Singapore to become independent (Drysdale, J. 1984).

Its start as an independent state was tentative and doubtful however, as it was immediately faced with serious external and internal security threats. The acute sense of vulnerability from without was born out of its small land size, and this was compounded by the fact that it was geographically located in between two powerful Muslim nations, Malaysia and Indonesia. There were also a number of factors that contributed to its internal instability. For one, in 1965, when it gained independence, Singapore possessed no natural resources and lacked the very basic economic infrastructures. There was severe over-crowding in the city, unemployment was high, and the living standard was poor. Dissatisfaction and frustration among its people were mounting. Singapore's racial composition (which consisted of a large Chinese community but also of

significant minority groups of Malays and Indians, the latter of which was not necessarily happy with Singapore separating from the Federation) also constantly posed a potential threat to national integrity; in fact, during the 1960s, communal violence among the nation's diverse ethnic groups did erupt on a number of occasions.

In the light of such a treacherous beginning, Singapore's achievement has therefore been seen as being remarkable by a number of academics (see for example Davidson, G. and Smith, D.W. 1997). Despite the economic setbacks triggered by the Asian financial crisis, it is today still one of the most prosperous countries in the world with strong international trading links, and its per capita GDP of $27,800 as of 2004 equalling that of the leading industrialised nations of Western Europe (UNDP, 2004). With literacy rate of 92.5% and a combined gross enrolment ratio for primary, secondary and tertiary schools at 82% (ibid.), Singapore's highly educated and skilled labour force makes it one of the world's leaders in knowledge-intensive manufacturing, and this is complemented by its flourishing international business services sectors. Furthermore, in order to counter the large troop strengths of its neighbouring countries, and to attain a sense of military security, in 1967, the Singapore government also established mandatory national military service for male citizens, in which every men, unless convicted of crime or declare themselves homosexual, were required to undergo two years (later extended to two-and-a-half) of military training after completing high school education. Its defence spending is one of the highest in the region (U.S.$5.4 billion as of 2001), and its military technology one of the most advanced in the world (Defence Intelligent Organisation, 2002)[3].

[3] Defence Intelligent Organisation is one of the four agencies that make up the Intelligence and Security Group in the Department of Defence, Australia. http://www.defence.gov.au/dio/

The Singapore government also took active and comprehensive actions to forge a new national identity, which the government felt was crucial in maintaining both internal and external stability. As already mentioned, Singapore's major ethnic groups included Chinese, Malays and Indians. The government thus took extra care so that none of the groups felt disadvantaged or discriminated against, and allowed each group to keep a measure of its separate cultural and historical identity by, for example, designating all four languages, English, Mandarin, Malay and Tamil, as official languages. At the same time, national education system and other institutions, including the National Service, were established to unite Singaporeans and share a distinct Singaporean identity (Quah, S.T. 1990). Many academics agree that through such process of development, the population of Singapore has come to be seen by its government in a rather unique manner (see for example Davidson, G. and Smith, D.W. 1997, Bowen, J.T. 2000). Davidson and Smith nicely summarise the government conception of its people as follows;

"...on the one hand, their [the Singaporean citizens] well-being is a major objective of development; on the other hand, they constitute almost the only resources Singapore has to achieve this development. Over the last three decades the Singapore government has appeared to give increasing attention to people as human resources rather than as recipients of the benefits of this development..." (Davidson, G. and Smith, D.W. 1997 p. 75)

Some however argue that the price the Singaporeans pay for their country's economic prosperity has also been significant. The story about the Speaker's Corner that was mentioned earlier was one stark example of this. Singapore government *does* exercise

strict restrictions on freedom of speech, freedom of press and freedom of assembly. For example, in the mid-1990s, a local newspaper columnist was publicly scolded by Prime Minister, Goh Chok Tong, after she wrote a mildly critical editorial about the PAP and its leadership. Several political opponents of Lee Kuan Yew, the then president, have been sued into bankruptcy after being charged with libel; in fact, the oppression of government opponents is such that the PAP has never been seriously challenged at elections since independence. In 1995, there was a case whereby a group of Filipino workers in Singapore who wanted to hold a public prayer vigil after a Filipino maid was hanged for murder, were warned that such a vigil was illegal and would be arrested if they went ahead with their plan (Bowen, J.T. 2000). The Singapore government has indicated clearly on a number of occasions that its aim is to establish a society that does not follow a Western model of liberal democracy where a high value is placed on the individual and their rights. The government, as Davidson and Smith put it, thus "...has 'bought' its population with economic wealth and success, and expects no one to complain as long as prosperity is sustained" (Davidson, G. and Smith, D.W. 1997 p.83).

One can therefore see that the context within which HIV/AIDS in Singapore is looming is somewhat unique. So far, it appears that the health of the population is monitored and managed almost in the same manner as one would conduct a quality control for some material products, and that such "quality" is measured according to the various criteria set by the Singapore government. In this context, the potential consequences of HIV/AIDS may be viewed by the government not necessarily a human or a social disaster, but as a threat to the "quality" of its human resources. Either way, however, there seems to be every reason why the Singapore government would and should be concerned about the rising trend of HIV/AIDS. Now, let me then go on to talk about the

epidemic itself; or rather, about the epidemic as it is presented by the Singapore Ministry of Health.

Epidemiology of HIV/AIDS in Singapore

The first case of HIV in Singapore was confirmed and reported in 1985, and the first case of AIDS was diagnosed in 1986. Since 1989, HIV seroprevalence surveys have been conducted among sexually transmitted infection (STI) patients, antenatal clinic attendees, tuberculosis patients and blood donors. All the data are collected to the National HIV Registry, which is maintained by the Department of Clinical Epidemiology of the Communicable Disease Centre in Tan Tock Sen Hospital, Singapore's second largest national hospital. No regular testing is carried out except for registered commercial sex workers. Singaporean men who are called for their National Service for the first time are also required to take HIV-antibody tests. Blood donors are screened for HIV, and since compulsory notification of HIV is required under the Infectious Disease Act of 1976, all cases detected are also automatically reported to the National HIV Registry.

In 2004, based on the statistics from the National HIV Registry, the Singapore Ministry of Health reported that the HIV prevalence rates were around 0.20% among the general population (aged between 15-49 years old), 0.70% among the commercial sex workers, 1.40% among the STI patients and 0.002% among the blood donors. Having received the report from the Singapore Ministry of Health, the UNAIDS then classified Singapore as having a low HIV seroprevalence (UNAIDS, 2004). However, the statistics also show that since 1985, the number of HIV and AIDS cases has steadily been increasing (see Figures 1 and 2). According to the data, the cumulative total of Singaporeans as

having been infected has risen from 694 in October 1997, to 1080 in December 1999, to 2508 at the end of June 2005. It also shows that the number of new infections detected each year has been rising, from 136 in 1997, to 150 in 1999, to 311 in 2004. The most recent data apparently suggests that of the 2584 Singaporeans who are infected by HIV by October 2005, 999 live as asymptomatic carriers, 631 live with AIDS, and 930 have already died (Ministry of Health, Singapore, 2005).

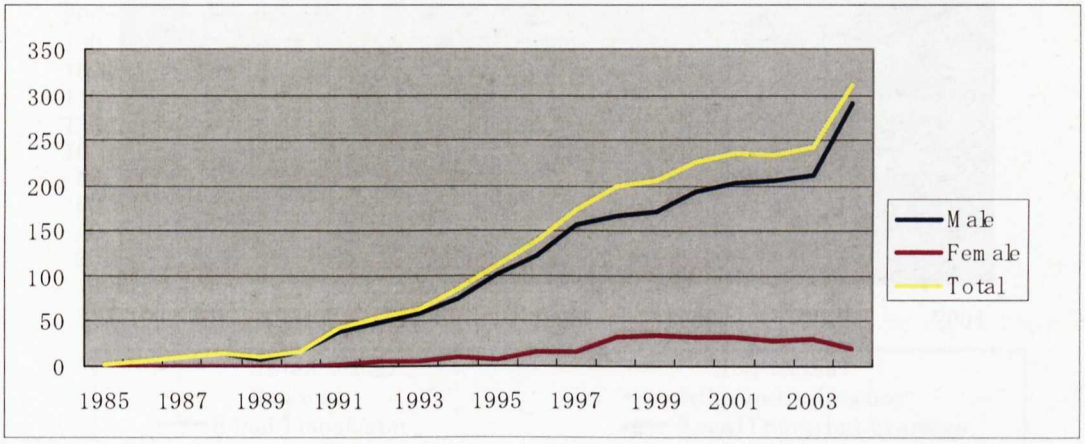


Figure 1: Number of Singaporeans reported with HIV and AIDS, Ministry of Health

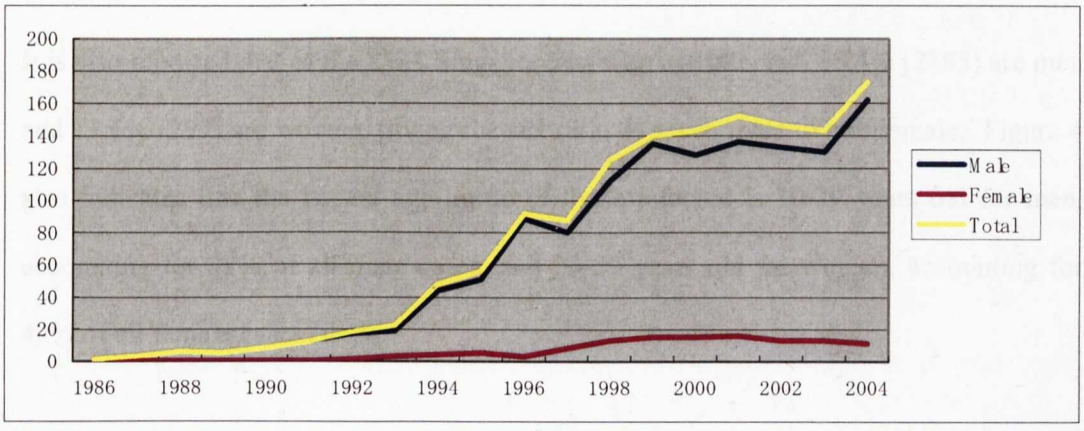


Figure 2: Number of Singaporeans reported with AIDS, Ministry of Health

Furthermore, according to the statistics as shown in Figure 3 below, heterosexual intercourse has been the most common mode of transmission since 1991. Of the 198 cases reported in 2005 for example, it is stated that approximately 97.4% acquired the infection through sexual contact, with heterosexual transmission accounting for 68.7% of all infections (ibid).

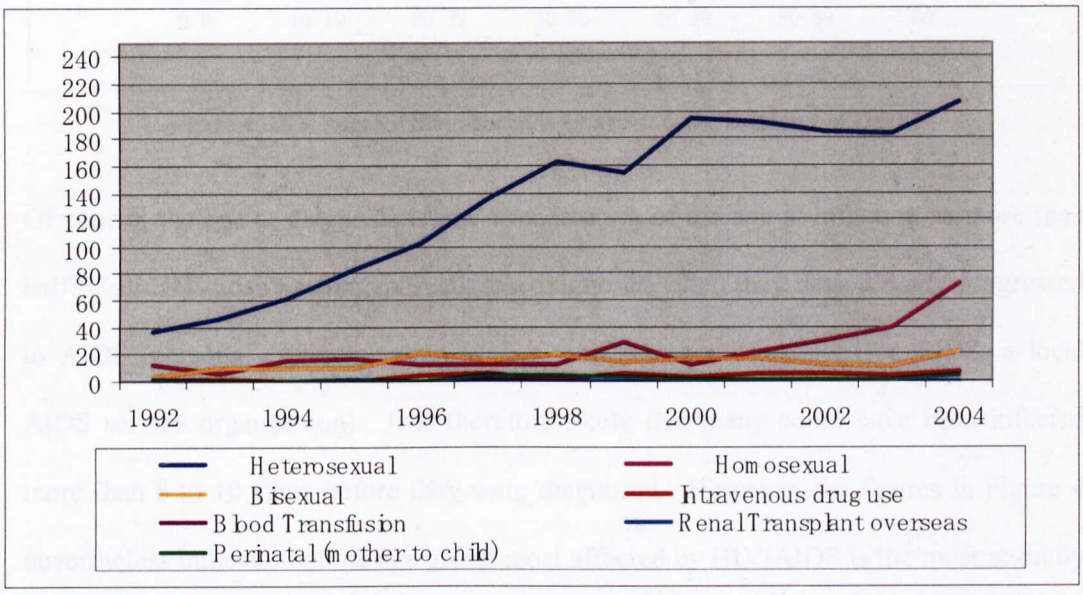


Figure 3: HIV infected Singaporeans by modes of transmission, Ministry of Health

It is also reported that of the 2584 Singaporeans who are infected, 88.4% (2285) are men and 11.6% (299) are women, giving the sex ratio of seven male to one female. Figure 4 also indicates that the largest age group of those infected is 30-39 years old for men, accounting for 38% of all male cases, and 20-29 years old for women, accounting for 42% of all female cases (ibid).

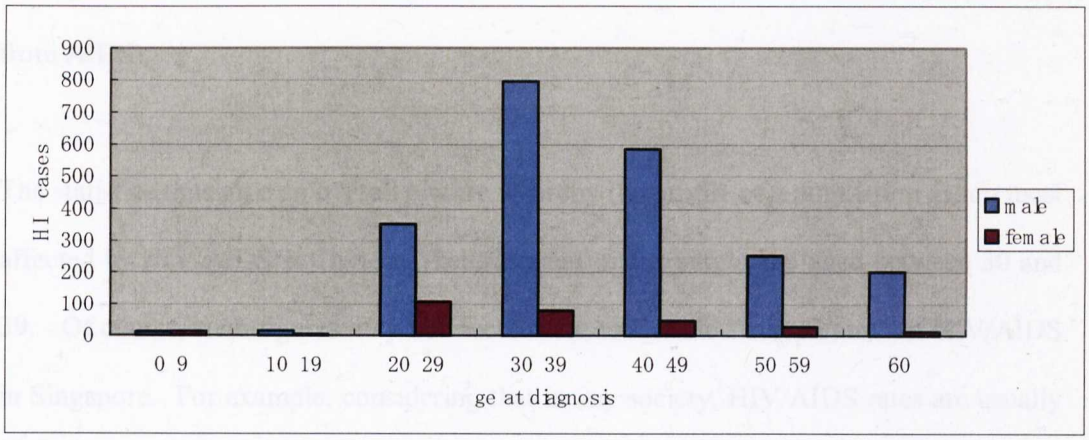


Figure 4: HIV infected Singaporeans by age and sex, Ministry of Health

Of course, the age at diagnosis is not an indication of the age at infection as more than half of all HIV-positive Singaporeans are diagnosed when they have already progressed to AIDS (personal communication with a staff member of Action for AIDS, a local AIDS service organisation). It is therefore likely that many could have been infected more than 8 to 10 years before they were diagnosed. However, the figures in Figure 4 nevertheless indicate that the age group most affected by HIV/AIDS is the most sexually active age group. The statistics also suggest that of the total HIV cases, 83.7% are borne by Chinese, 8.5% by Malays and 4.6% by Indians/Sikh/Pakistanis. Taking into account the ethnic ratio of the Singapore population[4], it appears that the Chinese are overrepresented, whereas the Malays and the Indians/Sikh/Pakistanis are underrepresented. However, it has been suggested that Chinese are more likely to come for an HIV anti-body test (whether anonymous or not), whereas Malays and Indians are less likely to do so, due to their various socio-economic and cultural backgrounds and also to stigma attached to HIV/AIDS, which is said to be stronger among the latter than

[4] As of 2004, the ethnic makeup of the Singapore population is as follows: 76.6% Chinese, 14.0% Malays and 7.9% Indians.

among the Chinese community (personal communication with a worker from Action from AIDS).

The statistics thus give an overall picture whereby the profile of a population group most affected by HIV/AIDS is Chinese, (heterosexual) male, single and aged between 30 and 39. Of course, such figures may not necessarily reflect the "true picture" of HIV/AIDS in Singapore. For example, considering that in any society, HIV/AIDS rates are usually underreported, and Singapore not being the exception, the real number of people infected with HIV or living with AIDS could well be higher than actually reported. This may especially be so in Singapore, where there is only one anonymous testing site. At all other hospitals and clinics, once Singaporeans are diagnosed, all their personal details are taken and are reported to the central government. Many fear that such would affect their education and career prospects, and thus shy away from HIV anti-body tests (personal communication with a worker from Action from AIDS). Furthermore, it is also likely that the rate of HIV prevalence among the homo- and bi-sexual populations is grossly underestimated. This is because homosexuality is considered a crime in Singapore; homosexual acts are charged under two sections of the Penal Code[5], and this makes it extremely difficult for homo- and bi-sexual men to declare their sexuality when they are tested. It should further be noted that the figures also show that there has been a

[5] The Singapore Penal Code, Chapter XVI (Offences Affecting the Human Body), Section 377 (Cap. 224) states that:

Whoever voluntarily has carnal intercourse against the order of nature with any man, woman or animals, shall be punished with imprisonment for life, or with imprisonment for a term which may extend to 10 years, and shall also be liable to fine.
Explanation. Penetration is sufficient to constitute the carnal intercourse necessary to the offence described in this section.

Section 377A (Outrages on decency) states that:

Any male person who, in public or private, commits, or abets the commission of, or procures or attempts to procure the commission by any male person of, any act of gross indecency with another male person, shall be punished with imprisonment for a term which may extend to 2 years.

slightly upward trend in the infection rate among women, married men, and men in the age group 40-49. This should be a cause for concern and I certainly do not wish to downplay the seriousness of this trend.

However for the purpose of my research, I am interested in how the figures and statistics are presented by the Ministry of Health to construct the situation of HIV/AIDS epidemic in Singapore. In other words, and I repeat again, although the *figures may not necessarily reflect the "true picture" of HIV/AIDS in Singapore, they do however suggest that the Singapore Ministry of Health perceives the heterosexual Chinese male, largely single and aged between 30 and 39, to be the group most affected by the epidemic, and thus in need of some sort of intervention.* I shall explore on the meaning of this in the later chapters, but for now, let me go on to give a brief summary of Singapore's national HIV/AIDS policy.

Singapore's National HIV/AIDS Policy

In 1987, the Singapore Ministry of Health (MOH) set up the AIDS Task Force, comprising of professionals with backgrounds in epidemiology, public health, health education, and laboratory and clinical medicine, to provide them with expert advice on clinical and epidemiological aspects of HIV/AIDS, and to disseminate information to health professionals. The National Advisory Committee on AIDS, which comprised of representatives from the MOH and other ministries, was also established in 1987 to perform as a communication channel between the MOH, the media, hotels and travel agencies, and concentrate on health education and behaviour modification.

Together, according to Boudville and Wong (1998), these bodies worked out a multipronged approach to AIDS, which was dictated by the following imperatives: protection of supply of blood and blood products, prevention of transmission by education of the general public and the risk groups, prevention of transmission by medical screening of foreign nationals seeking employment in Singapore, epidemiological surveillance and research, and defaulter- and contact-tracing by maintenance of a central HIV/AIDS registry, and other supportive legislation for public health control measures.

In the early 1990s, the two bodies, the National AIDS Committee and the AIDS Task Force, were combined under the one name of the AIDS Task Force. However, today, its role is limited to giving the Ministry advice on HIV/AIDS related medical and scientific matters (Sng, E.H. 1998). The general co-ordination of national HIV policy is now undertaken by the Department of Epidemiology and Disease Control within the MOH, which runs both the Sexually Transmitted Infections (STI) Control Programme and the National AIDS Control Programme (NACP) (see Box 2 for the summary of organisations involved in national HIV/AIDS policy in Singapore). The NACP apparently has as its main objectives the following; public education and education of the high risk groups, supportive legislation, protection of the national blood supply, management of the infected, counselling of those at high risk of infection, monitoring of the disease, training of personnel, and conducting research and studies (Cheah, C. 1998).

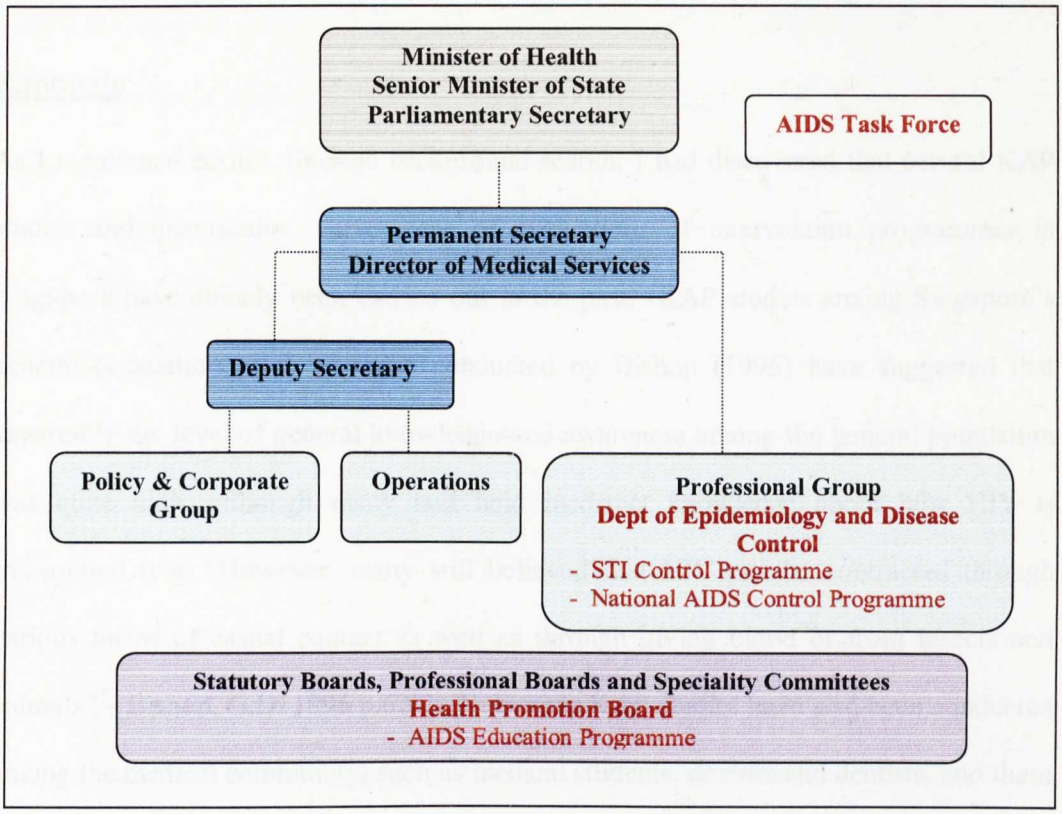
Singapore's national HIV/AIDS policy can thus be summarised as having two main objectives; prevention of new infections, and clinical management of the infected. The management of the infected may be considered a relatively new concern for the MOH.

This was set out as an objective in the face of growing number of people living with AIDS in Singapore. Such a development, in turn, has highlighted the importance not only of clinical but social and legal care for the People Living with AIDS (PLWHA). Policies such as those regarding the rights of PLWHA at the workplace, access to and availability of hospice or care-homes, access to and availability of anti-retroviral drugs, and social, psychological and financial support for the PLWHA and their immediate family members are still very much underdeveloped in Singapore. The need to reduce discrimination and stigmatisation against the PLWHA among not only the general public but also among the medical community is increasingly voiced by various NGOs, yet little in terms of concrete policy measures have been achieved so far. I wish to discuss the possible reasons for this situation in the later chapters.

Prevention of new infections, as I already mentioned, is achieved via protecting national blood supply, screening, and public education and education of the so-called high-risk groups. Let me here elaborate then a little further on the so-called public education programmes, as these constitute the subject of my research. According to Cheah (1998), public education programmes were first launched in 1985 by the National Health Education Department (NHED) under the MOH. In 2000, following a restructuring of the Ministry, NHED was replaced by a newly established statutory board called the Health Promotion Board (HPB), which took over the responsibility for HIV/AIDS education. Today the AIDS Education Programme is undertaken by a small team in the Adult Education Department under the HPB, and their activities revolve around four main objectives; education of Singaporeans on high risk activities for HIV transmission, highlighting the social and physical consequences of HIV infection, dispelling misconceptions about the risk factors of HIV, and informing Singaporeans of the

services available for prevention and early detection of HIV infection (Cheah, C. 1998). The AIDS Education Programme is responsible for planning and co-ordinating mass media advertisements on HIV/AIDS education, as well as for producing educational/informative materials to specific population groups such as youths, women and travellers. Mass media campaigns have included short film clips that have been shown on TVs and in cinemas, and posters that have appeared in public places such as hawker centres (informal and inexpensive eateries), bus stops, MRT (Mass Rapid Transit – Singapore's railway system) stations as well as in national newspapers and selected magazines.

To briefly summarise so far, I have suggested that the population group perceived to be most at risk by the MOH constituted of middle-aged, heterosexual men. I then went on to ask why the Ministry was seemingly failing to stop the increasing number of men getting infected with HIV. My research will therefore concentrate on, and critically appraise, the Ministry's prevention efforts (as opposed to, for example, the clinical management of the infected, although I shall come back to the issue later on), and specifically its public campaigns as implemented via the Health Promotion Board. The following section briefly summarises the rationale and the objectives as well as outlines the structure of this thesis, before going on to discuss the various literatures on sociological studies of public health education and health promotion, and also introduce science studies as a possible alternative method of analysing health education and promotion activities.



Box 2: Organisational Chart of Ministry of Health, Singapore

2. Rationale and Objectives

Rationale

As I mentioned earlier, through background search, I had discovered that several KAP studies and quantitative, survey-type of evaluations of intervention programmes in Singapore have already been carried out in the past. KAP studies among Singapore's general population, such as those conducted by Bishop (1996) have suggested that apparently the level of general knowledge and awareness among the general population was quite high, although many still held incorrect knowledge about how HIV is transmitted (e.g. "However, many still believed that HIV can be contracted through various forms of casual contact as well as through giving blood or from insects and animals" – Bishop, G.D. 1996 p.620). Numerous KAP studies have also been conducted among the medical community, such as medical students, doctors and dentists, and these have similarly shown that despite high level of knowledge and awareness regarding HIV/AIDS, there remains certain misconceptions as well as stigma towards PLWHA among health care professionals (see for example Lee, L. *et al.* 1989, Singh, K. *et al.* 1992, Chan, R. *et al.* 1997, Bishop, G.D. 2000). These studies have therefore suggested strengthening health education efforts by, for example, increasing the number of campaign events, and emphasising certain messages to correct misconceptions about HIV/AIDS.

Several evaluation studies have also been conducted, including those that assessed the effectiveness of intervention programmes targeting commercial sex workers and masseuses (Archibald, C.P. *et al.* 1994, Bishop, G.D. and Wong, M.L. 2001), another that assessed the education programme for adolescent population (Queck, J.T. and Li,

S.C. 2002), and one that assessed the nation-wide education campaign targeting the general population in 1985 (Emmanuel, S.C. 1991). The evaluation conducted by Archibald and his colleagues (1994) of an intervention that targeted commercial sex workers concluded that after the intervention, the level of knowledge about HIV/AIDS and STDs did increase, although behaviour (as measured by incidence of gonorrhoea and condom use) did not change. The more recent study by Bishop and Wong (2000) claimed that the intervention was highly successful in changing the behaviour and lowering the incidence of gonorrhoea among commercial sex workers. Both evaluations conducted by Queck, Li and their associates (2002) and by Emmanuel (1991) concluded that education campaigns were successful in raising the level of awareness and knowledge concerning HIV/AIDS, though the effort should be continued to maintain such a level. What all of these studies had in common was that despite the epidemiological data produced by the Singapore Ministry of Health, which indicated that the HIV and AIDS cases in Singapore were apparently not declining, none of them really critically questioned the overall policy of the Ministry.

On the other hand, back in 1985, John Clammer, an Australian professor of social science who had taught sociology at National University of Singapore in the 1980s, wrote of the role of social science in Singapore as follows;

"...the academic social sciences in Singapore fulfil a number of roles – to provide a conventional disciplinary university training; to provide research findings and techniques of use to specialist government and private bodies as well as to other academic specialists and to produce individuals trained in social science way of thinking, which makes them suitable for employment in the social services or elsewhere in the

public or private sector...the social science disciplines in the Universities are expanded and strengthened, but yet many important political and social, educational policy decisions are made without any reference to the need for research into their background, implementation of effects..." (Clammer, J. 1985 p.154)

If his observations are still relevant today, it would explain why there are very few studies that critically assess the Ministry's policy on HIV/AIDS. In no way do I wish to argue that studies such as those mentioned above are meaningless. However, I do believe that those studies merely provide, as Clammer wrote above, "...findings and techniques of use to specialist government bodies". Thus, I argue that so long as they attempt to "assess" the campaign efforts without examining their background, in other words the discursive context in which such policies were planned and implemented, they remain trapped inside the particular discourse, whatever it may be, set by the Singapore Ministry of Health.

In this research, I however wish to argue that HIV/AIDS education campaigns are not made up of neutral and value-free "facts", but that these should be seen as "scientific activities" – that refers to those studies, researches, experiments and interventions carried out under the name of science but which are in fact socially and materially constructed, and which are consciously undertaken by specific actors, such as the Singapore Ministry of Health. What I therefore believe is needed, is to examine the very social and material construction of the campaigns, by taking a more holistic and a critical approach that can capture the dynamics and processes involved in their making, and unravel the complex relationship between science, knowledge, power and HIV/AIDS.

Objectives

In this thesis, I thus intend to broadly use a public health research paradigm but conducted from a critical sociological perspective. Its ultimate objective is to cast some light on what is happening with the HIV/AIDS epidemic in Singapore, and try to explain why the Ministry is not succeeding in halting the epidemic. However, I believe that this cannot be achieved by examining the Ministry's HIV/AIDS campaigns using conventional public health tools alone, as such tools are also the products of a specific social and material construction. Rather, I argue that by concentrating on the *actors and material things* that largely shape the HIV/AIDS campaigns, research and surveillance, that is the various parts of the public health community in Singapore and especially the Ministry of Health, and following these, studying what they do, and being interested in what interests them, I will be able to critically appraise the HIV/AIDS campaigns.

In order to achieve the abovementioned broad aim, I have set two further specific objectives;

1 Analysis of the HIV/AIDS prevention campaigns, which will involve a close reading and textual analysis of the HIV/AIDS prevention campaign materials in order to identify the knowledges about HIV/AIDS prevention that campaigns are attempting to produce and stabilise. The question asked here is, what is the set of knowledges about HIV/AIDS prevention that is being constructed by the Ministry of Health in Singapore?

2 Analysis of the "making" of such knowledges, which will involve tracing and analysing the various techniques that the Singapore Ministry of Health employs, including enlisting of potential allies, and avoiding of potential contestants, in order to make this set of knowledges durable. The question asked here is, how is this set of knowledges about HIV/AIDS constructed and maintained by the Ministry of Health in Singapore?

On the other hand, as I would like to make it clear now, it is not my intention to attack the Singapore Ministry of Health for not succeeding to halt the epidemic or to tell it what to do and what not to do. I do not guarantee any practical solution to the problem of HIV/AIDS in Singapore. Rather, by studying the case of Singapore, I wish to highlight the complex relationship between the public, the political authority and public health, and contribute to a critical assessment of the current thinking about health education/promotion. I still, nonetheless, wish that through the use of such critical thinking, the quality of HIV/AIDS campaigns in Singapore is improved and that the number of people becoming infected may decline.

3. Structure of the Thesis

This thesis is structured not so much like a scientific paper with clear and separate sections for method, results, discussion and conclusion, but more like a narration in which I wish to take the readers through a story, a very local story in fact, of the Singapore Ministry of Health's attempt at constructing a network of certain knowledges about HIV/AIDS prevention. Chapters 4 and 5, which constitute the literature review, may therefore be thought as a preliminary reading, intended to introduce to the readers to the language in which this story is going to be told. There were many languages that could have been used, including the one of sociology for health education and health promotion, medical sociology, social psychology, and various methods and theories from science and technology studies (STS) including Social World Theory (SWT) and Actor-Network Theory (ANT). I ultimately chose a methodology largely centred in the STS approach, but also informed by others, and this chapter tries to explain my decision to do so. Chapter 6 and 7 lay out the epistemological stance of this thesis and describes the method by which I tried to collect and select the various materials that were needed to tell my story, and how the materials were then arranged coherently. I also discuss how reliability, validity and generalisability, the gold standard by which the quality of scientific papers is usually measured, can and should be modified for a constructivist research such as this one. Chapter 8 goes on to describe in detail the actual construction work that was taking place in Singapore as I observed during the course of my fieldwork. It gives my account of the various activities undertaken, and techniques employed by the Singapore Ministry of Health in order to construct the particular knowledge about HIV/AIDS prevention. Chapter 9 discusses the practical and theoretical implications of

the network. I will also discuss whether or not the knowledge can remain stable and durable, intact from the effects of globalisation in which the movement of all sorts of social and non-social entities (e.g. information, technology, discourses, and materials) are becoming increasingly boundless. The final chapter is meant to conclude the thesis; however, I feel that there can never be a "conclusion" so long as the "engineering" work that I am about to tell continues. Therefore, rather than by summarising what the thesis was all about and close with a couple of policy recommendations, I attempt to critically reflect on the story, and on my epistemological stance as a storyteller, and ask the question, so what? What did the storytelling achieve? How can I defend my position as a storyteller? How am I connected to the network? And what is to come next? I further discuss the various possible openings for Actor-Network theory as an alternative critical theory on health education and promotion and its potential for "doing politics".

4. Literature Review on Health Education and Promotion

In this section, I will review the various literatures and their critiques that I felt were relevant to my research question. Such literatures include writings on health education, health promotion, various sociological critiques of health promotion, and science and technology studies. Not all literatures reviewed specifically focus on HIV/AIDS; however I felt that their principle thinking could certainly be modified and applied to study and analyse HIV/AIDS education activities. Reviewing them in the order as I just mentioned will also help to show the historical development of the set of ideas about health education and promotion, and their associated methods, concepts and epistemological stances. Furthermore, I believe that the theoretical foundations of KAP studies on HIV/AIDS and the evaluations of AIDS campaigns in Singapore that were mentioned in the Introduction can be traced back to the theoretical principles of health education. I thus believe that the examination of other alternatives will consequently allow me to explore various possible ways of critically reflecting on Singapore's HIV/AIDS policy, and at the same time produce a conceptual map on which I can locate the theoretical foundation of my own research.

Health Education and its Critiques

Let me then start by examining the concept of health education, which has dominated the practice in the West until about mid-1980s. It can be argued that health education was largely influenced by two separate, but intertwining discourses; one on health and illness, and the other on human behaviour and identity. The dominant discourse of health and illness, often referred to as the biomedical discourse, understood diseases as a

malfunctioning of the individual body and thus amenable to technological interventions, and health as a state without any such malfunctioning (Nettleton, S. 1995). Health education thus focused on the *individual*; its aim was to persuade the individual to adopt a certain practice or a lifestyle so as to prevent diseases, and thereby reduce mortality and morbidity in the population. How might this be achieved? In order to understand and predict human behaviour, a number of social psychological and micro-economic models were developed; some of such examples included Health Belief Model (Maiman, L.A. and Becker M.H. 1974, Rosenstock, I.M. 1974), Theory of Reasoned Action (Fishbein, M. and Azjen, I. 1975) and Social Learning Theory (Rosenstock, I.M. *et al.* 1988, Bandura, A. 1986, 1977). These models claimed that healthy and unhealthy behaviours could be understood and predicted because human beings acted according to certain patterns. They thus claimed that behavioural changes could be achieved by altering and modifying those components or parts that constituted such patterns. Although these models differed in their specific components that they emphasised, and such components ranged from knowledge, attitudes and perceived effectiveness to motivation (King, A.J.C. and Wright, N.P. 1991), they were based on several crucial assumptions regarding human behaviour and identity, which can be summarised as follows:

- the models incorporated individualistic bias with insufficient attention to the relational and wider social and cultural contexts in which health behaviours take place,
- the models assumed rationality in human behaviour; that is, they assume that there will be consistent and predictable relations between attitudes, cognitions, intentions and behaviour,

- the models attributed to individuals certain fixed level of properties such as knowledge, attitudes etc., and also assume that these can be measured through questionnaires and surveys.

(adapted from Ingham, R. and van Zessen, G. 1997)

These assumptions in turn point to a particular model of human identity, which I argue was shaped by the discourse of self-contained individualism. Self-contained individualism is most aptly described by Geertz (1973, 1983) as follows:

"The Western conception of the person as a bounded, unique, more or less integrated and motivational and cognitive universe, a dynamic centre of awareness, emotion, judgement and action, organised into a distinctive whole and set contrastively against other such wholes and against a social and natural background is, however incorrigible it may seem to us, a rather peculiar idea within the contexts of the world's cultures." (Geertz, C. 1983, p.229)

Sampson (1989) argued that Geertz's conception of personhood can further be traced back to the concept of the "bourgeois individual" as developed by those within the Frankfurt School, including Adorno (1967), Habermas (1973) and Horkheimer (1972). Habermas (1975) for example had argued that different organisational principles of society constituted different realities for personhood, and suggested that the "bourgeois individual", characterised by autonomy and free choice, arose as a result of the transition from primitive and traditional to liberal and advanced capitalist organising principles. The individualistic and self-contained characters of such personhood were therefore essential in organising the society centred on capitalist principles. In other words, he

had argued, the "bourgeois individual" was a social product of a particular society at a particular historical time.

It may thus be argued that such a personhood had already become the subjective reality, at least in the industrialised societies, at the beginning of the modernist era. However, I argue that the societal need for the individualistic and self-contained personhood re-emerged more recently with the advent of a particular social movement specifically concerning science, including public health and health education. This movement is often referred to as the public understanding of science (PUS) or public awareness of science, and can be considered as a broad term that encompasses various attitudes and approaches to the task of promoting science and technology among the public. Let me here elaborate a little on PUS, as I argue that this movement has had a considerable impact on how science (and hence health education) came to be perceived in the 1980s.

In the U.K., PUS entered the public discourse with the publishing of a report on "Public Understanding of Science" by the Royal Society in 1985. Throughout the 1980s, PUS became institutionalised through numerous campaigns and events, such as science fairs at schools, science education for adults, tours of R&D parks and manufacturing companies, that were organised by both public and private organisations to promote public awareness and understanding about science in various fields including genetic engineering, nuclear power and bioethics. The Royal Society further noted that to date, there has been a few surveys "devoted to assessing the understanding of science and technology" among the public, and thus recommended that "...the Economic and Social Research Council and other appropriate bodies sponsor research into ways of measuring public understanding of science and technology, and of assessing the effects of improved

understanding" (The Royal Society. 1985, p.31). Numerous surveys thus were subsequently undertaken in order to assess and measure public understanding and awareness of science in various fields, of which results were then fed back into science education campaigns and activities.

Now, the PUS was based on several assumptions regarding the relationship between science in general and the citizen; thus, not only was science regarded as value-free, but also as a force of human improvement and democratic society. It was thus believed that the life of citizens then were somehow impoverished by not participating in science activities and scientific thinking, and that by enhancing their awareness and understanding about science, they would be able to make better decisions and thus improve the quality of their life (Irwin, A. 1995). Furthermore, as Michael (1996) argues, in establishing the particular relationship between science and public, the PUS simultaneously defined a certain identity for the lay public, which treated people as "essentially repositories of information" (Michael, M. 1996, p.109). In other words, the public was seen as being rational, but scientifically illiterate and awaiting enlightenment. And it is certainly not a coincidence that this identity, dubbed the "deficit model" by Wynne (1991), mirrors that of the self-contained individualism that I had mentioned earlier. Health education was therefore a product of a time in which an increasing need to promote science and educate the public about science was being felt by government and other public and private organisations. It is thus hardly surprising that health education activities similarly assumed that by enhancing public understanding about health and illness, people will be able to make the right decisions, in a genuine belief that such was for the good of the people.

In order to plan and implement health education activities, a number of tools were also developed. For example, KAP and KAB (Knowledge-Attitude-Behaviour) surveys were utilised to measure the target population's knowledge and attitudes towards certain diseases or lifestyles and provide quantitative data, so that effective health education activities could be planned accordingly. As a straight linearity in this chain of action from knowledge to attitude to practice or behaviour (K-A-P or K-A-B) was assumed, it was also believed that correcting the knowledge and attitude would naturally lead to behavioural changes. HIV/AIDS education based on such models therefore sought to change the behaviour of individuals by intervening at the individual level; that is, by feeding them with the correct information. Activities involved, for example, counselling and information giving, and these took place, usually but not always, in clinical settings where individuals considered to be at increased risk could be found, such as STD clinics, family planning clinics and drug treatment centres (O'Reilly, K and Piot, P. 1996).

Various studies also suggested that mass media campaigns could contribute to achieving behavioural changes by correcting the various misperceptions about HIV/AIDS and filling the knowledge gaps. For example, Kitzinger (1991) conducted a focus group discussion among the target audience of HIV campaign posters to explore their understanding of the look of someone with HIV, and concluded that many held a specific mental image of an HIV-positive person – in other words, they often imagined an HIV-positive person to look skinny and obviously sick. She argued the audience therefore depended on appearance to judge whether a person was safe or unsafe to, for example, have sex with, and suggested that campaigns should focus on tackling such stereotyping of HIV-positive people. Similarly, through a quantitative survey, Stockdale *et al.* (1989) sought to examine the efficacy of HIV education posters in relation to self-

perception of group membership and risk of the target audience, which included both homosexual and heterosexual groups. The study results apparently indicated that only the homosexual subjects showed any match between the way they perceived their own behaviours and the group portrayed as at risk by the campaign posters. The authors concluded by recommending a change in the campaign messages so as to ensure that heterosexual subjects also identify themselves with the posters and realise their risky behaviours.

Now, as I mentioned earlier, in Singapore in the 1980s, several KAP studies were conducted to measure its population's knowledge and attitude towards HIV/AIDS. The survey results pointed out the deficiencies in the knowledge regarding several aspects of HIV/AIDS, and recommended correcting them through media, school education, and other public campaigns. Of course, whether or not the Ministry of Health truly believed that the KAP formula would achieve behaviour changes is another question, and this question is something I will come back to later on. However, at the moment, I merely wish to suggest that Singapore's HIV/AIDS education relied very much on those theoretical principles of health education, shaped on the one hand by the biomedical discourse and on the other by the discourse of self-contained individualism.

However, since about 1980s, at least in the West, the underlying concept of individual rational decision-making that had been implicit in these health education models came under close scrutiny (Brown, L.K. *et al.* 1991, Ingham, R. *et al.* 1992, Loewenstein, G. and Furstenburg, F. 1991). Both in the academic and the political arena, it was increasingly recognised that health education in isolation from other socio-economic measures would and could not bring about significant improvements in health of the

people. Calling Knowledge-Attitude-Behaviour an "impossible chain" (Moatti, J.P. *et al.* 1997, p.101), many began to question the assumption that individuals can and do make decisions based on pure rationality, and then go on to act in accordance with their rational decisions. The critics did not necessarily argue that people behaved irrationally; however, many pointed out that there were a number of obstacles to people behaving rationally.

For example, those within the political left and organised labour movements, along with sympathetic academics and professionals, took up a Marxist perspective to health and health education, and argued that distribution of health and illness was directly influenced by the social, political and economic relations that defined the particular society (see, for example, Radical Statistics Health Group 1987, and Tesh, S.N. 1988). They pointed out that those in the professional and managerial class usually had good health, whereas those in the manual and service labour generally suffered poor health. They thus argued that people's material circumstances often prohibited behavioural changes, and that interventions should address social justice and aim for material improvement. Their proposals therefore included policies such as improving housing, increasing maternity benefits and providing universal school meals. They further argued that such interventions were supported by research to be effective means of improving health of the population (Townsend, P. *et al.* 1988).

Feminist critiques, many of whom drew their inspiration from women's health movements and political feminism, on the other hand argued that traditional health educations were based on gender stereotypes and that they neglected gender inequalities (for an overview of feminist argument, see Daykin, N. and Naidoo, J. 1995). For

example, in the U.K., in the late 1980s, numerous feminist studies were conducted to analyse anti-smoking campaigns that were aimed at women (see for example Graham, H. 1987, Oakley, A. 1989). These studies argued that the campaigns were based on the theoretical model in which smoking was seen as an irrational behaviour, and sought to persuade women to stop smoking by giving women scientifically correct information (for example, "smoking is bad for health"). Yet these studies showed that the women were generally well aware of the negative health effects of smoking; many women nevertheless continued to smoke, however, in order to cope with the daily stress of caring for children. The studies also claimed that this trend was observed especially among those women living on low-incomes. The authors of the studies argued that health campaigns that ignored such a complex relationship between smoking, caring and material disadvantages were not only flawed but could even be counter-productive, by constructing those women who smoked as irrational and irresponsible without addressing the structural inequalities which made the women less able to effect changes on their own.

There were also those who argued that health education used a politically loaded, that is neo-liberal, version of human identity in an attempt to relegate health and welfare responsibility to the hands of individuals (Naidoo, J. and Wills, J. 2000). Earlier on, I had argued that health education assumed a particular model of human behaviour and identity, that is, the one centred on self-contained individualism, which treated individuals as the dynamic centre of rational judgement and action. Some have argued that such a treatment authorised and justified particular programmes and interventions (Carter, S. 1996); thus, many of earlier HIV/AIDS education in England, carried out by the Health Education Authority, played on the role of individuals and argued that only

the individuals could protect themselves, as if the risk of infection was a matter of personal choice. Yet this particular conception of personhood has been criticised from various social science perspectives; for example, those such as Gergen (1985) and Sampson (1983) have argued that selves and identities were a social and historical constructions and not fixed objects. Feminist writers such as Chodorow (1978) and Gilligan (1982) have suggested that it has been the patriarchal social forms, which has so far shaped the social and psychological self and called for a reconceptualisation of such personhood. Such critiques have called for a re-examination of self-identity and its relationship to various risk practices (Carter, S. 1996).

Conceptual Shift to Health Promotion

The shift towards the concept of health promotion thus occurred in response to these growing criticisms of the individualistic style of health education. In other words, there occurred a fundamental discursive shift in the thinking on health and illness; disease was no longer understood as an individual biological state, but also as having sociographic, cultural and politico-economic causal factors that were outside of an individual. Health behaviour was re-conceptualised as a product of complex social interaction, and thus health education that aimed at identifying pathogenic lifestyles of individuals, and at correcting them, either by persuasion or by force, was thought to ultimately fail without the structural changes that enabled people to make healthy decisions.

Models that intended to guide such health promotion approaches have therefore sought to take into account wider social and cultural contexts within which decisions about health behaviours were being made, and many concentrated on changing the structure

that posed political, economic and social constraints to behaviour change. Studies were thus carried out to identify and categorise the various socio-economic factors that contributed to people's health and ill-health; these factors were then incorporated into the different models of health promotion (for an overview, see Tones, B.K. 1986). For example, the "empowerment model" of health promotion argued that people could be made aware of the various health-damaging environmental factors and also be aware of their ability to change and influence their environment by providing them with decision-making skills (Freudenberg, N. 1981). Similarly, the "enabling approach" sought to change the social or physical environment in which decisions about health and risk took place (Tawil, O *et al.* 1995). Success, albeit limited, of these approaches in the field of HIV/AIDS education has been reported in various communities around the world. For example, in Kinshasa, Zaire (now the Democratic Republic of the Congo), an intervention project targeting commercial sex workers that also involved bar and hotel owners apparently succeeded in increasing the regular use of condoms from 11% to 63% over a period of three years (Laga, M. *et al.* 1994). The authors reported that the involvement of bar and hotel owners significantly contributed to encouraging the commercial sex workers to attend special clinics for sexually-transmitted infections diagnosis and treatment, and to accept promotion of condoms by peer educators. In Calcutta, India, the Sonagachi Project, which again aimed at teaching condom use and negotiation skills to commercial sex workers, also approached members of the various organised crime syndicates to convince them to adopt a favourable policy towards condom use for their own economic interests (Jana, S. *et al.* 1994). The project claimed an increase of regular condom use among sex workers from 1% before the intervention to 47% at the time of its first evaluation.

The concept of health promotion was also incorporated into a number of national and international policy documents. For example, in the U.K., the government embraced the need for a new approach in health in a major White Paper, *The Health of the Nation* (Department of Health, U.K. 1992). This in turn was built on the principles and approaches espoused in the internationally endorsed WHO's *Health for All* Programme (WHO Regional Office for Europe, 1985). More recently, in 1999, the U.K. government produced a White Paper *Saving Lives* together with *Reducing Health Inequalities; an Action Report*, which stated that the government's strategy for health for the next 10 years would be centred on addressing the underlying causes of ill-health, including poverty, poor education, unequal work opportunities and environmental degradations (Department of Health, U.K. 1999). The so-called Lalonde Report, produced by the then Canadian Minister for Health and Welfare Marc Lalonde, also argued that "...the health care system...is only one of the ways of maintaining and improving health...For the environmental and behavioural threats to health, the organised health care system can do little more than to serve as catchments net for the victims..." (Lalonde, M. 1974, p.5), and thus called for an intervention that not only targeted individual lifestyles, but also that took into account environmental forces, bio-physical characteristics and the availability of health care.

And at the global level, the Ottawa Charter called for the building of healthy public policy, creating supportive environments, strengthening community action and developing personal skills (WHO, 1986). The Ottawa Charter certainly is not without criticisms. Many pointed that the Charter was in fact developed in a relatively small WHO meeting in which only 38 countries were represented, and consultations leading to the drafting of the charter were conducted among a very small group of people that did

not include representatives from developing countries (for example, see Nutbeam, D. 2005). The critiques further argued that the Charter focussed solely on the needs of the industrialised countries. Despite such criticisms, however, it is without doubt that the Charter has eventually become an important, if not the most important, conceptual and practical guideline to influence the public health practice, including health education and promotion, for the decades to follow.

The concept of health promotion may therefore be regarded as a significant improvement from the concept of health education, which narrowly concentrated on changing individual behaviours without regards for socio-cultural, economic and political environment in which decisions about such behaviours were being made. Health promotion realised that "healthy decisions" must be facilitated not by trying to influence the individuals, but by changing the contexts within which these choices were made. The health promotion studies therefore also developed a variety of social research tools and concepts such as in-depth interviews and focus group discussions, which were thought to enable exploration and analysis of the various socio-cultural and economic context of health behaviour. However, I argue that what health promotion failed to recognise was that both "healthy choice" and "risk behaviour" are culturally, socially and materially constructed. In other words, although the health promotion approach acknowledged that decisions about health behaviour were a product of social interaction, it still claimed that it knew what "healthy" and "risk choices" were for the people. This was the crux of the numerous sociological critiques of health promotion (and health education), which I shall go on to discuss next.

Sociological Critiques of Health Promotion

However, before I proceed, it may be useful here to refer to the distinction between sociology *for* health education/promotion and sociology *of* health education/promotion, as drawn by Nettleton and Bunton (1995), and Thorogood (1992). Their distinction is in turn drawn from the difference between sociology *for* medicine and sociology *of* medicine, which was articulated by Strauss (1950). Strauss referred to sociology *for* medicine as a study that was carried out in order to fulfil the needs of medicine, and to sociology *of* medicine, by contrast, as a study that critically examined the construction of medical knowledge.

Thus, according to Nettleton and Bunton (1995) and Thorogood (1992), sociology *for* health education and promotion referred to the ways in which sociology can "...refine and develop the techniques and practices of health promotion" (Nettleton, S. and Bunton, R. 1995, p.41). Examples included sociological studies on lay health beliefs that have helped to highlight the importance of taking into account the language and the conceptual framework used by the target audience (for example, Davison, C. *et al.* 1992). Sociology *of* health education and promotion, a relatively new discipline which emerged in the early 1990s, on the other hand, pointed out that concepts such as "healthy" and "risk choices" were constructed within certain powerful discourses and argued that both health education and health promotion activities should be seen as a politico-social phenomena, which was a part of a much wider set of historical and cultural processes that were associated with late modernism (Thorogood, N. 2002). Sociology of health education and promotion thus sought to analyse those very discourses that shaped the

various health education and promotion activities, which were in turn seen as being historically contingent.

Though there are various types of such sociological critiques of health education and health promotion, I shall review them in accordance with three major groups as categorised by Nettleton and Bunton (1995), namely, structural-, surveillance- and consumption-based critiques. Structural critiques, according to them, argued that concepts such as "healthy living" and "healthy lifestyle" were often a specific product of a white, western middle-class culture, which upheld a particular value system. The critics argued that this in turn had the effect of marginalising and discriminating certain social groups which may be labelled as "deviant", "uncivilised" or "minority" (Ahmad, W.I.U. 1993, Pearson, M. 1986). Thus in the field of HIV/AIDS education, and especially during the 1980s, critics in the U.K. argued that the health promotion campaigns organised by the Health Education Authority were based on the dominant norms and values about sexuality (i.e. norms and values according to the discourse of heterosexuality). Gay and lesbian writers especially criticised the racism, homophobia and erotophobia that implicitly (and often explicitly) framed the majority of HIV/AIDS campaigns (see for example Watney, S. 1990, Wilton, T. and Aggleton, P. 1991, Wilton, T. 1997).

For example, instead of accepting the "risk" as defined under what they saw as the normative framework of the dominant value system, the critics sought to explore the cultural and social meanings attached to "risk" among different groups of the population, such as gay men, commercial sex workers and intravenous drug users. Such writers focused not so much on how environmental factors could be modified in order to

enlighten intravenous drug users so that they would not be sharing needles, or empower commercial sex workers so that they would be using condoms. They were more concerned with people's own framework for understanding "risk" and "health": for example, how risk was perceived in the particular culture of heroin users (Rhodes, T. 1995), or of rent boys and call men (Bloor, M.J. *et al.* 1991), or of young women (Holland, J. *et al.* 1991). Outside the U.K., Lupton (1994) conducted a discourse analysis of public health advertisements in the popular media in Australia, and revealed that a conservative and a conflicting discourse of "safer sex" (i.e. sex with condom) shaped the government "safe sex" messages. She argued that such representation of condom may be held partially responsible for the failure of the general public to wholeheartedly accept condom use, and called for the building of a discourse on "eroticism, passion and unbridled sensuality to surround condoms" (Lupton, D. 1994, p.317).

Those who criticised health promotion by drawing upon the literature on consumer culture were very much influenced by the sociology of consumption, which traditionally examined how patterns of consumption influenced the construction of a distinctive lifestyle. Works by Bordieu, a French sociologist, and especially *Distinction* (Bordieu, P. 1984), provided a key influence on this area of study. He had argued that various goods in our life, such as cars, food, clothes and sport facilities, were assembled to construct a certain lifestyle, which acted as important social markers of social difference or distinction. Today, those who have been influenced by Bordieu have agued how concepts such as "health" and "body maintenance" can very much be thought of as part of our lifestyles, which in turn are influenced by the consumer culture in which we live in; that is, the consumer culture shaped by modern capitalism (Featherstone, M. 1991,

Turner, B.S. 1992). They have thus argued that health should not to be perceived as some natural state of the biological body but as a certain lifestyle, made up of an assemblage of goods and services.

The aim of health education and promotion, according to them, therefore is to promote and market a very particular health using various techniques. It is certainly not a coincidence that in the recent years, within health promotion, growing attention is being paid to the various techniques of social marketing (Lefevre, C. 1992). Critics point to the various problems of such consumerisation of health, and of health education and promotion activities that seek to sell health, such as the difficulty in actually attaching on attractive image to healthy products and lifestyles such as condoms to make them sell (Nettleton, S. and Bunton, R. 1995). Their fundamental criticism, however, is that by selling health as a product and by constructing people as consumers, health education and promotion operate within the system of modern capitalism, in which health wants, needs and desires are continued to be pre-defined by dominant discursive forces. Thus, in the words of Grace, who conducted a study of health promoters working in community development in New Zealand, "...health promotion, rather than fulfilling its promise of empowerment, effectively constructs the individuals as a "health consumer" in accordance with the model of consumer capitalism" (Grace, C. 1991 p.330).

The "surveillance" critiques include those such as Armstrong (1983), Thorogood (2000) and Nettleton (1992), who have argued that health education and promotion activities serve to monitor and regulate populations. Their argument is based on the Foucauldian notion of surveillance; that is, the regulation and control of populations via "disciplinary power" as opposed to "sovereign power" (Foucault, M. 1979). As Foucault's concept of

"disciplinary power" and "surveillance" is so central in the sociology of the body and of health and illness, it may be worth considering them here in some details before I proceed.

Foucault had argued that in a pre-modern society, power resided within the sovereign; or to be more precise, in between the sovereign and the subject (e.g. the population). This was what he referred to as the "sovereign power". However, he argued that with the transition from pre-modern to modern society, "sovereign power" was gradually displaced by what he termed the "disciplinary power". Thus he wrote:

"But ...we have the...emergence or rather the invention of a new mechanism of power possessed of a highly specific procedural techniques...which is also, I believe, absolutely incompatible with the relations of sovereignty...It is a type of power which is constantly exercised by means of surveillance rather than in a discontinuous manner by means of a system of levies or obligations distributed over time....It presupposes a tightly knit grid of material coercions rather than the physical existence of a sovereign... This non-sovereign power, which lies outside the form of sovereignty, is disciplinary power..." (Foucault, M. 1980a. p.78)

By "disciplinary power", Foucault was thus referring to the ways in which the bodies were monitored, regulated and corrected within modern institutions, such as schools, prisons and hospitals. However, Foucault also noted that since the 1960s, the nature of "disciplinary power" began to change, from "heavy, ponderous, meticulous and constant" systems of surveillance and regulation as could be observed within hospitals and barracks, to "...much looser form of power over the body" (Foucault, M. 1980b.

p.58). It was upon this conception of disciplinary power and surveillance, from which numerous sociological studies on health education and promotion drew, as I shall elaborate now.

According to Thorogood and other critics, contemporary health promotion activities increasingly focus attention on the risk profile of the population, and thereby produce the need to control not only the clinical symptoms of the patients but their lifestyle. This may be most prominent in the field of sex education. Sex education has been a subject of much academic and political debate for over a century and has remained a highly contested area. For example, in his classic work, *Dangerous Sexualities*, Mort (1987) examined the various ideas of health and illness and their links to moral and immoral notions of sex and sexuality from the 1830s to the present day in England. Numerous authors have similarly written about the relationship between sexual education and social regulation (see for example, Allen, I. 1987, Harris, N.1996, Melia, I. 1989, Redman, P. 1994, Stanley, L. 1995). Most recently, Thorogood (2000) has argued that sex education in the U.K. was concerned with producing 'normal' (hetero)-masculinity and (hetero)-femininity, which constituted the core categories in the regulation of the social world. Through sex education, she argued, certain sets of values were transmitted by various institutions and groups, which sought to mould and prescribe certain social and sexual roles. Therefore, by implication, sex education acted as a form of governance. Her argument highlighted the case of an implicit form of control, however, many argued that the fear and panic prompted by the explosion of HIV/AIDS invoked the desire for a much more explicit and pervasive form of control. Thus, in 1988, Plummer expressed his concern about the monitoring of sexual activities of gay people as follows;

"...with the symbolism of AIDS has emerged a range of institutional practices that aim to increase surveillance and regulation over 'deviances' and 'sexualities', many new agencies have appeared along with many new practices that aim to keep records, classify and order, take tests, watch over, maybe brand and quarantine people on the AIDS spectrum...small trends can become big institutions; what has emerged in the past few years may very well proliferate and extend...establishing new structures for the control of 'deviance' and 'sexuality' by the end of the century" (Plummer, K. 1988. p.46)

Another area in which similar concerns have been expressed is drug control. For example, Bakalar and Grispoon (1984) have examined the sociological and historical background of the various attempts by the authorities at controlling illicit-drug taking in modern industrial societies, and discussed how far should or could such control intrude the right of individuals to alter their consciousness. By suggesting that drug control is a social construction, which was used to justify social control to maintain particular norms and standards, they have pointed to alternative ways of looking at what is usually considered "the drug problem". Furthermore, surveillance-based critics pointed out that methodologies used in health promotion activities such as in-depth interviews and discussions, which on surface may appear democratic, also acted as devices of control. By "involving" lay people's perceptions and opinions, they have argued, what such activities in fact were doing was to "...penetrate deep into the lives and minds of subjects and make it easier to bring them under control" (Nettleton, S. and Bunton, R. 1995, pg.47).

Now, I do not doubt that the above works have made important contribution to critically reflecting on the development of the concepts and methods of health education and health promotion. These have shown that activities of both health education and health promotion do not take place in a neutral environment, but take place within particular discourses, such as the discourse of heterosexuality, of capitalist consumerism, and so on. These have argued that examining the effectiveness or efficiency of health education and promotion activities using conventional evaluation methods merely serve to enforce the existing discourses, and have suggested that if one wishes to critically reflect on health education and health promotion, it is necessary to make those very discourses the subject of scrutiny. What I felt was lacking among these critiques, however, was a concept capable of capturing the dynamism of health education and health promotion activities. In other words, either the above-mentioned critical studies captured health education and health promotion as a politico-economic and social phenomenon in its static state, or despite having recognised health education and promotion as an activity, they failed to develop appropriate concepts to analyse the various movements. In this thesis, I however wish to argue that health education and health promotion are both activities under the guise of science, which involve a variety of actors *and movements.* I thus turned my attention to science and technology studies, in search for a critical theory that could capture and analyse Singapore's HIV/AIDS education as a science "in action".

5. Health Education and Promotion as a Science and Technology Enterprise

Science and technology studies (STS) is a rapidly expanding interdisciplinary research area, and is broadly concerned with how social, cultural, and political values shape science and technology, and vice versa. It is interdisciplinary in a sense that it borrows theoretical concepts from a number of overlapping fields, including critical social theory, critical technology studies and the cultural history of science as well as anthropology, sociology, cultural studies and feminist studies. Wikipedia, the online encyclopedia, aptly defines STS as a "confluence of disciplinary streams"[6], and lists a number of interdisciplinary fields and subfields that have natural affinities with STS and that have contributed to its disciplinary stream. Some of the examples of such fields and subfields include history and philosophy of science (Kuhn, T. 1962), philosophy of technology (Mumford, L. 1934, Ellul, J. 1967), sociology of science (Merton, R. 1979), Sociology of Scientific Knowledge (Barnes, B.*et al.* 1996, Collins, H. 1998), feminist studies of science and technology (Wacjman, J. 1991, 1995, Haraway, D. 1991), critical approaches to Public Understanding/Awareness of Science (Irwin, A. 1995, Irwin, A. and Wynne, B. 1996), Social Worlds Theory (Clarke, A. 1990, Fujimura, J. 1992, Star, S.L. and Griesemar, J.R. 1989), and Actor-Network Theory (Latour, B. 1987, Law, J. 1992).

[6] A disciplinary stream is defined as a flow of perspectives and personnel from one field or discipline to another.

What STS seeks to do is to deconstruct the content of scientific knowledge and activities, and discover their various constitutive discursive and material sources. For example, Proctor (1995), in his study of cancer research, has demonstrated that research agendas and methods of investigation, which eventually framed scientific and medical knowledge about cancer, were in fact shaped by various economic and professional interests of those whose participation in the making of the knowledge was very much determined by their financial and other resources. Some of STS have been more overtly political in their objective. Thus, in their critique against the PUS approach, which was mentioned earlier in the Literature Review, Irwin and Wynne have argued that often science "...goes underground...in the sense that its interpretive commitments are tacitly renegotiated and become encoded into 'natural' forms of social and cultural life" (Wynne, B. 1995 p.376, see also Irwin, A. and Wynne, B. 1996). They have argued that thus, what is required is a critical re-examination of the relationship between science and citizenship, of the unquestioning belief that science is good, and ultimately, of the notion that there is only one, universal science. Thus, in his study of environmental hazards, Irwin (1995) discussed how the public resistance to professional expertise is not to be dismissed as irrationality and ignorance, but should be seen as operating within a different (and not necessarily inferior) conceptual framework with different understanding about, for example, "risk", "environment" and "hazards". He thus argued for an establishment of symmetry between "public" or "lay" and "formal" expertise in order to democratise science and encourage citizen participation. Wynne (1995) has similarly called for pluralism in public science, arguing that there are many local knowledges, which may be embedded within different epistemic commitments.

Now, although STS is not exclusively concerned with health education and health promotion, there is no reason why its theoretical concepts and frameworks could not be used to examine and analyse heath education and health promotion activities as scientific and technological enterprise. However, with the exception of Social Worlds Theory (SWT) and Actor-Network Theory (ANT), I believe that STS approaches suffer from two major weaknesses, that is, social reductionism and radical relativism. Let me elaborate on each in turn in detail below.

Sociological reductionism refers to the ways in which certain STS have attempted to explain the nature by reference to society. For example, Jasanoff (2004) has argued that social constructivists such as Bloor (1991, 1996), Barnes (1996) and Collins (1985), have fallen into the social determinist position in attempting to reject the so-called weak sociology of science. They had argued that previous sociology of science may be considered weak, as it had restricted the application of sociology to failed theories. Failed theories were explained by social factors such as scientists' overt economic or political interests; however, successful theories were treated as a success because they had revealed a "true" fact of nature. They thus proposed what they called the *strong programme,* through which they argued that both failed and successful theories should be treated equally, that is symmetrically. In other words, they have argued that scientific theories, regardless of their success or failure, should be seen as being determined by social factors such as cultural and social context, and human interest.

However, in arguing so, they have treated such cultural and social context, and human interest as *a priori* existing "social facts" (Shapin, S. 1995). Yet cultural and social context, and human interest are themselves negotiated and translated. Thus critics of the

strong programme have argued that the very generation process of such "social facts" should also be studied as a topic of investigation (Woolger, S. 1981 and Yearley, S. 1982). The traditional social constructivists, in the words of Shapin, may thus be considered to be "insufficiently curious about the *methods* through which...scientists...produce accounts" (Shapin, S. 1995 p.310, emphasis by author. See also Lynch, M. 1993), and thus simply do not possess the appropriate methods and concepts to capture the various techniques scientists use to make and stabilise their versions of "truth". In other words, if scientific knowledge is a social construction, then its analysis should take into account not only its social constituents, but also the *ways* in which such constituents are generated, organised and placed coherently for its creation.

Furthermore, those such as Latour (1987) have argued that such constituents should be seen as a result of negotiation and translation, which not only involved human consciousness such as motivation but also *material* things. Thus, for example, a scientist could not have carried out an experiment, analysed the results and established them as "scientific facts" purely out of his ambition or interest, but would also have needed such material things as the laboratory building, various equipments, computers, printers, assistants, and publication support. Yet, either intentionally or unintentionally, in emphasising the role of the social in the settling of scientific controversies and construction of scientific knowledge, those social constructivists mentioned above have neglected the role of such non-social and non-human entities, and have also failed to give an explanation for their exclusion from the analysis (Michael, M. 1996). Jasanoff has similarly argued that "...knowledge and its material embodiments are at once products of social work and constitutive... Scientific knowledge...is not a transcendent mirror of reality. It both embeds and is embedded in social practices, identities, norms,

conventions, discourses, instruments and institutions..." (Jasanoff, S. 2004, p.16). She has thus called for the need to examine not only the social but also the material relations that surround the production of scientific knowledge and advocated for a co-productionist approach to analyse how the social and the natural worlds are produced simultaneously, or "co-produced".

And from a philosophical perspective, many of these analyses are incoherent in their own epistemological positions and fail to overcome the problems of relativism (Hess, D.J. 1997). The above STS analysts are criticised for claiming that, by virtue of being sociologists, they are immune to any social subjectivities, and that they will be able use impartial language to explain the particular beliefs or knowledge. As Collins and Yearley put it;

"...the sociologist is promiscuous, experiencing many loves without ever falling in love. This is neither a happy nor an endearing state. But while promiscuity is not a recipe for love, it is for education. A well-educated person is not just a faithful specialist but one who knows how to take another's point of view – even to invade another's world of knowledge. The achievement of the sociology of scientific knowledge (SSK) can be understood as an extension of this ability to 'alternate'..." (Collins, H.M. and Yearley, S. 1992. p.301-302)

And yet of course, the very relativist position on which they stand makes their argument just one of the many possibilities. The critics of STS however do not necessarily advocate a return to realism; many have argued that methodological relativism is necessary for interpreting and analysing various cultures and belief systems. What they

question is the realist mode of STS language in which "authority-claiming authors referred 'disinterestedly' to real states of affairs in the social world" (Shapin, S. 1995, p.308), and demand the authors to reflect upon their own status as social scientists seeking to "represent and socially construct the processes of representation and social construction of scientific facts and artifacts" (Michael, M.1996, p.36). The issue of critical reflexivity will be further elaborated in the Methodology section. Before I go on to discuss methodology, however, let me turn to Social Worlds Theory (SWT) and Actor-Network Theory (ANT). This is because I believe that the two theories have at least attempted to address those weaknesses I have just mentioned about STS. In the sections to follow, I will therefore critically review SWT and ANT, and justify my decision to ultimately decide upon ANT as the analytical framework for my research.

Social Worlds Theory

SWT draws its inspiration from the Chicago school of symbolic interactionist sociology (e.g. Blumer, H. 1969, Hughes, E.C. 1958, 1971, and Park, R. 1952). It is concerned with the *processes* of the making of scientific knowledges, and uses the concepts of Social Worlds[7] to analyse how multiple and divergent actors or Social Worlds, with different viewpoints and agendas, come together to coordinate and manage production of particular knowledge.

Social Worlds are defined by Becker (1974, 1982) and Strauss (1978) as consisting of groups of social actors with shared commitments to certain activities, sharing resources of many kinds to achieve their goals. It is a "medium...within which it obtains and

[7] A Social World with a capital "S" and a capital "W" will be used to denote the particular SWT concept. A social world, with small letters, will be used as a more generic concept, as opposed to a natural world.

prevails, what is logically preferred to as a universe of discourse" (Mead, G.H. 1938, 1972, p.518). In this way, a Social World may be seen as an embodiment of the Foucauldian notion of a discourse. In other words, while a discourse entails a specific set of specialist languages, signs and associated ideas, a Social World may be perceived as the physical space in which that particular discourse may exist. It is argued that society as a whole consists of a mosaic of Social Worlds, which often overlap and interpenetrate one another.

In each Social World, according to Strauss,

> ...at least one *activity* (along with related activities) is strikingly evident, i.e. climbing mountains, researching, collecting. There are *sites* where activities occur: hence space and a shaped landscape are relevant. *Technology* (inherited or innovated means of carrying out the social worlds' activities) is always involved. Most worlds evolve quite complex technologies. In social worlds at their outset, there may be a temporary division of labour, but once underway, *organisations* inevitably evolve to further one aspect or another of the world's activities. (Strauss, A. 1978. p.122)

Strauss has further argued that the structure of a Social World is fluid, with subdivisions or subworlds. Furthermore, two or more Social Worlds may intersect to form a new world, or one may segment into two or more worlds. Participation is also fluid, in that people can participate in a number of Social Worlds and change memberships constantly.

It is suggested that the Social Worlds are involved in two major activities; establishing and maintaining boundaries between the different worlds, and gaining and maintaining

social legitimacy for the world itself (Clarke, A.E. 1990). These activities involve a social construction of a particular world and a variety of claims-making activities. In doing so, different Social Worlds are forced to intersect with one another: conflict and cooperation then becomes more visible in controversies.

Social Worlds theorists have developed several key concepts in order to analyse how such collective action is managed across numerous Social Worlds. Star and Griesemar's boundary objects is one such example (Star, S.L. and Griesemar, J.R. 1989). "Boundary objects" is an analytic concept of those scientific objects, which "...inhabit several intersecting social worlds and satisfy the informational requirements of each of them" (Star, S.L. 1989 p.393). These objects may be abstract or concrete, and have different meanings in different Social Worlds but their structure is common enough to more than one Social World to make them a recognisable means of communication and tools of cooperation. Thus, through creation and management of boundary objects, intersecting Social Worlds may develop and maintain coherence across them.

Yet another concept is that of the "standardised package", developed by Fujimura (Fujimura, J. 1992). The standardised package consists of "... (a) scientific theory and a standardised set of technologies which is adopted by many members of multiple social worlds to construct new and at least temporally stable definition..." (Fujimura, J. 1992 p.169). She has argued that while "boundary objects" facilitate collective action, because they are easily reconstructed in different local situations to fit local needs, they are also disadvantageous for establishing the kind of stabilisation of allies behind "facts" precisely because of their flexibility. She has claimed that the "standardised package" defines a conceptual and a technical workplace, which is "less abstract, less ill-

structured, less ambiguous and less amorphous" than "boundary objects", and are therefore capable of facilitating both collective action and fact stabilisation[8] (ibid).

Applying the concepts of SWT to the analysis of health education and promotion therefore entails elucidating which Social Worlds and subworlds come together and why, and tracing the variety of ways in which different Social Worlds attempt to negotiate and cooperate in order to make claims and establish legitimacy for their claims. The techniques involve, though not exclusively, creating of "boundary objects" and "standardised packages": as there may be other tools that Social Worlds utilise, exploration such other possible techniques would form an important part of the investigation. For example, Garrety (1997) has utilised SWT to argue that scientific knowledge and dietary recommendation relating to fat, cholesterol and coronary heart diseases in the Western societies are the outcome of complex social negotiations among the various interested Social Worlds. More recently, in their study of the U.K.'s Primary Health Care (PHC) system, Tovey and Adams (2001) have argued that the PHC system should be understood as an arena of interaction of the different interest groups, including both professional and lay social worlds, rather than as a coherent body with unambiguous policy objectives. Next, I shall go on to discuss ANT, and in doing so, I will compare the two approaches and discuss which of the two approaches I felt was better suited to analyse the case of HIV/AIDS education in Singapore.

[8] Star and Griesemar's example of "boundary objects" include a museum (as an institution), specimens and fieldnotes which the various parties used to develop and further their interests in building of a particular museum, the Museum of Vertebrate Zoology (Star, S.L. and Griesmar, J.R. 1989). Fujimura's example of a "standardised package" in her study of how oncogene theory developed consists of a several "boundary objects" (gene, cancer) and standardised methods (recombinant DNA technologies) (Fujimura,, J. 1992)

Actor-Network Theory

Over the past two decades, Actor-Network Theory (ANT) has become a major European perspective for studying scientific knowledge. Like the social constructivist theories of STS mentioned earlier, it argues that knowledge is produced rather than being a set of objective facts generated through the operation of scientific methods. However, rather than seeing scientific knowledge as a finite product, ANT argues that it is more appropriate to conceptualise it as an effect of a network of heterogeneous materials, and that such a network is constantly being produced by scientists (Law, J. 1992). However, within the ANT's metatheoretical framework, scientists are seen not just as scientists but as "multifaceted entrepreneurs" who aim to construct and stabilise their own version of truth or network, by identifying and aligning a whole range of heterogeneous materials, that is humans and non-humans. In other words, unlike the social constructivist theories of, for example Shapin (1995), Lynch (1993), or Collins (1998), ANT argues that knowledge takes a material as well as a social form, and such heterogeneous materials not only include the social such as human interest, cognition, emotion, but also the non-social, such as buildings, machines, texts and technologies.

The main methodology of ANT can be thought of as an ethnography that involves following the various actors such as the scientists, paying particular attention to the ways actors put together various materials, and how then they consolidate the materials and make them into what looks like a knowledge, or, in the terminology of ANT, a "black box"[9] (Latour, B. 1988). In order to follow the actor, ANT has developed a number of

[9] Black box is originally a concept from cybernetics. When a machine or a set of commands is too complex to be dealt with in detail, a black box is drawn for its place, with only input and output shown. Latour uses the term "black box" to describe knowledge, or a set of knowledge, of which production process remains unquestioned.

terminologies to catch and conceptualise the process of engineering of a network. Thus, firstly, when the entrepreneur identifies a necessary ally that needs to be enrolled into the network, it is argued that he attempts to define a particular identity for the potential ally (which can of course be humans or non-humans) through its "problematisation". This involves the entrepreneur cornering the potential ally and interposing himself between the ally and its pre-existing associations with other entities that contribute to its pre-existing identities. This process is called the *interessment* (Callon, M. 1986). Secondly, the entrepreneur then attempts to encourage and convince the potential ally to take up the particular identity that would make the ally favourable to the entrepreneur. Here, it is important to note that ANT stresses that enrolment is not a unilateral process of imposition but it entails both the "capturing of other" and "other's yielding" (Michael, M.1996 p.53). Therefore, ANT has also developed several concepts that describe how this "other's yielding" is achieved. For example, "translation" is a means by which the entrepreneur gives a role to the potential ally; it describes the entrepreneur's attempt by which he tries to persuade the ally that he, and only he, can help the ally achieve the particular identity. The entrepreneur will also attempt to invent a geography of "obligatory passage points", or an unavoidable conduit, through which the potential ally must pass in order to articulate both its (newly formed) identity and its *raison d'ĕtre*. Only when the potential ally agrees to take up the identity as problematised by the entrepreneur, can the enrolment process be called, at least temporarily, successful. Michael (1994, p.54) has neatly summarised the process as follows:

This is what you really want to be. (Interessment)

We are the one who can help you become that. (Translation)

Grant your obedience by your own consent. (Enrolment)

However, the entrepreneur must then stabilise the network and ultimately "black-box" it. "Displacement" describes the way in which the entrepreneur attempts to organise and structure the movement of materials, information and resources so as to accumulate only those materials that render the network durable. Moreover, the entrepreneur must ensure that these accumulations are invisible, unproblematic and natural, so that from the final black box, "...no matter how controversial their history, how complex their inner workings, how large the commercial or academic networks that hold them in place...", only the output and the input can be seen (Latour, B. 1987, p.3, see also Callon, M. and Latour, B. 1981). The main mode by which various materials are brought together and made invisible is through "textualisation". ANT argues that texts in the forms of "specimens, maps, diagrams, logos, questionnaires and paper forms of all sort" (Latour, B. 1987, p.232) enable the compression of complex, and potentially a large volume of, events and information into simpler representation. Because texts are only visible in a two-dimensional way, it is argued that their simplicity significantly contributes to stabilising the network. Furthermore texts can also be moved from one place to another and yet remain stable; in other words, they are the "immutable mobile". These enable the entrepreneur to control and regulate the network over a long geographical distance from where he actually physically operates.

As with the other STS, ANT was not initially developed as a theoretical framework to specifically study public health issues. However, since the object of its study is the engineering process of a scientific knowledge, there is no reason why it could not be applied to studies of knowledge in the field of public health, including health education and health promotion. Indeed, there have already been several studies that have applied ANT to analyse particular health system, or a part of it. For example, in their study of

the U.K. Cervical Screening Programme (CSP), Singleton and Michael (1993) analysed the role of the General Practitioners in black-boxing the status of Cervical Smear Test within the CSP network. They have also introduced a concept of ambivalence and ambiguity to capture the multiplicity of networks and identities that were involved in the production and maintenance of the CSP network, and argued that in their case study at least, it was the ambivalence and ambiguity that eventually rendered the network more durable. More recently, Carter and Michel have applied ANT to analyse biomedical education texts produced by the U.K.'s Medical Research Council, and observed that texts do not only travel across distance, but can also be designed to have a latent effect and also to signify "...not to readers directly engaged with them, but to observers whose concern is with their trajectory" (Carter, S. and Michael, M. 2003, p.234). They thus proposed a new term, lateral signification, to describe yet another function of texts within a network, which was to signify to others who were not explicitly defined as audience. Lateral signification thus implies the possibility of, for example, a health education leaflet published by health authorities, which may be aimed at potential 'sick' people but also may signify to government departments that hospitals or health trusts are engaged in the 'promotion of health'. Such examples show not only how ANT can be used to examine the various scientific projects or events, but also that it can be modified and fine-tuned to accommodate the detailed aspects of each local engineering works, without losing its main theoretical and methodological strengths.

I thus believe that ANT has overcome two of the critical weaknesses that I have mentioned earlier about social constructivist theories. ANT offers a dynamic methodological framework with a variety of innovative concepts, with which to capture the ongoing process of a particular engineering work. Furthermore, it proved itself

better equipped to deal with the status of the non-humans and the non-socials within the network. ANT also attempts to overcome the issue of relativism by arguing that sociologists, including Actor-Network theorists, are also the subject to these engineering processes, and are constantly harnessing resources and enrolling allies to make their own social scientific explanations a durable network. According to Latour, there exists no "...causal mechanism known only to sociologists that would give history of a technological projects", and thus in order to study such projects, one must "...move from a classical sociology – which has fixed frames of references – to a relativistic sociology – which has fluctuating referents" (Latour, B. 1996 p.169). Actors, sociologists and scientists alike, can only offer each other a version of their own network. ANT thus does not claim epistemological high-ground, but only warns us to be critically reflexive at all times, and recognises that whether or not one's theory is stronger than the other does not depend on any objective criteria but on the durability of the network.

Of course, ANT is not without its weaknesses and criticisms. For example, Callon and Rabeharisoa have pointed that ANT's concept of a network, which is defined as a form of organisation of relations, has tended to "...reduce the question of boundaries to simple quantitative considerations" (Callon, M. and Rabeharisoa, V. 1998 p.7). In their study of patients suffering from muscular dystrophies, they have shown that how boundaries were drawn was closely correlated to the construction of the identity of the 'collective patient', and that the construction involved a series of tests and trials which extended from the flesh of the body of the patients themselves to various technologies, and not merely dividing between "them" and "us". Furthermore, they have argued that the concept of the network was also "general and formal" (ibid., p. 8) to account for the complexity of relations and for the multiplicity of settings that may exist simultaneously.

They have thus argued that ANT needs to be "...enhanced and may be transformed so as to cope with this variety, specificity and richness of settings" (ibid., p.8).

Indeed, numerous writers since Latour and Callon have attempted to modify ANT to allow them to make a more complex and a subtle analysis of network engineering. For example, Singleton and Michael (1993), in their aforementioned study of the role of General Practitioners in the U.K.'s Cervical Screening Programme (CSP), have incorporated the concept of ambivalence to argue how an Actor-Network may be maintained not only through successful enrolment and translation but also through ambiguous associations and multiple identities. In fact, they have argued that it was precisely because the General Practitioners "...at once occupy the margins and the core, are the most outspoken critics and the most ardent stalwarts, are simultaneously insiders and outsiders" that the Actor-Network of CSP was rendered durable (Singleton, V. and M Michael. 1993, p.232).

Others, however, are more critical of ANT and have argued that ANT, by only "following one actor", in other words by only examining one perspective, in fact "uncritically... embraces the winners in the social power games of science and technology" (de Vries, G. 1995). ANT is thus often labelled as being reactionary, in that it systematically excludes those who are not able to participate in the network building process, and fortifies the status quo. Star has thus argued that in its relentless pursuit for symmetry and impartiality in analysing the network building, ANT has failed to see what she sees as important issues of inequality in power and of injustice that arises as a result of such inequalities. She thus wishes to listen to and promote the silenced voices

– the voices of the less powerful, the underprivileged, and the marginalised. This, she argues, is the sociology of the invisible.

"To do a sociology of the invisible means to take on the erasing process as the central human behaviour of concern, and then to track that comparatively across domains. This is, in the end, a profoundly political process, since so many modern forms of social control rely on the erasure or silencing of various workers, on deleting their work from representations of the work" (Star, S.L. 1991, quoted in Mol, A. and Mesman, J. 1996, p.425)

In a similar vein, Fujimura has claimed that SWT, unlike ANT, is able to examine the perspectives of "all the different participants", and therefore is more ecological and perhaps more democratic as well than ANT. In discussing the methods and ontology of ANT in contrast to SWT, she further argues that it is sometimes important to not take a fully symmetrical position with regard to humans and non-humans – but that sometimes, we have to 'take sides' (Fujimura, J. 1991)

Other writers such as Star and Law have expressed concern that Actor-Network studies, especially the early ones that appeared in the 1980s, have "slipped towards a centred and no-doubt gendered managerialism" (Law, J. 1999, p.4, see also Star, L.S. 1991). In critically discussing Latour's study on Pasteur (1983) and Callon's study on scallops and scientists in St. Brieuc Bay (1986), Star (1991) has commented that the kind of power Pasteur and scientists in St. Brieuc Bay exercised rested upon their ability to delegate and to discipline, in other words, the power of interessement, and upon multiple identities that they were able to forge. This, Star argues, however is only one kind of

power and one kind of multiplicity, and quite obviously, which are not readily available to us all. Translating, ordering and aligning required by Pasteur is simply not going to be the same as that required by, say, a child, a poor woman of colour, or a man with minimum education. Pasteur presenting multiple faces, or 'selves', is able to exercise power that is going to be quite different from someone presenting multiple identities because he or she suffers from multiple personality disorder. And yet because they do not fit into the patterns of network configuration as outlined by ANT, Star has argued that they become marginalised, and their voices smothered. Drawing on feminist theory and symbolic interactionism, she similarly advocates an alternative model of heterogeneity that is based on multiple memberships and multivocality that can capture and examine the world of those who are not enrolled.

Now, do these critiques suggest that by utilising the analytical framework of ANT, I will be systematically excluding those actors who are less powerful and less influential, and are thus unable to participate in the network building? Will I be embracing the network created by the Singapore Ministry of Health, and will I be shutting off the voices of others? I believe that the answer is probably no. Firstly, ANT is not uninterested in other actors and other interactions. ANT does recognise that there will be those actors that will not be examined under a single actor-network analysis. However, the objective of ANT is not to be politically active and go on a crusade to "listen" to as many voices as possible, so as to make science more participatory and democratic. It is to uncover how a certain "scientific fact" comes to be stabilised by focusing and analysing the actions of the actor (either individual or collective) responsible for building the network. It is to critically reflect on the making of the so-called "scientific knowledge". It is a

critical sociology and not a political doctrine, and thus the criticism that ANT fails to accommodate the views of those other than the entrepreneurs somewhat misses the point.

Secondly, the SWT claim that it can examine "all perspectives" is also epistemologically fraught. By defining which actors constitute "all perspectives", it is still the Social World Theorists who hold the authority to decide who is to be included and excluded. There is no such definition of "all perspectives" that exist *a priori.* We, the social scientists, or researchers or whoever, are the ones who determine what constitutes "all perspectives". Thus the difference between ANT and SWT is only a matter of degree, and not a matter of "all or one" in terms of the perspectives examined. In fact, I believe that ANT is less dogmatic than SWT or any other theories of science and technology, in that it clearly indicates that it does not claim epistemological superiority and allows the theoretical and conceptual tools for self-critique.

Finally, ANT has often been criticised for being overly, if not only descriptive. In the words of Becker, the role of the sociologist is to ask the question "...not whether we should take sides, since we inevitably will, but rather whose side we are on" (Becker, H. 1970, p.123). Yet, ANT has apparently failed to ask and answer even the first question. Singleton has thus argued that the descriptive language of ANT has left the academic "...with no political voice, no place from which to stand and claim that our knowledge claims are more valuable than others" (Singleton, V. 1993, p.17). Star (1991) has similarly criticised ANT for opening up the black-box and not doing anything about it. In other words, ANT has been held guilty for not adjudicating on the very process of engineering process which it has revealed. In its relentless pursuit for symmetry and impartiality in analysing network building, ANT has, at least to the eyes of the critics,

failed to engage in politics, and to address what they see as important issues of inequality and impartiality.

Yet, Mol and Mesmen (1996) argue otherwise. They have pointed that the 'politics' of ANT deals not with the relationship between the different groups of people, and how they make sense of their world, but with the ways in which entities, which include both the social and the material, co-construct each other. ANT is thus not apolitical; it is just that their politics is unconventional. In the words of Mol and Mesmen,

"It (ANT) generates new axes of difference. It creates new political categories. And these do not meet in some centre from which the world is ruled. For there is, in this politics, no unique parliament where one needs to be represented; no single space for speaking up or being heard. In stead of being concentrated in a privileged location, this politics is everywhere." (Mol, A. and Mesmen, J. 1996, p.436)

They have thus argued that ANT seeks to explore how different worlds co-exist, and expose the multiplicity of the orders in which we live, it is just as much political as, say SWT and other sociological theories. I will further elaborate on the potential of ANT for doing politics in the final section.

For now, I wish to end the Literature Review by arguing that for the above-mentioned characteristics of ANT, it appeared that ANT was the most appropriate metatheoretical framework for analysing health education on HIV/AIDS in Singapore. It also satisfied both the theoretical and epistemological queries I had with other social constructivist theories. Within the ANT framework, the entrepreneur will be the Singapore Ministry

of Health, and I will then be following its efforts in identifying and enrolling allies, and creating and ordering various heterogeneous materials to engineer and stabilise their network. However, before I go on to describe the actual process of engineering I witnessed, in the following chapter, I will briefly explain the methods I used to collect the various materials I needed to tell my story – or rather, to create my own network.

6. Epistemology

I wish to begin this section by clarifying the epistemological stance of this research, because epistemology largely determines the choice of methods. The epistemological stance of this research is the one based on a modified version of social constructivism; I will thus discuss the criterion of validity, reliability and generalisability, which are often regarded as the "gold standard" for quantitative research, and how these might be applied to studies based on social constructivism. Finally, I will go on to elaborate and justify the actual methods I used in my own research.

Positivism, Social and "Socio-Material" Constructivism

Quantitative research in the field of health education and health promotion, such as those mentioned earlier in the Literature Review section (and including those conducted in Singapore), can be regarded as being based on social positivism. In sociology, anthropology and other social science studies, social positivism is referred to as the strand of philosophy that can be traced back to the thinking of August Comte (1798-1857) in the 19th century. Social positivism seeks to understand the social world in which we live through science; in other words, social positivism sees little difference between the natural and the social world, and thus sees the social world operating according to certain laws and regulations, as the natural world does. Thus, Silverman (2004) summarises that social positivism is based on the following three major assumptions; firstly, it sees the social world as being orderly, with underlying natural causes and patterns. Secondly, it assumes that we can "know" the social world by discovering and understanding such causes and patterns. And thirdly, it assumes that such a knowledge of the social world is always better than ignorance.

Its methodology, that is the means of acquiring knowledge, is therefore guided by five subsequent major principles; unity of scientific methods (logic of inquiry should be the same for all sciences, whether natural or social), law of general understanding (the goal of a scientific inquiry should be to explain and predict a phenomenon by producing a law of general understanding), deductive reasoning (deductive logic should be used to develop statements, which should then be tested), rejection of common sense (researchers should not allow common sense to bias their investigation) and relation of theory to practice (science should be as value-free as possible, and the ultimate goal of science should be to produce knowledge, regardless of politics, morals, values, etc. involved in the research) (For an overview of social positivism, see for example Giddens, A. 1977, Stark, R. 2002). Although today, extreme or pure positivism is rejected, and many social positivists have themselves raised doubts and questions about positivist social science, much of health education and health promotion and health policy sciences continue to be based on modifed versions of positivist assumptions. Thus, the aforementioned health education and promotion activities assumed that there was some "external truth" about health, illness and risky behaviours, which could be "known" by discovering patterns that ruled human behaviour. They thus sought to discover such patterns by using "scientific methods" such as KAP and questionnaire surveys, which were thought to be based on "systematic" and "detailed" observation and which provided "accurate" measurements of the phenonomenon. And most importantly, the advocates of health education and promotion activities held that people's life would be made better by giving correct knoweldge and enabling the people to change their risky behaviours.

However, as I explained in the Introduction, the aim of my research is to understand why the Singapore Ministry of Health was seemingly failing to halt the HIV/AIDS epidemic in its country by examining the relationship between science, knowledge, power and HIV/AIDS. I thus felt it more appropriate to base my research on a modified version of social constructivism. Now, although the idea that representations of physical and biological "reality" such as race and sexuality are in fact socially constructed[10] can be traced back to as early thinkers as Karl Marx (1818-1883) and George W.F. Hegel (1770-1831), social constructivism as referred to in modern sociology was largely developed by Peter L. Berger and Thomas Luckmann in their book, *The Social Construction of Reality* (1966). Berger and Luckmann had argued that all knowledge is constructed; or to be more preciese, that all knoweldge is derived and maintained by social interactions of people. According to them, knowledge, therefore, is not a reflection of some external transcendent "realities". In fact, there is no ultimate reality, but only a perceived reality, which is constantly being produced and reproduced by individuals and groups of individuals, acting on their interpretations and their knowledge of it.

Social constructivism consequently sees scientific knowledge as not a passive product gained through "deductive reasoning" from nature, but as an actively negotiated, social product of human inquiry (Thorogood, N. 1997, Freund, E. and McGuire, M. 1991, Cozzens, S. and Woodhouse, E. 1995). It thus also argues that concepts such as "evidence", "fact" and "proofs" which are the central categories in research based on positivism are also social and discursive constructions. Now, ANT, as I already

[10] Marx's materialism did understand such concepts as classes not only socially but also in terms of "material" criteria, such as access to resources. He thus used the term "material" in a different way to STS.

mentioned, was greatly influenced by social constructivism. It however takes the argument further by suggesting that knowledge is not simply a *social* construction, but is an *effect* of a heterogeneous engineering, or a network, whereby many and various *actors and materials* with different agendas are brought together. In other words, ANT is still a constructivist account, but it argues that it is not simply the social that is doing the "construction". This is the reason why I have suggested that my research is based on a modified version of social constructivism – for the purpose of this thesis, let me call this version "socio-material constructivism".

The aim of socio-material constructivism is therefore not to uncover some "truth" about the "real world", but to examine the ways in which individuals and groups participate in the creation of their own "perceived reality". The methodologies of research based on socio-material constructivism are thus concerned with systematically describing the socio-cultural and material environment of the individuals or groups under investigation, and gaining access to their view of their own social and material world and their means of producing their social reality. There is no set "package" of methods available for socio-material constructivist inquiries; a researcher may utilise a mixture of methods including in-depth, structured and semi-structured interviews, focus group discussions, participant and non-participant observations, and analysis of textual sources. All such approaches are intended to be either ethnographic or ethnomethodological or both (Green, J. and Thorogood, N. 2004). That is, they seek either to systematically study and describe the individuals or groups under investigation by adopting an emic perspective (ethnography) or to study the ways in which people use local social interactions to make sense of their social worlds (ethnomethodology). Next, I shall go

on to discuss the various criteria for methodologies used in socio-material constructivist research.

Criteria of Socio-Material Constructivist Research

Trustworthiness of Interpretation; Rigorous Methods and Reflexivity

Quantitative research based on social positivism is often evaluated by the so-called gold standards of reliability, validity and generalisability. The reliability criterion asks whether or not the methodology used would produce the same results if the study were to be carried out by a different researcher, and the validity criterion asks whether the methods produce findings that actually reflect the "reality". Generalisability refers to the degree to which the results could be generalised and be applied to other similar circumstances (Taylor, S. 2001). The question thus arises; can these standards be applied to socio-material constructivist studies? Do they need to be modified, and if so, how? Or should socio-material constructivist works be evaluated on totally different criteria?

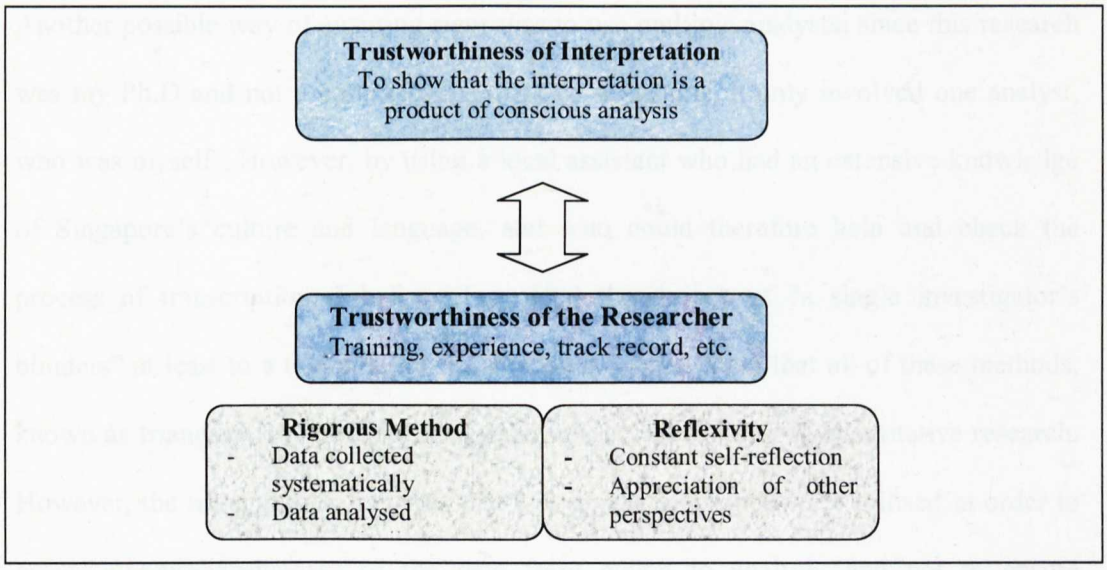
There are those, such as Marshall and Rossman (1989), who have argued that once "reality" is perceived as a social (and material) construction, the question of reliability and validity becomes irrelevant:

"Positivist notion of reliability assume an underlying universe where inquiry could, quite logically, be replicated. This assumption of an unchanging social world is in direct contrast to the qualitative/interpretive assumption that the social world is always changing and the concept or replication is itself problematic" (Marshall, C. and Rossman, G. 1989 p.147)

Some have even argued that the criteria of art are sufficient for appraising interpretive studies (Geertz, C. 1973). However, if interpretive social science works are to be viewed as studies that are both analytical and critical, then I believe that (along with many other social and socio-material constructivist researchers) some sort of systematic criteria for evaluating the works are necessary. However, since the objective of socio-material constructivist research is not to uncover certain "facts" about "reality", I suggest that it probably is inappropriate to apply validity and reliability as it is understood in quantitative research to such constructivist studies. I argue that what socio-material constructivist research should demand are sets of criteria that are *different* from those used to evaluate works based on positivism.

For example, Lincoln and Guba have suggested that "credibility as an analog to internal validity, transferability as an analog to external validity, dependability as an analog to reliability and confirmability as an analog to objectivity" should be used to evaluate social (and socio-material) constructivist research (Lincoln Y.S. and Guba E.G. 1987, p.76). In combination, Lincoln and Guba viewed these criteria as addressing the "trustworthiness" of the interpretation; in other words, they have argued that what constructivist researchers should be concerned with is to show that they did not just "invent" their interpretations, but that their interpretations were the product of conscious analysis. Reissman has similarly argued that "...trustworthiness of our interpretations is the critical issue. 'Trustworthiness', not the 'truth' is a key semantic difference. The latter assumes an objective reality, whereas the former moves the process into the social world" (Reissman, C. 1993, p.65). Furthermore, it is clear that the trustworthiness of any qualitative work is directly related to the trustworthiness of the researcher him or herself. The researcher, after all, is the principal instrument of data collection and

analysis, and his or her trustworthiness depends on his or her education, training, experience and so on (Quinn-Patton, M. 2000). However, he or she may also attempt to enhance the trustworthiness of his or her work by aiming to achieve two main tasks: firstly, to show that the data were collected and analysed systematically and in a rigorous manner, and secondly, to constantly reflect on, and be critical of one's perspective and appreciate the perspectives of others. Box 3 below shows the conceptual map of the various criteria for social and socio-material constructivist research, and what each should be aiming for. I will next go on to discuss the ways through which I tried to increase the trustworthiness of my own research.



Box 3: Criteria for Socio-Material Constructivist Researches

Rigorous Methods:

The purpose of aiming for rigour in one's methods is to "...counter the concern that a study's findings are simply an artefact of a single method, a single source, or a single investigator's blinders" (Quinn-Patton, M. 2002, p.553). What should prevent

qualitative research from becoming an anecdote, according to Green, are therefore transparent methodologies of collecting data and a systematic framework of analysis that also allows for the examination of counterarguments (Green, G. and Britten, N. 1998).

In order to counter such concern, I have resorted to multiple data sources and methods of data collection, including semi-structured interviews, focus group discussions, and collecting textual and visual sources, to examine the engineering process of knowledge about HIV/AIDS in Singapore. I have also standardised the methods of data collection where possible, for example, by establishing an interview and discussion guideline and using it consistently throughout the fieldwork (see Appendix 12.1, 12.2 and 12.6). Another possible way of ensuring rigor was to use multiple analysts; since this research was my Ph.D and not a collaborative work of some sort, it only involved one analyst, who was myself. However, by using a local assistant who had an extensive knowledge of Singapore's culture and language, and who could therefore help and check the process of transcription, I believe I avoided the danger of "a single investigator's blinders" at least to a tolerable level. It should just be noted that all of these methods, known as triangulation, are also often used to increase validity in quantitative research. However, the triangulation methods that I have just mentioned were utilised in order to ensure comprehensiveness of the data from which to analyse, and not to ensure consistency of findings across methods and data sources. As for ensuring that the data was analysed systematically, I referred to a well-established theoretical framework, namely Actor-Network Theory (ANT), and utilised its concepts and languages for analysis; these are fully developed in the Literature Review section.

Reflexivity:

May (1998) sees two dimensions of reflexivity; the endogenous and the referential. Endogenous reflexivity refers to the examination of the process by which communities constitute their social reality, while referential reflexivity examines the relations between the researcher and the person or groups of individuals who are the focus of the research. It is however the latter that is relevant when one is talking of criteria for social science research. Those studies based on positivism, such as the ones I mentioned in the Literature Review, have attempted to eliminate the so-called "investigator effects" (for example, effect the gender of the researcher may have on interviews) through use of various techniques, such as sampling methods, surveys, statistical procedures and double-blind tests. These thus accept that a researcher may influence his or her research, but claim that such influences should and could be reduced to a tolerable level.

In social and socio-material constructivist works, however, reflexivity involves being conscious of one's own perspective, *a priori* briefs and values, and appreciation for the perspectives of others. Yet there is no guideline as such available for social and socio-material constructivist researchers telling them how to do self-reflexivity. Some have argued that being explicit (e.g. spelling it out) about one's personal motives and experiences, as well as personal characteristics such as sex, age, social class and professional status, is sufficient (Mays, N. and Pope, C. 2000). However, I believe that one of the strengths of ANT is that it allows for a close scrutiny of the role of the researcher in the engineering process as part of its analytical process. Thus, although I did briefly state my personal motives for conducting a research on Singapore's HIV/AIDS education in the Introduction section, I will also discuss how my participation as a researcher might have influenced the outcome of this work in the

Discussion. In the Literature Review I have also considered other alternative interpretations and perspectives, and argued for my choice for ANT as the theoretical resource.

Relevance: From Generalisation to Particularisation

Finally, I wish to say a word or two about relevance and generalisability. According to Mays and Pope, research can be argued to be relevant when it "...either adds to knowledge or increase the confidence with which existing knowledge is regarded" (Mays, N. and Pope, C. 2000, p.52). Furthermore, they continue that another important dimension of relevance is generalisability; that is, the extent to which the research findings can be generalised in other similar settings. However, as constructivist research is based on the epistemological stance, which denies the existence of an objective reality that can be understood in terms of measurable patterns and rules, it is sometimes argued that the generalisability of constructivist research should be conceptual (Fitzpatrick, R. and Boulton, M. 1994). In other words, it is suggested that qualitative research be expected to identify similar discourses; ideologies and patterns of the social dynamics that are generalisable to other contexts. On the other hand, there are those who argue that constructivist works should abandon the pursuit for generalisability altogether, and promote "particularisation". Thus Cronbach, one of the major figures on psychometrics and research methodology, argued that "...generalisations decay. At one time a conclusion describes the existing situations well, at a later time, it accounts for rather little variance, and ultimately only as a history" (Cronbach L.J. 1975, p.122). Rather, he argued that constructivist researchers should make it a priority to "do a good job of particularisation". Similarly, Stake saw the value in particularisation as follows;

"...generalisation may not be all that despicable, but particularisation does deserve praise. To know particulars fleetingly, of course, is to know next to nothing. What becomes useful understanding is a full and thorough knowledge of the particular, recognising it also in new and foreign contexts..." (Stake, R. 1978, p.6)

Furthermore, Stake argued that by offering a rich "case study", researchers can assist the readers in constructing *their* own knowledge, which will accumulate to become a "general" knowledge. He thus argued that "...knowledge is socially constructed, so we constructivists believe, and in their experiential and contextual accounts, case study researchers assist readers in the construction of knowledge" (Stake, R. 2000, p.442).

What is the implication for the methodology of my own research then? As I already argued, my research is my own attempt at building a certain network, a network of a certain theory about HIV education in Singapore. Thus, the methods I used in this research will not operate as objective tools of data gathering that are independent of the researcher, that is myself, but will seek to identify and capture various actors and materials involved in the production of HIV education in Singapore, and to order and present them in a coherent manner so as to make my network durable and stable, and not some fictional narrative told out of the blue. I similarly wish to pursue not the generalisability of the findings of my study, and the extent to which they can contribute to "understanding" the phenomenon in other similar contexts, but to provide a "high quality case study", which the readers may then utilise to construct their own knowledge about HIV/AIDS education in Singapore. I will now go on to describe the specific activities I undertook in my attempt at "following the actor" and analysing its engineering efforts.

7. Methodology

Following the Actor...

For obvious practical reasons, it was neither plausible nor practical to physically "follow" around the various actors (e.g. individual Ministerial officials and other related government organisations involved in planning and carrying out the HIV/AIDS education campaigns), observe them, and note down their actions and interests. What I have therefore decided to do was to "follow" the actors indirectly, and in order to do so, I have adopted a multi-faceted approach. Thus, firstly, I conducted a documentary/literature search whereby I collected a variety of textual materials regarding or concerning HIV/AIDS education policy in Singapore. Although no official documents specifically outlining the Ministry's policy on HIV/AIDS or HIV/AIDS education were publicly available, texts that were either directly or indirectly relevant were sought from a variety of sources, including the following: *State of Health Report* produced by the MOH (1999, 2000, 2001), *Annual Report* produced by the MOH (1990, 1991, 1993, 1995, 1996/7, 1997/8, 2000, 2001, discontinued after 2001), *Communicable Disease Surveillance Report* produced by the Epidemiology Unit, Communicable Disease Centre, MOH (2000, 2001, 2002, 2003), ministerial press releases on HIV/AIDS situation in Singapore, (1997, 1998, 1999, 2000, 2001, 2002, 2003), public campaign posters and pamphlets for HIV/AIDS education produced by the MOH (1993-2003), and Straits Times articles on the Ministry's HIV/AIDS education policy (1985-2002).

Secondly, I conducted semi-structured interviews with member staff of various government and quasi-governmental organisations. By semi-structured interviews, I

refer to those interviews conducted on a loose structure, consisting of open-ended questions that define the area to be explored, and from which the interviewee or interviewer may then diverge in order to pursue an idea or ideas in more detail (Britten, N. 1995). Semi-structured interviews were chosen for government officials firstly because of the practical difficulty in arranging a group meeting for them, but secondly because these people were more likely to talk according to group norms under a group setting. I further felt that semi-structured interviews would enable the interviewees to develop their own framework of meanings and concepts, and express them in their own words. Considering the political climate of Singapore, where politicians and officials are usually regarded as, and often regard themselves as "elites", I judged that it was appropriate to choose an interview style resembling that of an "elite interviewing" as characterised by Dexter. In "elite interviewing", according to Dexter,

"...the investigator is willing, and often eager to let the interviewee teach him what the problem, the question, the situation, is – to the limits, of course, of the interviewer's ability to perceive the relationship to his basic problems, whatever these may be" (Dexter, L.A. 1970, p.15)

The interview must thus be conducted within the knowledge framework of the interviewee, to which the interviewer must be seen to be wanting to access. Based on such a relationship between the interviewee and the interviewer, Dexter has defined three principles of "elite interviewing". First, he argued, it is the interviewee's definition of the situation that is paramount. Second, it is the interviewee's structuring of his or her account that is paramount. And third, it is the interviewee, not the interviewer, who determines which issues are relevant. Thus, in order to alleviate the

fear or scepticism that might be generated by "foreign" social science researcher, especially in a society where policy makers have not been used to social scientists conducting "critical studies" as aforementioned in the Introduction, I took extra care to identify myself as a "Ph.D student"; in other words, a non-threatening, low(er) status student asking for stories to be told and information to be given. Furthermore, the interviewees were told that every step would be taken to guarantee anonymity and assured that no statements that may reveal their identity would be used without prior consultation with them. The same interview-guideline was used for all the interviews (see Appendix 12.1), and in cases where the participants had asked to see the guideline prior to the interview, a simplified guideline stating the main discussion agenda was sent via email (see Appendix 12.2).

The potential participants to the interview were recruited via social networks and referrals. Although I made effort to recruit participants from as wide a range of backgrounds as possible (including their roles and positions within the government organisations), the main criteria of selection were that of practicability and accessibility. I usually approached the potential participant by email of introduction attached with an information sheet in a Microsoft Word format, which explained the general purpose of the research as a policy analysis of Singapore's HIV prevention efforts (See Appendix 12.3). Prior to each interview, I had also asked for the permission to tape-record the interview by an IC recorder, and in the case that the participant did not wish his or her talk to be recorded, for the permission for an assistant, who would transcribe the interview, to accompany the interview. All interviews only took place after obtaining a written consent from the participants (See Appendix 12.4). In total, 8 semi-structured interviews were conducted with different members of various governmental and quasi-

governmental bodies. The interviews lasted between 60 to 90 minutes. All interviewees except two agreed to the discussions being tape-recorded, and all sessions took place either in a public place or at the office of the interviewee as requested.

...and Identifying the Allies

Through literature review and background survey, I had identified several potential allies prior to starting the fieldwork, which the Ministry may feel the need to enrol into its network; these included member staff of NGOs and other voluntary groups, business corporations and medical doctors working in public and private hospitals. Semi-structured interviews were chosen as the method for the same reasons as those mentioned earlier. In total, 8 semi-structured interviews were conducted. All the interviews lasted between 60 to 90 minutes. All interviewees agreed to the discussions being tape-recorded, and all sessions took place either in a public place or at the office of the interviewee as requested.

I had also identified the heterosexual Singaporean men as another important ally. This was because, as I noted in the Introduction, the Singapore Ministry of Health had constructed the middle-aged, heterosexual men as the population most affected by HIV/AIDS and thus at risk from HIV infection. I had thus decided to conduct focus group discussions with such men to investigate how they perceived HIV/AIDS in Singapore, and their risks of infection. Focus group discussions were chosen for the men firstly because these enable quick contact with a relatively large number of subjects within a limited time. However, the main reason for the choice was that the focus discussion groups allow the researcher to access cultural norms and group values by

examining group interactions. Focus group discussions are designed to encourage participants to talk to each other, interrupt, ask questions, comment and exchange ideas and experiences. It is argued that the various means in which the participants may interact with one another can reveal not only their individual knowledge and experiences, but also the various dominant and suppressed discourses in which they operate (Kitzinger, J. 1994, 1995).

Those eligible to participate in the discussions were limited to males, and aged between 27 and 47, as these were the groups constructed to be most at risk by the Singapore Ministry of Health. I recruited the potential participants using a snowball sampling framework, whereby I utilised the existing social networks to produce groups each consisting of 3 to 6 men. Each potential participant was encouraged to bring along friends or colleagues so that they could be grouped according to certain common characteristics such as occupation, hobby or schooling and would therefore be familiar to each other. By such groupings, I had hoped not only to acquire participants from as wide a possible range of middle-aged, heterosexual male population, but also to facilitate relaxed and friendly discussions. Again, I usually sent the potential participants an email of introduction with an information sheet similar to the one given to interview participants attached. The participants were told that the discussions would consist of two sessions to be held on separate days; first would discuss what a general life in Singapore is like as a male, and the second would discuss more in detail about HIV/AIDS. They were also told that this was a part of a study that aimed to improve health education in general, and HIV prevention in particular. I had also asked them for their permission to tape-record the discussions, and had assured them that every reasonable step would be taken to ensure confidentiality (see Appendix 12.5).

In total, 7 focus group discussions were conducted, and all focus group discussion participants agreed to attend two sessions and to the discussions to be tape-recorded. The sessions usually lasted between 90 to 120 minutes. All sessions only took place after a written consent was obtained from all participants. The discussions usually took place at a meeting room in a public library, but one took place at the home of one of the participants, and another at a flat I had rented during my stay in Singapore. The same focus group discussion guideline was used for all the sessions (See Appendix 12.6).

Furthermore, all sessions were accompanied by a local male assistant. The need for an assistant was recognised for two reasons; the first of which concerned my personal safety. At least in the Western context, it has been pointed out that female researchers researching on sex or sex-related topics among heterosexual male subjects are prone to both verbal and physical sexual harassment. Green writes;

"...however, a woman talking explicitly to a man about sex in Western culture is often thought to be 'provocative' and may be used as an excuse for sexual harassment" (Green, G. 1993, p.627).

This, Green and others argue, is partly due to the discourse of masculinity which has so far dominated the academic world in the West. They give an example of the U.K., where majority of senior academic staff and professionals are males, and argue that therefore this situation discourages female fieldworkers to raise issues about sexual harassment (Green, G. 1993, Warren, C. 1988). Furthermore, many also point to the fact that the mainstream theories on methodologies ignore gender relations by insisting that the researcher should be able to present a neutral persona, and collect the necessary data.

(Warren, C. 1988, Whitehead, T. and Price, L. 1986). Thus, measures to ensure women's safety have been neglected, reinforcing "...gender stereotypes and affirm(ing) women's status as the weaker more vulnerable sex". They have argued that hence, such stereotypes have resulted in disregard towards female researchers on the part of male study population (Green, G. 1993, p.633).

However, in the Singapore culture, where education is generally highly thought of and seriously taken (for a detailed sociological work of how "intellectual elites" are perceived in Singapore, see for example Chen, P.S. 1978), it was expected that those men who have decided to participate would be cooperative despite the sensitive nature of the topic. Furthermore, social status of women in Singapore is also generally high in terms of education and the number of women working in the professional and senior management field (according to the Singapore Ministry of Manpower, as of 2004, the percentage of women aged between 20 to 39 among professionals was approximately 41%, while among senior managers, officials and legislators was 37%). I thus felt it reasonable to expect the general societal environment for a female researcher, at least among the target population, to be favourable.

Secondly, and perhaps more importantly, I felt it necessary to make sure that the participants could speak and comment comfortably on the subject, which they may not be used to openly discussing. I had hoped that having a local male assistant would help achieve this by two means. First, I had hoped that the existence of a male assistant on the "researcher" side would give the participants a choice of talking to someone of the same sex when they felt more comfortable than talking to the opposite sex, and vice versa. And second, though many Singaporeans could speak "standard" English, I had

known from my personal experience that many preferred to use "Singlish", a localised version of English, when they wanted to be informal and friendly. Singlish is also the standard vernacular in the Singapore Armed Forces, and since all men are required to participate in National Service, it is said that speaking in Singlish to each other instantly produces a sense of community and connectedness even among strangers. I thus believed that being able to speak in Singlish made the participants feel more relaxed, and gave them their "own language" to express themselves. Singlish, however, although may be considered dialect of English, would also be difficult to comprehend to foreign ears because of its unique slang and syntax, which are more pronounced in informal speech (see Appendix 12.7 for detailed notes on Singlish). Thus, a local male assistant could not only converse with them and prompt them in Singlish, but also "translate" Singlish for me during the discussion, and help me understand the meanings behind specific sentences and noises uttered in "Singlish" at the stage of transcription and analysis.

I had recruited the assistant a few weeks prior to the start of the fieldwork through a public advertisement. Out of five who applied for the job, the assistant was chosen because of his ability to converse both in standard English and Singlish, as well as in other local Chinese dialects, his ethnicity and age (Chinese origin and mid-30s; thus his profile thus resembled that of the participants) and his ability to work flexibly. I briefed the assistant on the discussion guideline, which had been prepared prior to the commencement of the fieldwork, on three occasions, before and after the pilot discussions, and once halfway during the fieldwork. During the briefings, the assistant was also provided with simple training on participating in the discussion as a researcher.

Data Analysis

Both the textual material and the transcripts of semi-structured interviews and focus group discussions were analysed qualitatively using the analytic tool of critical discourse analysis. Although there are many versions of discourse analysis (Van Dijk, T. 1997), the discourse analysis that I have decided to use in my research refers to the particular analytical method that examines texts in relation to the wider social context, and which is strongly influenced by the works of Foucault (Foucault, M. 1972, Fairclough, N., 1992). It understands that individuals and institutions communicate and assert their existence through written texts and spoken interactions, and in doing so, they turn to the various discourses as their point of reference. "Discourse", in this understanding, therefore refers to a patterned system of texts, talks, symbols and practices that represent the particular social structure and power relations in which such communications take place. Therefore, by not treating the texts as neutral and objective data but by asking how and why such texts appeared in the way they did, discourse analysis can become a powerful tool to analyse the social structures and power relations that exist behind the texts and interactions. I felt that in my research, discourse analysis would allow the examination of the Singapore Ministry of Health's (and other actants') account of their actions not only at face value, but also taking into consideration the various discourses that were at work behind the network and thus capture the dynamic of the process of engineering.

The actual process of analysis involved the following: firstly, I examined all the materials several times, not necessarily in order to look out for any particular details, but simply in order to familiarise myself with the data. Next, I noted various features of interest and any patterns that emerged, while continuing with the process of going back

to the data and scanning for some more new findings until I felt that the state of saturation[11] was reached in term of identifying the broad analytical issues. I then went on to code the texts in order to sort and categorise them so that the "broad issues" relating to the aim of this research, namely following the engineering of a certain network, can be analysed in a standardised way. There were a number of computer software packages that facilitate coding, however, in my research, I resorted to using the cut-and-paste function of the Microsoft Word as this gave me more flexibility in setting the categories. I refrained from using exclusive coding categories such as those used in the analysis of survey data; rather, I tried to use broad and overlapping conceptual themes, so that I could go back to the data and make modifications if and when necessary.

In accordance with Carabine's (2001) guideline for conducting discourse analysis, I also looked out for counter-discourses, absences and interrelationships between the various discourses. Counter-discourses refer to those that challenge the dominant discourse(s) whereas absences refer to those potential discourses that were not present in the text or were not spoken. Interrelationships between discourses refer to the process of cross-referencing between the various categories or themes. I had hoped that these would highlight the dynamic nature of the engineering work and help to capture the movements of the various actors and materials.

[11] "State of saturation" is a concept borrowed from grounded theory and here refers to a stage whereby the data no longer added something new to the already existing issues and their properties (Charmaz, K. 1994).

Ethical Considerations

This research was approved both by the ethics committee of the London School of Hygiene and Tropical Medicine, U.K. and the National University of Singapore, Singapore.

In terms of confidentiality, all participants were assured that every reasonable steps would be taken to protect their anonymity, and that no quotes which may suggest a participant's identity would be used without his or her permission. They were also given the right to demand to see the transcripts of their own session and/or the final report of the study if they so wished.

It was possible that certain participants might feel anxiety or discomfort during or after the focus group discussions. In order to minimise such potential stress, participants were made aware of their right to withdraw from discussions at any time without having to explain why. All of these rights were explained in the information sheet, which was handed out prior to the actual session (Appendix 12.5) and reminded again verbally at the beginning of each session. Furthermore, although no such case arose, in preparation for the possibility of a participant approaching the researcher for advice, a separate information sheet, stating where he could receive sexual health advices and counselling services, was prepared.

8. Unblackboxing the Actor-Network of HIV/AIDS Education

I had earlier argued that HIV/AIDS education campaigns are not made up of neutral and value-free scientific "facts" but that these should be seen as "scientific activities", which are socially and materialistically constructed, and which are consciously undertaken by specific actors, such as the Singapore Ministry of Health. In the Literature Review, I then introduced the concept of network engineering; a concept unique to Actor-Network Theory (ANT), which perceived scientists as entrepreneurs intent on constructing and stabilising their own version of truth and presenting it as the scientific knowledge. Using the ANT framework, I thus supposed the Singapore Ministry of Health as the entrepreneur, and set out to ask two questions; the first asked what the kind of knowledge about HIV/AIDS the Singapore Ministry of Health was trying to engineer, and the second asked how this kind of knowledge was being constructed. In this section, I will thus report on the engineering work of the Singapore Ministry of Health as I observed it in Singapore, and how it attempted to identify and enrol allies, and create and order the various heterogeneous materials to engineer and stabilise its network. By following the actor, I will attempt to answer those two questions and ultimately cast light upon why the Ministry of Health is not succeeding in halting the HIV/AIDS epidemic in Singapore.

The Problematisation of HIV/AIDS

I firstly observed that the first step the Singapore Ministry of Health took was to problematise HIV/AIDS in the way that could justify setting up their *particular* response to it, or, in other words, their particular network of knowledge. In many parts of the world, HIV today is no longer necessarily seen as "the killer virus" in the way it used to

be. In 2004, the president of International AIDS Society, Joep Lange, told the Dow Jones Newswire; "What was once a deadly disease is now a chronic manageable disease"[12]. In deed, at least in certain countries, both developed (e.g. the U.S., the U.K.) and developing (e.g. Thailand), HIV is beginning to be seen as a manageable, chronic illness like hypertension or diabetes. Now, in no way do I wish to raise questions about such developments. As a result of advances in the anti-retroviral (ARV) drug treatment, many People Living with HIV/AIDS (PLWHA) are increasingly able to live longer and live a better life. As a result of various activist movements and organisations and their fight against stigma and discrimination attached to HIV/AIDS, many PLWHA today can and do continue to contribute to the society and be respected at the same time.

However, there are also those who have pointed out the downside of such developments. For example, in countries such as the U.K., scientists and journalists have reported that people, especially the younger generation, are beginning to have less fear of HIV[13], and are thus failing to protect themselves by using condoms. They have reported that society in general is much less concerned with and interested in the issue of HIV/AIDS, and that this further aggravates the efforts in keeping the population aware and informed. Now, though such issues are important, this is not the place to discuss whether or not scientific and technological developments on HIV/AIDS should be welcomed unconditionally, or how we should maintain general public interest in HIV/AIDS. What is significant, however, is the fact that I have also observed that Singapore Ministry of Health similarly felt the need to undo this image of HIV/AIDS and re-establish it as a "deadly disease", and that it attempted to do so through a series of campaign posters[14].

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[12] http://uk.gay.com/printit/headlines/5688

[13] See for example http://society.guardian.co.uk/publichealth/story/0,,658644,00.html

[14] These were the posters that were produced by the Health Promotion Board (HPB), as mentioned in Chapter 1, and

In many of the Ministry's posters, I firstly noted that the difference between HIV and AIDS was often left unexplained. HIV was usually referred to as the "AIDS virus" and people were warned against catching or contracting the "AIDS virus". In one poster, shown in Figure 5 (see p.157), the message even talked of "getting" AIDS rather than HIV or the "AIDS virus", confusing the symptom and the infectious agent. I argue that this blurring, intentionally or unintentionally, of the difference between HIV and AIDS has the effect of high-lighting the deadliness and the destructive nature of AIDS while ignoring the long incubation period of HIV and thus the state of being HIV positive. Thus, often words such as "death", "kills" and "destroys" were used in the messages in association with AIDS. For example, in the poster shown in Figure 6 (see p.157), the message "AIDS Kills" was written in a large red font against a dark background, resembling a title of some horror movie and conjuring the image of "blood", "injury" and "death". Other posters, such as those shown in Figures 7 and 8 (see p.158) were both monotone in colour, and the message "AIDS destroys life" was written in small print, much less noticeable than the message "AIDS Kills" in the poster in Figure 6. However, in the latter two posters, the very simplicity effectively conveyed the image of hopelessness, meaninglessness, and emptiness, and I may further argue here that this technique of using monotone to represent "destruction" or "ruins" closely resembles the one used in photography and movie-making.

Furthermore, while the posters continuously stressed that there is no cure for AIDS, none of them mentioned ARV drugs, care that is available for PLWHA (albeit limited in Singapore), and the life that goes on after being diagnosed as HIV-positive. As I already

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were put up in such public places as bus stops, train stations and hawkers centres. HPB also produced pamphlets specifically targeting women, but these were only available at clinics and waiting rooms of hospitals. This may further suggest that the Singapore government constructed "population most at risk" as heterosexual male.

mentioned, at least in certain developed and developing countries, AIDS is beginning to be seen as a manageable illness. In such countries, it has been reported that with appropriate care, support and treatment, HIV-positive people can and do live long, and also live a positive, constructive life. Yet the campaign posters in Singapore only concentrated on emphasising the causal link between catching, or having of AIDS and death (and they did so as if one just "gets" AIDS overnight and with death swiftly following), while completely neglecting the state of being HIV positive or life that continues as a PLWHA. Thus in the poster in Figure 6, the audience was warned that "when you have sex, you expose yourself to AIDS. Don't dig your own grave". The poster showed a couple undressing in a clean, modern bedroom. The visual image could have even passed as an advertisement from the fashion industry for the sensuous marketing of a perfume – only that the headboard of the bed was replaced with a Chinese tombstone, with "a nameless person's grave" written on it. I argued that it is through such textual and visual representations, that HIV was presented no longer as just any other virus that causes diseases, but was re-established as the "AIDS virus", certain to bring the infected miserable and terrible death. In other words, the Singapore Ministry of Health attempted to construct HIV as a threat that people would be worried about as a route to certain death; and means of preventing it became a knowledge that people would want to acquire from the authority on public health, namely the Ministry of Health.

Secondly, I observed that HIV, or the "AIDS virus", was almost always represented as being transmitted mainly through casual sex. This was achieved through "the updates", as well as once again, through the campaign posters. The updates here refer to an annual report published by the Ministry of Health, and they summarise the situation of

HIV/AIDS in Singapore based on the statistics provided by the Department of Clinical Epidemiology of the Communicable Disease Centre (CDC) that maintains the National HIV Registry. They are usually published as ministerial press releases, but are also available on-line from the homepage of the Ministry of Health[15].

Now, I observed that the updates almost always followed a set pattern; thus every year, the updates are usually divided into three sections, each consisting of 3 to 4 short paragraphs[16]. The first, titled "New cases of HIV infections reported this year", summarises the number of new infections and its epidemiological breakdown by sex, age and ethnic group, and the second section, titled "Total number of HIV infected Singaporeans", summarises the cumulative number of HIV infections since 1985 and similarly, its epidemiological breakdown. The third section, titled "Ministry's advice", talks of the ways in which Singaporeans could apparently protect themselves from getting infected (I shall come back to this later on). In the first section, it is reported that the majority of the new infections are acquired through heterosexual intercourse, and in the second section, it is further reported that the heterosexual transmission has been the most common mode of transmission in Singapore since 1991. Every year, the updates also stress that "among those who acquired the infection through the sexual route, about -- % had *sexual exposure to prostitutes (locally and overseas), and/or casual sex partners*" (emphasis by the author). These statements are further backed by graphs and tables, examples of which were shown in the Introduction (see for example Figures 3 and 4). Interesting however, though in the updates, both casual and commercial sex are

[15] http://www.sdgi.gov.sg
[16] for the most recent update, see
http://www.moh.gov.sg/corp/about/newsroom/pressreleases/details.do?id=34963469

given equal weight, *the warning against commercial sex somehow disappears in the campaign posters.*

For example, the poster in Figure 6 (see p.157) attempts to emphasise that sex is a brush with death by bringing the image of sex (a couple undressing) and death (the tombstone) in close proximity within a single visual framework. In this poster, the nature of sexual encounter, which was constructed to be the risk for HIV infection, was in fact not explicitly stated; however, numerous other posters made it quite clear, either visually or textually, that it is casual sex that is dangerous. Thus, the poster in Figure 9 (see p. 159) depicted a heterosexual pair of upper half bodies hugging each other. They were shown naked from their waist up, with the word "casual" written on the waist of the girl, and "sex" written on the waist of the boy. Below the picture, the message "Recent figures show clearly how AIDS is spread in Singapore" was written in bold type, which in turn was supplemented by more details; for example, the audience was further told that "4 out of 5 AIDS infections are spread through casual sex".

Similarly in the poster in Figure 5 (see p.157), a hand was shown holding a glass of drink (presumably alcoholic), with a reflection of a picture of a young women giving a seductive and alluring look towards the audience. Right below the picture of the women, the message "Don't risk it" was written in a big, bold type, and it was further followed by three short sentences;

"It's party time, but just because you're having a few drinks, don't lose your common sense. However tempted you might be, remember: just once is all it takes to get AIDS. Say NO to casual sex and you say NO to AIDS".

Unlike the poster in Figure 9 (see p.159), this poster visually constructed casual sex as a sexual encounter of a particular nature; that is, the one involving sex with a seductive and even predatory woman, perhaps the kind of woman who you meet at parties when you are having alcoholic drinks and thus not in the usual state of mind. Similar messages that dwell on the link between casual sex and AIDS could be found in other posters already mentioned earlier, such the one in Figure 6, which warned, "When you have casual sex, you expose yourself to AIDS" and in Figure 10 (see p.159)[17], which stated that "Anyone who has casual sex can get AIDS". It is also worth noting that these posters almost always constructed the audience, that is the potential victim of HIV infection, as males.

In fact, of the total 21 posters examined, not a single one mentioned commercial sex. The fact that another common mode of HIV infection, that is the sharing of infected needles, is not mentioned in these posters is at least, to some extent, understandable. This mode of transmission, according to the Ministry's figures, is not significantly prevalent in Singapore. This may be partially explained by severe (some would say draconian) penalties the government imposes on drug users and suppliers, including the death penalty. However, at least according to the updates, "transmission through commercial sex" is a risk for HIV infection. Why then does it disappear in the campaign posters, which are more likely to reach a larger audience? And why did the Ministry of Health felt it necessary to specifically focus on casual sex? I would like to come back this question later on.

[17] As the original material was not kept in a good condition, the photocopied image of it in the Figure 10 is rather unclear. The poster shows a man looking at himself in a mirror, and a woman in bed in the mirror's reflection. The caption reads as follows: "There is no cure for AIDS. People with AIDS virus may look normal and healthy, but they can infect you during sexual contact. Anyone who has casual sex can get AIDS. Because you can never be sure, say NO to causal sex".

Let me for the moment suggest that these campaign posters and updates can be seen as a technique, consciously employed by the Singapore Ministry of Health, in order to make its network durable; that is, to stabilise the specific knowledge about HIV/AIDS in Singapore. Here, I wish to briefly return to ANT and draw the readers' attention to a concept termed as "inscription" developed by the Actor-Network theorists. Actor-Network theorists described "inscriptions" as one of the powerful mechanisms for stabilising the network. "Inscriptions", according to them, condense all sorts of people and materials, such as complicated data, technology and professionals, into simple textual representation, and thus they render the network more durable for two reasons. Firstly, it is argued that inscriptions are two-dimensional; that is, they are very visible. For example, not many will understand the complicated statistical programmes, equations, and epidemiological computer software, but any reasonably educated adults can read and comprehend a short report that uses everyday language and simple and colourful graphs. Secondly, it is argued that inscriptions are resilient. According to Latour (1987), they may be seen as the "immutable mobile", which can be moved, remain stable and are readily combinable with other texts. Inscriptions thus allow the entrepreneur to, in the words of Michael, "centralise and monopolise such meanings at centres of circulation, such as laboratories, where these materials, traces and so on can be tied together" (Michael, M. 1996, p.55).

I argue that the campaign posters and the updates that I have just described above can be regarded as attempts to construct an "immutable mobile" for several reasons. For one, they were certainly visible, in that they used visual pictures, catchphrases, simple numbers and percentages. Furthermore, the tables in the updates grouped HIV infected individuals into various social categories such as those based on sexuality

("homosexual", "bisexual"), and ethnicity ("Chinese", "Malays", "Indians"), which could easily be understood by the general population. The epidemiological data were presented in numbers and percentages, and were given absolute meanings so as to describe the trend of HIV and AIDS in Singapore. However, how such figures were reached was never made explicit. Thus, it was never explained how the Ministry of Health came to the conclusion that the majority of the sexual contact that resulted in HIV infection was casual or commercial in nature. There were no explanations about how "prostitutes and casual sex partners" were defined or how such data were obtained. Interestingly also, no other types of sexual activities, such as those between a wife and a husband, between "non-casual" partners, were ever mentioned. The posters and the updates were also mobile in a sense that they appeared in various media, such as print and Internet. Furthermore, the information on the updates were often combined with visual materials in the posters, such as the poster in Figure 11 (see p.159), which utilised a graph as its main visual material, and the posters in Figure 11 and 9 (see p.159), which referred to percentages and numbers in their caption. I thus argue that what these posters and updates were doing was to re-represent the complex and multifaceted issue of HIV/AIDS into a simple and yet at the same time a serious health problem that can be recognised by any reasonably literate person; that is, as a "deadly disease spread mainly through casual sex".

On the other hand, however, I also observed something quite interesting about this process of problematisation in the Singapore context. If I now turn to some extracts from semi-structured interviews, which I carried out with medical and non-medical staffs from three different governmental organisations, and examine them in detail, it becomes clear that HIV/AIDS was not necessarily constructed in the same manner as it

was in the updates and the campaign posters. That is, on the one hand, the updates clearly indicated that the number of HIV infections and AIDS cases were rising each year, and the posters also constructed HIV/AIDS as a problem that the Singapore population should be concerned about. Yet, several of those interviewed either denied that HIV/AIDS was a serious problem, or a problem at all, in their country. In each interview, I had begun the conversation by asking the interviewees whether he or she personally thought HIV was a problem in Singapore or not. The responses of the following three interviewees were quite similar in that they denied the seriousness of HIV/AIDS in Singapore. The first interviewee was a non-medical officer working for a quasi-governmental organisation, which was responsible for policy coordination. In the extract below, I had started the interview by greeting the interviewee and thanking for her time. As she seemed a little nervous, I also tried to relax her by asking her to give her personal opinions, which did not necessarily have to reflect the official stance of the organisation to which she belonged. I then moved on to ask the first question.

LI: "First of all...would you say that HIV is a problem in Singapore?"

G03: "Yes, well, it is...but, but the absolute number *is* low compared to other diseases such as smoking..."

The second interviewee was a senior medical doctor working at a government-run hospital. He was similarly in a position to provide input to national policy on HIV/AIDS. Again, I had begun by greeting him but this time, the interviewee seemed quite eager to start the interview, as it was he who prompted the conversation.

G10: "So"

LI: "Ah...so, firstly, would you say that HIV is a problem in Singapore?"

G10: "Hm...definitely not, not like Africa. The percentage is very low and it is also unlikely to affect Singapore in the future"

The third interviewee was a medical staff member working for a clinic operated by the Department of STI Control. Unlike the two above, her work involved diagnosing and treating sexually transmitted infections, as well as diagnosing HIV infection. She was seeing patients more or less everyday, and was thus working most closely to the field. However, even then, she felt that HIV/AIDS was not an issue in Singapore.

LI: "Would you say that HIV is a problem in Singapore?"

G04: "Problem? I don't think so"

LI: "You don't think so? Why is that?"

G04: "Er...it is definitely not...I mean there will be a small growth, I mean, ar...there will be cases OK, but it is not such a drastic increase or what, I mean, we do get cases you know, every year there is a slight increase, I mean, we are seeing that, but not to the extent that it is going to affect everybody..."

Furthermore, it can be noted that those who denied that HIV/AIDS was a serious problem, if at all a problem, in Singapore also referred to the statistics, for example "numbers" and "percentages", to support their argument. In other words, they had also used the same statistical discourse that was used to construct HIV/AIDS as a serious problem in the updates and in the campaign posters. How is this so? Why were they trying to draw a picture of Singapore that does not have the problem of HIV/AIDS? At

this moment, I just wish to suggest that there was another audience to which they needed to de-problematise HIV/AIDS, and that audience was none other than myself. I will discuss this issue in more detail in the Conclusion section. For now, let me continue with my account of the Ministry's engineering effort in Singapore.

Having established HIV/AIDS as a deadly disease that is mainly transmitted through casual sex through the updates and the series of campaign posters, I suggest that the Singapore Ministry of Health then moved on to propose a particular solution to it, or, in other words, a particular network of knowledge about how one could prevent HIV infection and AIDS. And its proposed solution? *To avoid having casual sex.* Thus once again, I observed that the Singapore Ministry of Health resorted to the updates and the campaign posters to present its argument. Each and every year, under the "Ministry's advice", the updates repeated again and again that "...the Ministry would like to emphasise that the only way to avoid AIDS is to remain faithful to one's spouse and to *avoid casual sex and sex with prostitutes...*" (emphasis by the author)[18]. However, once again, though the updates mention avoiding commercial sex as a way of preventing HIV infection, the message disappears in the campaign posters. Thus, none of the campaign posters explicitly warns the audience against the dangers of commercial sex, but only emphasise on casual sex, as can be seen in posters in Figure 5, 6, 7, 8 and 9 (see p.156-158) mentioned earlier.

Furthermore, Singapore Ministry of Health never for once stated that HIV is *"most likely"* to be transmitted through unprotected sex, that is heterosexual intercourse that

[18] http://www.moh.gov.sg/corp/about/newsroom/pressreleases/details.do?id=34963469

does not involve the correct use of condom. It never mentioned that compared with other agents that cause sexually transmitted infections such as *Treponema pallidum* (which causes syphilis) and *Neisseria gonorrohoea* (which causes gonorrohoea), HIV is not easily transmitted via sexual intercourse. It certainly never mentioned that the risk of infection can significantly be reduced by using a very mundane technology, that is condoms, and that intervention programmes, which promoted condom use among local commercial sex workers and masseuses, had been quite successful in reducing the rate of HIV infection among them or that this technique has been successfully used in a wide variety of contexts in both the West and developing countries.

It is interesting also, that a few posters did mention condoms but only as a measure of secondary importance. For example, the poster shown in Figure 9 (see p.159) stated that "casual sex is dangerous. The best way to protect yourself is to have only one faithful sex partner. *Otherwise, use a condom every time you have sexual intercourse*" (emphasis by author). I however argue that the message is giving contradicting information. The first part seems to indicate that a certain type of sexual intercourse, that is *casual* sex, is dangerous. The second part, highlighted in italics, however, suggests that any type of sexual intercourse carries risk as it advises the audience to use condom *at every sexual intercourse, presumably of whatever nature.* Similarly, in the posters in Figure 6 (see p.157) and Figure 9, condom use is promoted if "one must" (have sex), but it is not stated in what kind of sexual intercourse should one use a condom. Furthermore, the posters shown in Figure 12 and Figure 13 (see p.160 and 161) directly promoted condom use, referring to condom both visually and verbally. For example the poster in Figure 12 shows a hand spread out, with five condoms put on each five fingers, and urges the audience to "Just put it (condom) on", stating that "over 90%

of AIDS patients in Singapore contract AIDS through *unprotected* casual sex" (emphasis by author). I believe that the message is significantly different from those found in the rest of the posters, in that it mentions the word "unprotected" (i.e. sexual intercourse without condom). However, once again, the message is contradictory and confusing. If unprotected casual sex is the risk of infection, the Ministry of Health's effort at constructing casual sex per se as the risk is undermined. It appears that the Ministry has thus driven itself into a paradoxical situation; by promoting condom use for all situations, it is undermining its argument that casual sex is dangerous. What has occurred here? Why did the Ministry of Health feel the need to promote condom use *in line with avoidance of casual sex*? To whom did the Ministry of Health need to promote condom use? I shall come back to this matter later on in the Discussion, but for now, let me summarise that the Ministry of Health main engineering work thus constituted of problematising HIV/AIDS as a deadly disease transmitted mainly through casual sex, and of proposing avoidance of casual sex as the means of prevention HIV infection.

Now, after having problematised HIV/AIDS in a particular manner and identified a particular means of preventing it, I suggest that what the Singapore Ministry of Health needed to do next was to stabilise the knowledge about HIV/AIDS prevention and eventually "black-box" it. In doing so, I wish to argue that the Ministry needed to deal with two types of actors. The first type of actors I shall refer to as the "allies". In the ANT literature, it is argued that entrepreneurs need to convince the "allies" that to be enrolled into the network was in their own interest, and this process is termed as "interessement". In the case of my study, this means that the Ministry needed to identify and convince certain allies that avoiding casual sex was the best solution available to prevent HIV infection.

However, I further wish to develop another concept by arguing that the Singapore Ministry of Health also needed to deal with the "contestants". These were the potential engineers of other versions of the knowledge regarding HIV/AIDS and HIV prevention; in other words, they were the potential rivals which the Ministry could not ignore or antagonise, but had to sooth and convince not to threaten its network of knowledge. I have termed this process as "amiable disqualification". In the process of "amiable disqualification", the entrepreneur approaches the potential "contestants", and through a series of negotiations and bargaining, attempts to convince them to step down as "contestants" and abandon their engineering efforts. In other words, the entrepreneur attempts to disqualify them as engineers, and ensure that the authority over the constructing work of the knowledge is firmly under its control. The process however, must be two-way (hence "amiable"). Just as the process of "interessement" entails both the "capturing of other" and "other's yielding", I argue that "disqualification" must also entail "disqualification of the other" and "other's accepting being disqualified". This is because simply shutting the "contestants" out of the engineering process will merely serve to antagonise them and lead to potential destabilisation of the network. The entrepreneur, or the Singapore Ministry of Health, thus needed both the enrolment of the "allies" *and* the disqualification of "contestants", in order to stabilise the network and close the black box. In the next section, I will examine the techniques used by the Singapore Ministry of Health to disqualify the potential "contestants" on the one hand, and those include the Action for AIDS and the Business Coalition on AIDS, and enrol the "allies", the heterosexual men, on the other hand[19].

[19] Though I interviewed several potential contestants and allies, such as other NGOs and religious groups, from the interviews with the staff members of governmental organisations, it became clear that those three were the most frequently mentioned and thus regarded as most significant. Hence I decided to focus attention on the three – I will justify my action in the Conclusion section.

The "Contestants" and the Process of "Amiable Disqualification"

Action for AIDS

One of the potential "contestants" that I had identified from background research was a non-governmental organisation called Action for AIDS. Before I go on to describe the process of "amiable disqualification", however, let me briefly introduce Action for AIDS and explain why this organisation was identified as one of the "contestants".

Action for AIDS is a voluntary community-based organisation and a registered charity founded in 1988, and is the only AIDS service organisation in Singapore. Action for AIDS claims as one of the aims to fight against stigma and discrimination towards People Living with HIV/AIDS (PLWHA) regardless of their ethnic or sexual orientation, and runs welfare and support programmes, and organises public talks and exhibitions as well as educational activities and intervention programmes. It also operates the only anonymous HIV anti-body testing facility in Singapore. Action for AIDS is funded by donations from private individuals, other foundations and businesses, and it therefore does not have the access to financial and technical resources that the Ministry of Health does. However, it does have a highly motivated staff, in a sense that though there are only two salaried employees, it is constantly staffed by a large number of volunteers, including both professionals, such as medical doctors and lawyers, and non-professionals. This enables them to conduct various activities targeted at different population groups, and to participate in both national and international conferences and policy meetings.

Now, I observed that Action for AIDS naturally also problematised HIV/AIDS, but not necessarily in the same manner as the Ministry of Health. Firstly, by promoting the

welfare of PLWHA, Action for AIDS drew a clear line between the state of being infected with HIV, and that of having AIDS, and attempted to overturn the image of AIDS as a deadly disease. Furthermore, in its educational as well as cultural activities, Action for AIDS constructed HIV not necessarily as a virus transmitted via casual sex, but as transmitted via "unprotected", "unsafe" sex with an infected person as can be seen from the extract from the "Q&A" section of the homepage of Action for AIDS shown below:

> **How is HIV Spread?**
>
> There are 3 ways HIV can spread from one person to another.
>
> a) Through semen, vaginal fluids or blood during ***unprotected sexual intercourse with an infected person***
>
> b) Sharing needles and syringes for intravenous drug use with an infected person
>
> c) From infected mother to baby during pregnancy, child birth or breastfeeding

Source: http://www.afa.org.sg/agenda.htm (emphasis by author)

Action for AIDS was also very careful not to dramatise the risk of infection, and thus not to present AIDS as a "sudden death" resulting from "casual sex". This again can be seen from the "Question and Answer" section of the homepage of Action for AIDS, as shown below.

Does everyone who comes into contact with HIV get infected?

While there is a ***HIGH risk*** of being infected through unprotected sex with an HIV-positive person, ***such contact does not always lead to HIV transmission.***

The risk increases greatly for the partner who is penetrated (women rather than men, in the case of vaginal sex);

- in the presence of other sexually transmitted infections (STI) such as gonorrhoea, herpes and syphilis; and
- when the HIV-positive person is in the very early and very late stages of HIV infection.

Source: http://www.afa.org.sg/agenda.htm (emphasis by author)

Nor did Action for AIDS attempt to group sexual encounters or sexual partners under any social categories (e.g. "casual", "commercial", "heterosexual", "homosexual" etc.) and identify which ones were "dangerous" or "more risky" than the others. Action for AIDS certainly warned the audience against having multiple sexual partners, or having sex with someone who has multiple sexual partners, but it did not assume any particular social identities to such behaviours. Rather, it sought to emphasise that it is unprotected penetrative sex with someone whose HIV status is unknown, which presents a risk of HIV infection.

Action for AIDS also promoted the use of condom as an effective method of preventing HIV infection, alongside with sexual fidelity and abstinence. Again, this is clearly visible from its "Question and Answer" section of its homepage. It advises the audience to use a condom if they intend to have penetrative sex with *anyone, under whatever circumstance*, so long as the HIV status of both self and the partner is not known.

How do I protect myself from HIV infection?

Abstinence from sexual contact is one fool proof method of avoiding HIV infection, other STDs and pregnancy. Don't be fooled into thinking that most teenagers are having penetrative sex. They aren't. There is much to think about before you can say "yes" to sex. And there are many other pleasurable activities you can do besides having penetrative sex - including caressing, stroking, massage, light kissing and mutual masturbation. Limiting your sexual activity to one faithful sexual partner will reduce risks of being exposed to the virus. And avoid sex with people who may have many sexual partner. If you intend to have ***penetrative sex, be sure to use a condom until both you and your partner have been tested for HIV.*** If used correctly and consistently, good quality condoms can significantly reduce the risk of contacting HIV and other STDs, and also prevent unwanted pregnancies. Two negative HIV tests 3 to 6 months apart usually means that there is no HIV infection. Then if you remain faithful to each other, it is safe to stop using condoms. But remember to use an effective birth control method to avoid unwanted pregnancies.

Source: http://www.afa.org.sg/agenda.htm

I argue that such problematisation of HIV/AIDS and its proposed solution run directly in contrast with that of the Singapore Ministry of Health. Yet if we now look at some extracts from the interview, we can see that when asked what they thought of Action for AIDS, very few staff members from governmental and quasi- governmental organisations could totally deny the role of Action for AIDS or criticise its activities. Rather, many took up an ambivalent attitude, treading carefully not to wholeheartedly accept Action for AIDS but at the same time not to ignore its presence. Below, one member staff from a governmental organisation is speaking about what he felt Action for AIDS had to offer. We had been discussing about the various actors other than the Ministry of Health, which the interviewee felt played an important role in HIV prevention and education. This interviewee, a non-medical staff member of a quasi-government organisation, was relatively quick to mention Action for AIDS, and commented on its role as follows;

LI: "You mention Action for AIDS, but what exactly does it do? How do you perceive its role?"

G03: "Well, AFA does a lot of work that we are not *officially aware* of, for MSM [men who have sex with men] and women...and pregnant women..."

In a separate interview, a medical doctor from a government-run hospital similarly commented;

LI: "What is Action for AIDS supposed to do?"

G10: "...you see, the NGO will target different risk groups [i.e. those other than heterosexual population] so they will promote...condom use..."

What was common to both interviewees was that they spoke of Action for AIDS as working with various population groups which were different from those targeted by the Ministry's campaigns. Here, I argue that what the Singapore Ministry of Health was in fact trying to do was to establish a particular identity for Action for AIDS, that is, an identity of an NGO that targeted minority groups such as gay men, whom the Ministry did not, and would not, reach out to. In this way, even if Action for AIDS promoted a different version of a network of knowledge about HIV prevention i.e. that condom use could protect one from HIV infection, the Ministry of Health could claim, as the second interviewee (G10) did, that this was meant only for particular groups of population whom the Ministry of Health did not construct as the most affected and thus most in need of their education campaigns. Furthermore, by giving it the identity of an NGO that represented the interests of the "sexual minority" population groups, I argue that the Ministry of Health also attempted to disqualify Action for AIDS from participating in

the public HIV/AIDS education campaigns; that is, from constructing HIV knowledge intended for the general population.

How successful was the Ministry of Health in its attempt at disqualifying Action for AIDS? As I already mentioned, on its mandate, Action for AIDS claimed that its objective was to provide support and assistance to People Living with HIV/AIDS of whatever sexual orientation and of whatever social background, and organise educational activities to various population groups perceived to at risk. However, at least from the interviews with the volunteer staffs of Action for AIDS, it was clear that in practice, they more or less perceived their organisation as an NGO that targeted specific communities that the Ministry did not, or could not, reach. Let me thus now turn to some of the extract from such interviews. In the extracts below, we had been discussing firstly about the state of HIV/AIDS in Singapore, and then we moved on to talk about various policy initiatives that had been introduced by the Singapore Ministry of Health. I then asked the interviewees what they saw the role of Action for AIDS in HIV prevention was. It turned out that several staff members described it and also justified their comments in a rather similar manner, as follows;

LI: "What do you think is the role of Action for AIDS in HIV prevention?"

A01: "We see ourselves as being responsible for certain target communities, especially the sexual minorities..."

Another staff member similarly commented;

LI: "So...so how do you the Action for AIDS contribute to HIV prevention? I mean, what is its role?"

A07: "We... we... reach... ahh... people which er... the government cannot... governmental agencies cannot reach...we have posters that have different messages which are more...um...you know, something that the government agencies sort of cannot...produce"

Furthermore, when asked why Action for AIDS did not target the heterosexual population, several mentioned that they did not wish their work to "duplicate" that of Health Promotion Board (HPB). In the extract below, the interviewee and I had been discussing about the various activities of Action for AIDS. I then asked how their work complemented the Ministry's campaigns.

LI: "So...you told me AFA mainly does work with gay men, but what about the general population? As in, the heterosexual men?"

A02: "...well...in a sense HPB is already doing that part [education for the heterosexual population] so we leave it to them to do it...with the fact that we're not a very rich organisation. We work with a shoe-string budget...so we have to temper with the fact that our resources are limited"

The staff member, who earlier argued that the role of Action for AIDS was to be responsible for sexual minority groups, also similarly argued;

A01: "...we don't want to [target the general population], that'll be a duplication of HPB's efforts...we can't afford to come up with posters to the public and

magazine ads, the way the Ministry can, HPB can, and they have the budget, and we can't really afford that..."

However, as can be indicated from the above extracts, there was apparently another reason why Action for AIDS could not do what the Ministry of Health and its related agencies, that is the HPB, were doing, which was that of a budgetary constraint. Here I further argue that its limited access to financial resources was another point of leverage, which the Ministry had utilised to persuade Action for AIDS to accept the particular identity of an NGO concerned with the sexual minority groups. Action for AIDS did not, however, necessarily see itself as being forced to take up the identity, or feel disciplined by the Ministry. In fact, the member staff often pointed to the positive working relationship with the Ministry and the HPB. What could be noted from the interviews, however, was that apparently, they constantly felt the need to stress the *informal nature* of their relationship with the Ministry and the HPB. In the extracts below, one volunteer staff is trying to describe the relationship between Action for AIDS and the Health Promotion Board. He had been telling me about the various activities of Action for AIDS, and how it coordinates its work with other organisations, such as the HPB.

LI: "How would you describe the working relationship between AFA and the Ministry?"

A01: "Pretty amicable I would say for the most part....the atmosphere is fairly informal..."

And in a separate interview, another member of staff similarly commented;

LI: "So...how do you coordinate...work together with other organisations, like, for example the Ministry of Health?"

A02: "Well ah...the good thing is we have a lot of personal contact. Beyond being official, we are also very friendly to each other. We have tea, we have you know...we meet up in the morning coffee and all of that...and I think a lot of things...a lot of work gets done because of informal nature of our relationship. Of course we do have our formal relationship...but I think the informal relationship is far more...weightier than the formal relationship..."

From the context of the interview, it was quite clear that the interviewee had meant the informal relationship was more important, when he used the word "weightier". Furthermore, when asked whether there were any differences in opinions or policies, and if there were, how such would be solved, staff often resorted to either not commenting about it, or giving some sort of excuse for the differences and quickly stressing the fact that there *were* areas in which they do agree with each other. In the extract below, the interviewee became quite agitated when I asked him about the possible differences in the AFA's and the Ministry's approach to HIV prevention.

LI: "Do you see any differences in the approach towards HIV/AIDS education between Action for AIDS and the government?"

A02: "...you know, you put any two persons together, they will have differing views...but I think there are also areas where we agree, you know? Some of which I am not at liberty to mention..."

LI: "Could you elaborate on the sort of agreements and disagreements you have, where you can?"

A02: "I'd rather not"

The interviewee below was not as uncomfortable or defensive as the first one above; however, he too did not forget to comment that there does exist an exchange of opinion.

LI: "Are there any differences in the approach towards HIV/AIDS education between Action for AIDS and the government?"

A01: "Sure...but you know...well...they [the HPB] will look at ours, and we will look at theirs, you know...but [we] generally produce independently...of course we do give out comments [to each other] though..."

There was however one member staff who was quite prepared to be outspokenly critical of the Ministry's approach. She had been talking about the various activities of Action for AIDS. I then interrupted her to ask for her opinion on the Ministry's campaigns.

LI: "How about the Ministry's campaigns? What do you think of them...as in the posters that the HPB produces?"

A04: "Actually...I didn't really bother to find out what they [HPB] was doing and all that because I felt their materials were all so old and always you know...'don't have sex', 'abstinence' and things like that so I didn't really bother about it....I hope you are not from the HPB?"

However, she also ended up defending the HPB and the Ministry, and even changing the target of criticism to the general Singaporean population. Thus, later on in the interview, when we were discussing about the relationship between Action for AIDS and the HPB, I asked her whether she thought there existed any meaningful exchange of ideas between the two organisations. Rather than directly addressing the question however, she chose to explain why such an exchange was not formalised.

A04: "Yeah...we do [give comments etc.] but it's just verbally...it's nothing in black, in white..."

LI: "Nothing in black and white? What do you mean?"

A04: "...but I don't blame them [HPB] also...they have to take instructions from the Ministers...and the Ministers have to worry about the public...when you talk to them [the Ministers], they say 'yeah, we should do something', but when they do that, who's the one that complain? It's the public"

Thus, she was in fact implying that the reason why the Ministry's posters were so "old" and were sending out outdated messages was because such was precisely what the public, or at least certain sectors of it, had wanted to listen to. Surely she could have argued, for example, that the Singapore's HIV/AIDS policy had so far been dictated by the Singapore government's short-term objectives of not upsetting the population and losing electoral popularity. Yet, what she chose to do was to justify the policies of HPB and the Ministry and attribute the failure of HIV prevention to date to the Singapore people and what she perceived as their irrationality.

The above extracts therefore suggest that at least during the period of time in which I conducted my research, the Singapore Ministry of Health had succeeded in "disqualifying" Action for AIDS from participating in the Ministry's engineering efforts, and also that Action for AIDS was quite content in being "disqualified" and concentrating on building a separate network (i.e. the one targeting sexual minority groups). In other words, the Ministry of Health had been able to obtain both the "capturing of Action for AIDS" and "Action for AIDS' yielding" in its process of engineering, and by doing so, moved a step closer towards stabilising its network. Things were not as easy, however, when it came to negotiating with the Business Coalition on AIDS in Singapore.

Business Coalition on AIDS in Singapore

Business Coalition on AIDS in Singapore (BCAS) is a part of a larger, regional network of companies called the Asian Business Coalition on AIDS (ABC on AIDS). ABC on AIDS identifies itself as a not-for-profit organisation and claims as its aim to prevent and control HIV/AIDS in the workplace and to provide technical services on HIV/AIDS, such as training and educating the workforce[20]. It currently operates in eleven countries including Singapore. BCAS, its partner organisation in Singapore, was established in 2002 to promote local business response to the problems of HIV/AIDS in Singapore and in the surrounding region.

Now, from the interviews with the employees of various companies that affiliated themselves with the BCAS, it became clear that the Business Coalition perceived the

[20] http://www.abconaids.org/ABC/

issue of HIV/AIDS from a totally different perspective from that of the Ministry of Health or Action for AIDS. As with the interviews with other actors, I began by asking whether or not the interviewees felt that HIV/AIDS was a serious problem in Singapore. The majority of the interviewees felt that it was not. However, many also felt that HIV/AIDS had the potential to be one. Following comments were thus quite typical of this thinking;

LI: "Do you think HIV/AIDS is a problem in Singapore?"

B08: "In terms of direct medical threat...right now, no...um...but in terms of what it will become...I think, yes."

Another interviewee similarly answered;

LI: "So do you perceive HIV/AIDS as a serious problem in Singapore?"

B11: "No, it's not a serious problem, it's definitely not a serious problem as we know it...but it's growing..."

Notably, there were also those who referred to the discourse of statistics to justify their argument, which, as discussed earlier, was a technique some of the government officials I interviewed had used to describe the situation of HIV/AIDS in Singapore. Thus below is a response of another interviewee to my question asking him whether he thought HIV/AIDS was a problem in Singapore.

B06: "...now the reported numbers are still very low, I think, it's about in the region of 1500 reported cases...so it's not a serious problem now"

The interviewee below even went as far as to suggest that HIV/AIDS is not even an issue of major attention;

B09: "Ah...no, it's not a problem...ah...I think the infection rate is, as I understand them to be, whether you take the official rates or any other set of rates, when you look at it as a ...as an issue, it's really not an issue of ah...major attention...I think, though, moving forward, Asia potentially...as we all know has the...has the potential to be as bad if worse than southern Africa..."

However, I argue that their reasons for constructing HIV/AIDS as not so much a serious problem is completely different from those of the member staff of governmental and quasi-governmental organisations. I had suggested earlier that the several government officials attempted to tone down the seriousness of HIV/AIDS for a specific audience, which was myself. I suggest that the Business Coalition, however, analysed the situation in terms of the economic and social impact HIV/AIDS may have on their operations in Singapore and in the surrounding region. In other words, their assessment was intended to reflect the "real situation" of Singapore as they saw it, and to help them plan their future business operations. I argue that they thus neither needed to dramatise nor underestimate the problem of HIV/AIDS.

Thus the Business Coalition was not interested in stressing that HIV/AIDS affected the heterosexual population, or that it could be prevented by avoiding casual or commercial sex. Rather, it was interested in minimizing the effects of HIV/AIDS on their business, and this meant that its objective was not only to prevent new infections, but also to

enable PLWHA to continue contributing to Singapore's labour force by protecting their rights. This was clearly stated in the homepage of BCAS, as shown below.

> **The Role That Business Can Play**
>
> The utilization of corporate resources, such as management and marketing know-how, distribution and suppliers networks and funds - is of crucial importance to effectively prevent HIV/AIDS in the workplace. Businesses can minimize the socio-economic costs of the AIDS epidemic by educating workforces, implementing non-discriminatory policies and partnering with the public sector and civil society to provide medical care to HIV-positive employees. By doing so, businesses are able to promote the important message that ***people living with HIV/AIDS can have positive and productive lives.***

Source: http://www.abconaids.org/ABC/ (emphasis by author)

By emphasising the possibility of a positive and productive life after having been diagnosed with HIV, the Business Coalition undoubtedly contradicted and undermined the Ministry's effort at problematising AIDS as a deadly disease that destroyed not just biological life, but also its social meaningfulness (see for example the posters in Figure 7 and 8 on p.158).

Now, the attitude of the Ministry towards the Business Coalition was, once again, one of ambivalence. In the interviews, the various member staff of governmental and quasi-governmental organisations did not necessarily deny the role of the Business Coalition in tackling HIV/AIDS in a general sense; however, several insisted that the Business Coalition was not interested in prevention. The following extract is from the interview that I had carried out with a non-medical officer of one quasi-governmental organisation. I had asked the interviewee to list those bodies and organisations, which he felt

contributed to the prevention efforts in Singapore. We had been discussing about Action for AIDS, and then I went on to ask his opinion on the Business Coalition against AIDS.

LI: "...so what about the BCAS? Does the Ministry staff cooperate with them in anyway to coordinate HIV education campaigns?"

G03: "Business Coalition...it's not very much that we work with them, but we are in constant communication with them. The objective of the business is *different,* they are more concerned about HR (human resource) policies. We need to convince the business community that it is good to have HR policies that reduce discriminatory attitudes. Hopefully, it helps them to be more accepting of more educational programmes..."

(emphasis by author)

Below, another member of staff from a different governmental organisation is responding to the same question. This interviewee was even more direct in his response;

LI: "So what do you think of the business? I mean, on the other hand, do you see the business community contributing in any way to the prevention efforts?"

G11: "No, not so much in prevention...their activity (is more concentrated on) educating about HIV, human resource policy, work policy..."

There were those, such as the medical doctor below, who even appeared to criticise the BCAS for not doing much in terms of HIV education. However, a close reading of his manner and comments reveal that such was actually not his intention. We had been discussing about various non-governmental organisations and groups that may

contribute to HIV prevention efforts. The interviewee had already mentioned Action for AIDS, so I drew his attention to the Business Coalition;

LI: "Does the business community contribute in any way to the prevention efforts?"

G10: "Not so much lash...when they call us, *they want us to give talks*"

LI: "Really? Oh I see...so you wish they...they would be more active on their own? Take initiative?"

G10: "No lah, no, not really...I mean...no, I don't expect"

As can be seen from the extracts, when asked what he then expected from the BCAS, or what he wanted the BCAS to do, he in fact had very little to say and quickly moved it on to another subject. The very fact that he did not anticipate the BCAS participating seemed to suggest that he did not wish for an active involvement from the BCAS. His critical comments about the BCAS above thus probably came not necessarily out of his dissatisfaction with, but from his sense of superiority over, the BCAS.

These comments, I believe, suggest that the Ministry of Health was attempting to "amiably disqualify" the Business Coalition, just as it had tried to do with Action for AIDS, by constructing a certain identity that would make the Business Coalition unfit and unsuitable to participate in the process of engineering the particular knowledge about HIV and AIDS. And I suggest that the identity was of another non-governmental actor, which was more interested in establishing a human resource policy on HIV/AIDS in their companies rather than in general education for the heterosexual population.

Now, I argue that the Ministry's attempt at excluding the Business Coalition from its engineering of HIV/AIDS campaigns for the heterosexual population did have some success, at least superficially. The Business Coalition was almost completely unaware of the education or prevention campaigns that took place under the Ministry of Health, as can be seen from the extracts below. These extracts are from the interviews with the employees of the various companies that affiliated themselves with the BCAS. In each interview, the interviewee and I had been discussing the various activities that the Business Coalition had been involved with recently. I had then turned their attention towards those campaigns organised by the Ministry of Health, and asked what they thought of such campaigns. To my surprise, the majority of them shook their heads and said that they knew very little about what the Ministry was doing;

LI: "Can you remember any government activities (relating to HIV/AIDS education for the general public) that really impressed you?"

B06: "Actually, I can't quite remember what the...I don't watch TV and I don't listen to radio so...and...er...what on earth...can you describe the most recent one...?"

And another interviewee similarly answered;

LI: "What about those government campaigns? Did any of them...the posters, impress you? Or... actually, do you know any of them?"

B09 "No, I...no, I don't...no I haven't...None. None. No, I mean, I'm sure there are, but I haven't seen them".

This interviewee below was also unaware of the government campaigns. However, he sounded neither sorry nor embarrassed that he did not know.

LI: "Do you know anything about the campaigns that the government does? What do you think of them?"

B11: "Not a clue...I don't know who does what..."

One even doubted whether the Ministry was doing anything at all. Below, the interviewee had been telling me of the various HIV/AIDS-related campaigns that he had seen in other countries. I then asked him whether he was aware of any such campaigns in Singapore. He stopped for a while to think, then shook his head.

B08: "...I mean, I must admit, I really don't know...well, I suppose it occurred to me as you told the story [about the Ministry's campaigns] that...I really haven't seen that much by the government...I just haven't seen it, I just don't think it's really out there...:"

Their comments suggest that the Ministry of Health had more or less succeeded in keeping the BCAS at an arms length – the Business Coalition was hardly aware of the Ministry's HIV/AIDS campaigns – and had also justified their action by arguing that the BCAS was not interested in contributing to prevention efforts. However, I argue that unlike Action for AIDS, the Business Coalition was not necessarily satisfied with the Ministry's attempt at disqualifying them as a potential "contestant". For example, the interviewee below, who had earlier doubted whether the Ministry was actually doing anything, clearly expressed his unhappiness with the way the Ministry has been, and still

is, circumventing the BCAS. Thus, when asked what he thought of the general working relationship between the BCAS and the Ministry, he responded in earnest;

B08: "I think that...our relationship [the one between the BCAS and the Singapore Ministry of Health] is certainly growing but the engagement of us...the working together with us is not...er...all it should be, I mean...For example, there's the key meeting...next week, between all major government agencies, talking about the impact of HIV on employment. And even though that all of them [the government agencies]...we've formed a coalition that's actually...we haven't been invited to speak. And it's...and it's not that I think we have the monopoly of knowledge but we do represent the employers and we represent that has the experience dealing with HIV in Singapore...it's a real shame that...that the government thinks that it still has all the answers..."

Furthermore, it appeared that the members of the Business Coalition firmly believed that they had much to contribute to educating the Singapore workforce about HIV/AIDS. The "Singapore workforce" of course constituted mainly of the "heterosexual population", which was the target of the Ministry's campaigns. Thus, they certainly did not identify themselves as being unconcerned about HIV or disinterested in education but mentioned several ways in which they believed they could contribute to educating the general population, such as through educating their own workforce, and through influencing the public awareness and knowledge about HIV/AIDS using social marketing technologies. For example, the same interviewee who talked of his dissatisfaction with the Ministry also mentioned how certain businesses, such as those in fashion industry, could utilise brands of their products to send out messages about

HIV/AIDS. In the extract below, we had been talking of the role of the business in general in the fight against HIV/AIDS in Singapore. The interviewee argued that workplace provided an excellent opportunity to educate the workforce, and then he continued to talk about how the business community could influence the wider community.

B08: "...you know, and increasingly, our lives seem to be dictated by brands or by erm...you know, what we drink and eat and wear, and I think that the influence that those have, you know, you can influence...you can use the same practice, the same theory with...with HIV, then you can capture the population. I mean, if you can convince people that...you know, through XXXX [his company product brand], people can get to know more about HIV and because they like XXXX, because of the credibility of XXXX, people will listen and they wanna get involved, you know..."

And most significantly, as well as unsettling for the Ministry, the BCAS was often critical of what they saw as the Ministry's conservatism and narrow-mindedness, believing that they were the one who could, and should, teach the Ministry how to deal with HIV/AIDS in Singapore. Thus when asked what they thought about the Ministry's problematisation (or rather, lack of it) of HIV/AIDS in Singapore, many expressed discontent, and felt that the Ministry needed to be pushed by the business community as represented by the BCAS, such as the interviewee below. We had been discussing the general situation of HIV/AIDS in Singapore. He had earlier suggested that though HIV/AIDS currently did not pose a serious medical threat, it had the potential to do so, if nothing was done.

LI: "So you think that not enough is being done? I mean, now?"

B09: "ah...well, Singapore (Ministry) has to start to understand that HIV and AIDS is a global issue and er...but because it's not a serious health issue today, I think the government is reluctant to...address the public, ok? I think through ASEAN[21], you know, the...they're going to be exposed, and the ministers are going to be exposed to discussions about HIV/AIDS, through the ASEAN context, and hopefully through those sort of discussions, the government will start to become a little more receptive...Er...also I believe that *business can in time influence the government*...you know, let business be a little bit... the *influencer of the government.* Business has a role to play and er...you gotta understand that a little bit and you gotta get rid of stigmatisation and business is where...I think it can be done because I don't think the government will do it. Yeah, so I think the *business can influence the government and I see that's the role of Business Coalition against AIDS in Singapore*..."

(emphasis by author)

Below, another interviewee similarly argued;

LI: "So how do you think the government...the Ministry of Health, HPB and all that...are tackling HIV/AIDS?"

B11: "The government is aware that the problem of HIV exists but...ahm...there's a lot of reluctance, in terms of change, but I think with the starting of the Business Coalition against AIDS in Singapore, ahh...and with what we're

[21] Association of Southeast Asian Nations

doing, ahh...*this will change the attitude* [of the government]...the attitude because I'm working with multinationals, and they have more global concerns, and I think this will possibly force the government to take more actions..."

(emphasis by author)

The interviewees had also said that their global (economic) perspective made the business community more sensitive and responsive to international issues such as HIV/AIDS, and thus made them a more appropriate actor than national governments. Below, the interviewees talk of the role of the business community and the perceived advantages of dealing with HIV/AIDS from a business perspective. In the first extract, the interviewee and I had been discussing about the government policy on HIV. The interviewee pointed out that the government had always promoted abstinence because of the need to appease various social groups. However, she continued to argue, the business community on the other hand was not restrained by such external forces;

B06: "...so that's why...we feel that the business really has a role to play...because we are not bound by any factors, you know, national interests in that sense. Ahh...and we are driven by our own motivation to make social environment change where we operate basically..."

The interviewee similarly commented that the business community could contribute to HIV prevention by "asking questions" and pressuring the government into action.

B08: "...from a pure...ahm...advocacy point of view, if the business realises the impact, and that's you see...the business is often more aware of the economic

impact of things because it's about bottom line, it's about being competitive...and if the government is not doing enough, the business start to ask questions...I think that...that's the role the business need to play, to ask questions..."

The interviewee below was initially criticising the Ministry of Health for not doing enough. She had argued that despite an increasing number of Singaporeans becoming infected, the level of awareness among the general population was still very low and spoke passionately about the need to "tackle the disease openly". She thus continued;

B11: "And, so that's why we think that the BCAS is so important and that it's so exciting that it's actually...you know, starting to get on it's feet because it...it's taking away from the political situation and giving it straight to the hands of business, and eventually business will make equality, you know..."

From the extracts, I therefore argue that at least at the time when the interviews took place, although the Ministry of Health might have succeeded in excluding the Business Coalition from its engineering process, the disqualification was neither consented nor accepted. The Business Coalition was not convinced of the identity that was constructed by the Ministry, and continued to assert itself as a potential contestant in the engineering of the network of knowledge about HIV/AIDS. Therefore in the case of the BCAS, it could not be said that the process of "amiable disqualification" was complete and the situation remained unstable. The implications of the results of the Ministry's attempt at "amiable disqualification" will be explored in the Discussion, but in the next section, let me now go on to discuss the Ministry's attempt at enrolling the general population.

The "Allies" and the Process of "Interessment"

The Heterosexual Men

In the Introduction, I had mentioned that the Singapore Ministry of Health announced that as of 2005, of the cumulative total of 2584 Singaporeans infected, 2285 were males (88.4%), and of the total new cases reported in the first ten months of 2005, approximately 90% were among the males as well. The Ministry further pointed out that of the total new cases reported in 2005, 69% acquired their infection through heterosexual intercourse, and those aged between 30 to 49 years of age accounted for about 57% of all new cases reported. In other words, using the statistical figures, the Ministry had constructed the middle-aged, heterosexual men as the most affected population group, and thus most in need of education. Thus, I argue that it was this particular section of the Singapore population that the Ministry needed to enrol; in other words, without their "yielding" (i.e. their accepting of the government network), it would be impossible to close the black box.

Let me thus now turn to the focus group discussions I conducted with several groups of heterosexual men. The men, as I mentioned earlier, were recruited via snowball sampling framework, and as a result, in each group, the participating men shared certain similarities such as schooling, hobbies and occupation. It was considered impractical and inappropriate to try to group the men according to such demographic characteristics as race and social class, as the participants did not necessarily refer to these to identify themselves. (This may be partially attributable to the government's longstanding effort at building a Singaporean identity that overrides race and social class; see the Introduction for more detail). Brief characteristics of each group will be noted in the footnotes.

If we look at some of the extracts from the focus group discussions, it becomes clear that the men appeared to be least interested in the issue of HIV/AIDS, and made little effort to problematise HIV/AIDS by themselves. The majority of the participants to the discussion said that whatever knowledge they had about HIV/AIDS came from television programmes and commercials aired by MediaCorp[22] and articles from the Straits Times[23]. When asked whether they sought any other sources of information regarding HIV/AIDS, many claimed that they had never even thought of looking for any additional information. Below are extracts from Group 1[24] and 3[25]; the participants had been talking about HIV/AIDS and then I asked them if they could remember or recall where they obtained information about HIV/AIDS.

LI: "So did you try to find more about this disease?"

1R: "Ehh, frankly, no"

LI: "Never?"

1A: "No, no..."

1R: "I mean, if news comes by, we read about it..."

1S: "I...I think at that time, now also, we just don't have to search for it (information)"

1A: "Yeah, yeah, it was like...flashed in front of us, all the time. Posters, papers, TV..."

1S: "Yeah, yeah...posters, papers, everywhere"

[22] A media conglomerate owned by the Singapore government.
[23] The leading national English paper in Singapore, and published by Singapore Press Holding, which has close links with the ruling party and also has virtual monopoly of the newspaper industry.
[24] Group 1 consisted of five men, aged between 31 and 33 at the time of the interview. All were single, of Chinese ethnic origin, and had known each other since their high school years.
[25] Group 3 consisted of four men, aged between 30 and 34 at the time of the interview. One of them was married, the rest were single, and all three except one were of Chinese ethnic origin. One was of Indian ethnic origin. They did not know each other personally, but shared a common friend who introduced them to the discussion.

The comments from the participants from Group 3 were similar, as shown below;

LI: "Did you try to...and also now, do you try to find information about HIV/AIDS?"

3G: "Mm...no..."

3A: "For me, no, not really"

3N: "I...I tried a bit on the internet, but you know...no...no point...I mean, it's same as papers and TVs..."

There were a few who said that back in the 1980s, when they were more worried about HIV/AIDS because not much was known about it, they tried to find information on their own. For example, in Group 2[26], one participant said that in the early years, he was worried about the rumour of HIV spreading through an insect bite (presumably because he felt that he would be at risk if HIV was spread through insect bites).

LI: "So did you try to find more about HIV/AIDS on your own?"

2S: "Well, initially, when we heard that it could be transmitted though mosquitoes...(chuckles) so I tried to read a bit about it, but other than that, no..."

2Ca: "No, no need lah...just ask doctors, and also blood banks give you all the pamphlets..."

2Ch: "And it was all over TV"

[26] Group 2 consisted of four men, aged between 33 and 38 at the time of the interview. Two of them were married, two of them were single. All three except one were of Chinese ethnic origin. One was of Malay ethnic origin. Two of them came from the same workplace, and the other two were introduced to the discussion through a common friend.

All participants however more or less agreed that today, they do not actively seek information about HIV/AIDS in their everyday lives. Many stated that the most they would do was to scan through articles on HIV/AIDS in newspapers, and watch HIV/AIDS-related programmes on TV "if they felt like it". Did this however mean that the men unconditionally accept the Ministry's problematisation of HIV/AIDS?

From the focus group discussions, it became apparent that among them, there was a general agreement that HIV/AIDS was a deadly disease. Below are comments given by three individual participants from three different groups (Group 4[27], Group 2 and Group 1). They were being asked what they thought they knew about HIV/AIDS. Many of them responded cautiously, as if they did not want to say anything that may be construed as erroneous knowledge, such as the respondent below;

4V: "[After infection]...not too sure what will happen, but eventually it's...it's death lah. For those, those who contracted the disease, lah"

Similarly, this participant from Group 2 was quite careful in his answer;

2N: "As far as I know, according to my knowledge...it's a disease in which there is no cure at the moment, and then in Singapore, the rate is going up...It's a very dangerous disease, and ah...it sort of kills a person"

[27] Group 4 consisted of four men, aged between 33 and 34 at the time of the interview. Three of them were married, one was single. All four were of Chinese ethnic origin, and they had known each other from their university years.

However, there were also a few who were more confident in their answers, such as the respondent below;

1A: "AIDS...acquired immunity deficiency syndrome...where the immunity of the human body breaks down to the point where even the most common things can be detrimental to the person's health...currently no cure...am I right?"

And below is a short extract from a conversation between three participants from Group 6[28]. Again, I had asked them what they thought they knew about HIV/AIDS. Their exchange resembles the responses of the participants mentioned earlier;

LI: "Can you tell me anything you know about HIV/AIDS?"

6E: "...it's a disease..."

6W: "It couldn't be cured..."

6E: "Yah lah...it's a deadly disease, supposed to be..."

6J: "Something worse than cancer..."

It appeared that there was also the recognition that HIV/AIDS was related to sex or sexual activity. Discussions about what the participants knew about HIV/AIDS naturally often led them to also talk about the possible modes of transmission for HIV/AIDS. Thus, below, the participants from Group 1 talk to each other about how HIV/AIDS is spread;

[28] Group 6 consisted of 5 men, aged between 25 and 32 at the time of the interview. All were single and all were of Chinese ethnic origin. They had been living in the same neighbourhood, and in their words, "had been hanging around with each other" since young.

1R: "Well, transmitted sexually..."

1A: "One of the most...common fallacies is that AIDS is a sex disease. But that's not necessarily the case. The drug addicts get it too..."

1J: "To me, it's ah...[I know] just enough but not in details...other than that ah...it can be transmitted sexually or through...ah...injections for all those drug addicts. Other than that, talks about why, how, those are beyond me..."

However, often the participants talked not of sexual activity in general, but of sexual activity of very particular nature. For example, below, the participants from Group 2 mentioned "being active with other partners" and "the sex trade in Southeast Asia" as they talked about the various risks of HIV infection.

LI: "What...what are some of the risks that you know? I mean, how do you think people get infected?"

2N: "Mm...I may not know in the depth, but I know roughly...roughly in the sense that it is a dangerous disease that...that spreads through sexually...er...being active with other partners..."

2S: "It's the sex trade in Southeast Asia, that's how it spreads...sexual, sexual contacts"

LI: "So...who do you think are most at risk of infection?"

2Ca: "Prostitutes lah...prostitutes...oh, and drug addicts, because they share needles"

Similarly, participants from Group 4 talk of "having multiple sex partners".

4V: "I...I associate it with casual sex ah...and yeah, having multiple sex partners..."

4A: "I'd expand that to include homosexuals, gay men..."

4W: "I kind of agree...casual sex. Ahm, also sharing needles..."

It is further notable that quite a few participants also spoke of transmission through sharing of infected needles, despite the fact that cases of HIV infection among intravenous drug users, according to official statistics, is uncommon in Singapore. However, in their discussions, the participants usually mentioned transmission through sharing of infected needles as the second most likely source of infection after transmission through sexual intercourse, and this indicated that the participants associated the risk of HIV/AIDS mainly, but not exclusively, with sexual activity.

Thus from the extracts so far, we can see that the participants problematised HIV/AIDS more or less in the same way as the Ministry of Health did. To the participants, HIV/AIDS was a deadly disease that was spread through casual sex (having sex with multiple partners) and commercial sex (having sex with prostitutes). None of them spontaneously mentioned unprotected sexual intercourse as a high-risk of infection; in fact, none of them ever mentioned the words "unprotected sex" or "sex without condom" anywhere in the discussions.

For the Singapore Ministry of Health, the problematisation of HIV/AIDS, of course, was only the first step in building its network. The Ministry also needed to convince the heterosexual population that the most effective way of preventing HIV, or in their words, of not "getting the AIDS virus", was to avoid casual (and commercial) sex. But how did

the Ministry attempt to achieve this? From the campaign posters, it is firstly possible to see that the Ministry attempted to issue a certain identity for its heterosexual male citizens.

For example, one can see a representation of such identity the Ministry of Health has constructed in the poster in Figure 14 (see p.161). It shows a middle-aged man building a house with blocks. On the blocks, one can see pictures of men and women, who look like his family members. On the left-hand side of the picture, the messages reads; "I don't want to lose everything I've built; I admit there are temptations when I travel or entertain, but I'm not about to throw away my life, my family, my business". Through the act of "building" the house of blocks using two hands, and the serious expression on his face, the audience is invited to see and sympathise with the man's firm determination not to succumb to "temptations" but be a responsible father, husband and a citizen. From the message "No Casual Sex, No Risk, No AIDS" written at the bottom of the picture, it is also evident that in order to prevent HIV infection (so that he will not "lose his family, business and life"), he will not be engaging in casual sex, and will therefore not need to be using condoms when he engages in sexual acts – that is, sexual acts other than casual sex. I thus suggest that the identity that the Ministry of Health attempted to construct and then assign to its ally, that is the heterosexual population, was that of a (hetero) sexually conservative, family-oriented and a responsible citizen. As such a man, he would be concerned about HIV/AIDS because it threatens the certain moral values about, for example, family and marriage, that he upholds. Nor would he be necessarily trying to protect himself from getting infected because it kills him or would shorten his life, but in order not to lose "his family and his business". And as such a man, he would associate those immoral acts, namely casual sex, as well as drug injection, with HIV

infection and AIDS, and not necessarily unprotected sexual intercourses with an infected partner, or in sharing of infected needle.

I further observed that the Ministry of Health also demarcated the identity of the ideal citizen by constructing the undesirable Other; namely, the identity of a promiscuous and irresponsible man. The poster in Figure 8 (see p.158) indirectly, and the poster in Figure 9 (see p.159) directly paints such a figure. In the poster in Figure 8, a mother figure is shown, sitting on a stool, her hands covering her head, lamenting that now that her son is diagnosed with AIDS, all her hope is gone. The invisible figure represented in this picture is of course the one of the irresponsible son, who has wasted all his mother's efforts. The message, which appears on the top right hand corner of the poster, reads;

"He was such a smart boy, and we worked so hard to send him to university. Suddenly one day he told us he had AIDS. Now all our hope for his future is gone".

Although we are not told how this son became infected, it is implied, by the message of "...say NO to casual sex" at the bottom of the page, that he was infected through casual sex. In the poster in Figure 9, a male figure takes a similar pose, sitting on a stool, covering his head with his hands, and crying over the fact that he is now HIV positive. Indeed he could almost be the son as invisibly represented in the poster in Figure 8. Again, although how he became infected is not spelt out, it is indicated by the same message of "...say NO to casual sex" at the bottom of the page, that he was infected by engaging in casual sex. Such a figure, I would argue, was constructed to contrast the identity of the ideal citizen. In other words, the figure drawn in these two posters

represented the identity of the Other whom the audience was invited to despise and look down on.

But did the participants accept the identity of the ideal citizen? And if so, did they accept that avoiding casual sex was "the way" of protecting themselves from HIV infection? The comments I will examine next suggest that some of the participants in the focus groups did feel that they could identify themselves with certain aspects involved in such representations of citizenship. As I mentioned earlier, in the first session, I had asked the participants to have a general discussion about what they felt was expected of them as male Singaporean citizens. The topics ranged from the kinds of jobs they were expected to have, to views on romance and relationships they were expected to hold. It was in that flow of conversation, that below, the participants from Group 2 expressed their opinions about being responsible after getting married;

2Ch: "Well...it [being responsible] was taught by our parents. And social education. And also I guess it's within our Asian culture"

2S: "I...I think our parents will not come out so strong and say, you know, once you're married, you're not allowed to fool around. But they make sure you learnt it, you know, by telling you, 'you have to take care of your family, you cannot fool around, you're no longer a child' you know...um..."

LI: "Uh huh"

2S: "So...so, taking care of your wife. I mean, it's expected"

N: "I mean, we are now civilised people. We are not in the Stone Age. So we need to know what's right and all this, you know"

LI: "Right and wrong?"

2Ch: "I think, the first thing if you engage in marriage, you ah...you should make the rule. You know"

Similarly, in the extract below, the participants from Group 4 also express their views on marriage and staying faithful. They argue that unlike in Western countries such as the U.S., having sex outside marriage was simply not acceptable in the Singapore society, and that they themselves would not tolerate extra-marital sex:

4WT: "I mean, may be in the U.S. or something, it's not so uncommon..."

4V: "Definitely not, not in Singapore. We grew up in more traditional family value kind of...ah...background. So...for me, for me anyway, I feel that [it is] generally not accepted"

Discussions on extramarital sex naturally led to talks about other forms of sex, including the so-called "casual sex". I then asked the participants to define what they meant by casual sex. Interestingly, the comments from the discussions suggest that a majority of the participants agreed that "casual sex" referred to sex with a woman with whom they had no intention of getting married. Thus below, several participants from different groups (Group 1, 3 and 4) define casual sex in their own words;

1AL: "That [casual sex] means to say going with a girl, without the intention of getting married"

3N: "It's...it's like, you have a relationship that involves sex, with a girlfriend, that...maybe doesn't lead to marriage"

4V: "Ah...I think casual relationships, between two partners, there's no...there's no...it can be up the level of sexual intimacy but, there is no commitment"

Having asked them to define casual sex, I then prompted the participants to discuss their views on casual sex in general. Thus below, participants from Group 2 comment on how casual sex is perceived in Singapore;

LI: "So...you said that having sex outside marriage was not accepted in Singapore, but what about casual sex? I mean, casual sex before marriage...is that acceptable?"

2N: "Well, in the Asian culture, if I want to have casual relationship before marriage, I think...ahh...it won't be good"

LI: "What do you mean, 'it won't be good'?"

2N: "The public talks ill about you"

2S: "I mean, we accept that men...single men in their thirties, have sexual relationship without...with no intention of getting married, but we generally...look down on them. You know, it doesn't look highly on these people..."

In the extract below, participants from Group 3 talk about casual sex in a similar manner;

3G: "For Singaporeans...when they talk about relationship and that involves sex, and you don't talk about marriage...it' not so acceptable ah..."

3A: "Well, in fact...whether they're married or not married, they are not expected to have casual relationships...."

3N: "Yeah, yeah, they'd be like... they [the society] will ostracise you in one side, and say 'eh, this one, one kind of character. Don't go near, near him. Don't learn from him, don't be like him'. You know. That's it".

And to many participants, it was "those kind of people" who engaged in casual sex that came readily to mind when asked who they thought were at risk from HIV infection in the second session of the two-part discussion. However, it was also interesting to note that the participants did not always exclusively point to casual sex as the main risk of HIV infection. Rather, they seemed to perceive any sexual encounter or activities that they felt were socially unacceptable as risky behaviour. For example, below, participants from Group 2 discuss what they think are the various possible HIV risks. They had been talking about their general impression of HIV/AIDS, so I had turned their attention to the term "risk group", which was often utilised by the Ministry of Health.

LI: "Have you heard of the term, 'risk group'? What do you think that is? What kind of people do you think are they?"

2Ca: "...ar...don't know...don't care, really. Never thought of it, ah..."

LI: "You don't really care? Why not?"

2Ca: "Doesn't involve me, so couldn't be bothered (about HIV/AIDS)"

LI: "Oh...doesn't involve you? Why?"

2Ca: "Because *I'm clean lah*"

LI: "What do you mean, clean? Can you elaborate?"

2Ca: "No drugs, no such relationships..."

2S: "I...I...it's the sort of lifestyle, *it affects certain group of peoples...*"

2N: "Yeah, I was not...I'm not in that 'higher risk groups' you know...I...(chuckles) I'm not involve in any such..."

LI: "Uh-huh..."

(emphasis by author)

The extract above suggests that the participants thus seemed to believe that by not being "such kind of people", and by not leading "such a lifestyle", they would be safe from HIV infection. Similarly, in the extract below, participants from Group 3 talk about the kind of people "who gets AIDS" and explain why they feel they are not at risk.

3A: "I mean, s*o only certain people will get it...*"

3G: "Yah"

3A: "Like their lifestyle..."

LI: "Like what kind of people?"

3A: "Like gays or..."

3G: "All those prostitutes or whatever lah..."

3A: "Or all those people sharing needles through drugs..."

3G: "Yeah, so unless...we thought, we get in these type of activities, then we get it. But if don't engage, we should be safe"

3N: "All right..."

3A: "Don't do drugs...no gay sex...no...casual sex"

3N: "Yah, don't do drugs, no...sex lah!" (everyone laughs)

(emphasis by author)

And below is an extract from a conversation in Group 6, in which the participants assess their risk of infection. The participants had said that they were not at risk, and so I asked them why. Their comments and attitudes strikingly resembled those of the participants from Group 2 and 3.

LI: "So why do you think HIV doesn't affect you?"

6W: "I mean, I mean...the modes...the modes of contracting AIDS don't apply to us, so I mean...I am not really doing drugs, or having casual sex...so I don't really bother..."

6J: "Yeah, just doesn't apply to us..."

Similarly, in Group 4, one participant also stated that he is not at risk because he does not engage in casual sex:

LI: "You said you were not at risk because you weren't involved in such a lifestyle...but what do you mean lifestyle?"

4A: "Well, if you have...casual sex, and then have too many partners. I don't think I have many (chuckles)"

LI: "So in that sense, you feel that AIDS affects you less?"

4A: "Probably doesn't even affect me at all"

However, later on, the same participants went on to argue that everyone is at risk from HIV infection.

4A: "I would say, everybody (is at risk)"

LI: "Including yourself?"

4A: "Yes, strange enough to say this, but yes. You don't see it, like I said. There are no tell-tale signs that a person has HIV or AIDS. Even if he has it, doesn't show the symptoms or...or any rashes or any lesions, or anything like that over a few years. What happens if you...happen to share a toothbrush with him and he brushes, and he bleeds and then you share it. Or something other than that? You won't know. So, in that sense, I would say, even if you've a boyfriend or a girlfriend, how much can a condom protect you? I...I think it just said that it's only like 90% safe. So, if that 10% is...is that lucky for you, or unlucky...then you're gonna get it. Taking precautions might lower the risk, but everybody is definitely exposed to it. To a certain degree, I would say that."

LI: "Just then, you were talking of a certain lifestyle...?"

4A: "But, you see, not everybody would want to tell you their lifestyle. Like...I...I would just like...you know, if you have friends, and then you know different persons' ah likes and dislikes and their characters, and if if you know that one certain person or certain group of people don't like to hear certain things, they go for some lifestyles, and you don't. You don't want to tell them that you're going for these kind of things like this, you know, and have them to have to look at you in a certain way, or something like that. Or even, you know, if you were to tell somebody, "oh, I'm gay", or "I'm a homosexual", and then if your friends can't accept that, that they would they would always be thinking that, "oh, I don't want to share things with you", you know? "I'm going to do this, and I'm not going to do that". So, sometimes people keep secrets. And I would say that, everybody would want to keep their own secrets, now and then. So, how would you know whether, he or she, indulges in certain things. If you...if

they take drugs, and then you...you kind of worry that, well, what else is going to happen?"

LI: "So, you're saying that, you think you're at risk not because of anything that you might do, but because you don't know what other people might be doing?"

4A: "Mm, exactly"

Here, another participant joined in the discussion to agree with the first participant (4A):

4WT: "Well, now that he has reminded me, I do believe he is correct. Err, there are those with high risk profiles, but, everyone one of us is exposed. What if we have an accident elsewhere, some other country? I mean, ah...we can't ask to be airlifted immediately."

4A: "True, true"

4WT: "And ah if someone makes a lousy practice of collecting blood, or... that's it, you know? Or...someone with a lifestyle that I do not know of..."

At first glance, it appears that this participant (4A) is contradicting himself. However, a careful examination of his logic reveals that in fact, he is thinking of a case whereby a perfectly innocent person, such as himself, who does not engage in high-risk behaviour, is still put at risk because he unknowingly makes a contact (e.g. sexual) with someone who does lead a "risky lifestyle". The second participant (4WT) then draws up of another scenario whereby a person is involved in an accident and is forced to receive blood transfusion in a country with a "lousy" blood collection system. Again, the second participant (4WT) is thinking of a possibility of infection by somebody else's wrong- or mis-doing. In the extract below, a participant from Group 2 also express

similar fear of him contracting HIV. He had earlier on commented that he felt he was not at risk because he did not engage in "such activities". However, he then realised that he wanted to make one slight change in his assessment of his HIV risk.

2N: "Oh...ahh, one thing that strikes me is when I go to the doctors to get injection, I'm scared that this guy have used...you know?"

LI: "Clean needles?"

2N: "Yeah, yeah"

One can thus see that in both Group 2 and 4, although the participants talked of the possibility of them getting infected, they still held the careless or the unreliable "Other" responsible. Otherwise, like other participants from other groups, they seemed to believe that because they were the "sexually conservative" and "responsible" citizens, they would denounce casual sex or any other type of sex not considered appropriate, and thereby be safe from HIV/AIDS; or at least, they would not become infected as a result of their own actions.

Now, although the participants apparently did not single out casual sex as the most significant risk of infection, I argue that the Ministry of Health had been quite successful in enrolling the heterosexual men onto its network; that is, the men problematised HIV/AIDS as a deadly disease that is spread through socially unacceptable sex, and believed that they could protect themselves from HIV and AIDS by avoiding such activities. In other words, I argue that the men's problematisation of HIV/AIDS was still sufficient to make the Ministry's network durable. But why? And what does this all mean? In the next section, I will go on to discuss the practical implications of such

network for HIV/AIDS education, as well as theoretical implications for the literature of Actor-Network Theory.

Notes on Posters:

1. The majority of the posters examined in this study were kept with the Health Information Centre, a resource centre run by the Health Promotion Board. However, for some reasons which were not clearly explained to me, I was not allowed to make copies of the posters or borrow them out. I thus resorted to going through past newspapers (The Straits Times and the New Paper) on microfilms and past issues of magazines (mainly "8 days", a weekly entertainment guide) that were archived at the National Library and made copies there.
2. The years of the posters thus indicate the year in which the posters appeared in the respective newspapers or magazine issues, and may not necessarily indicate the year in which they were produced.

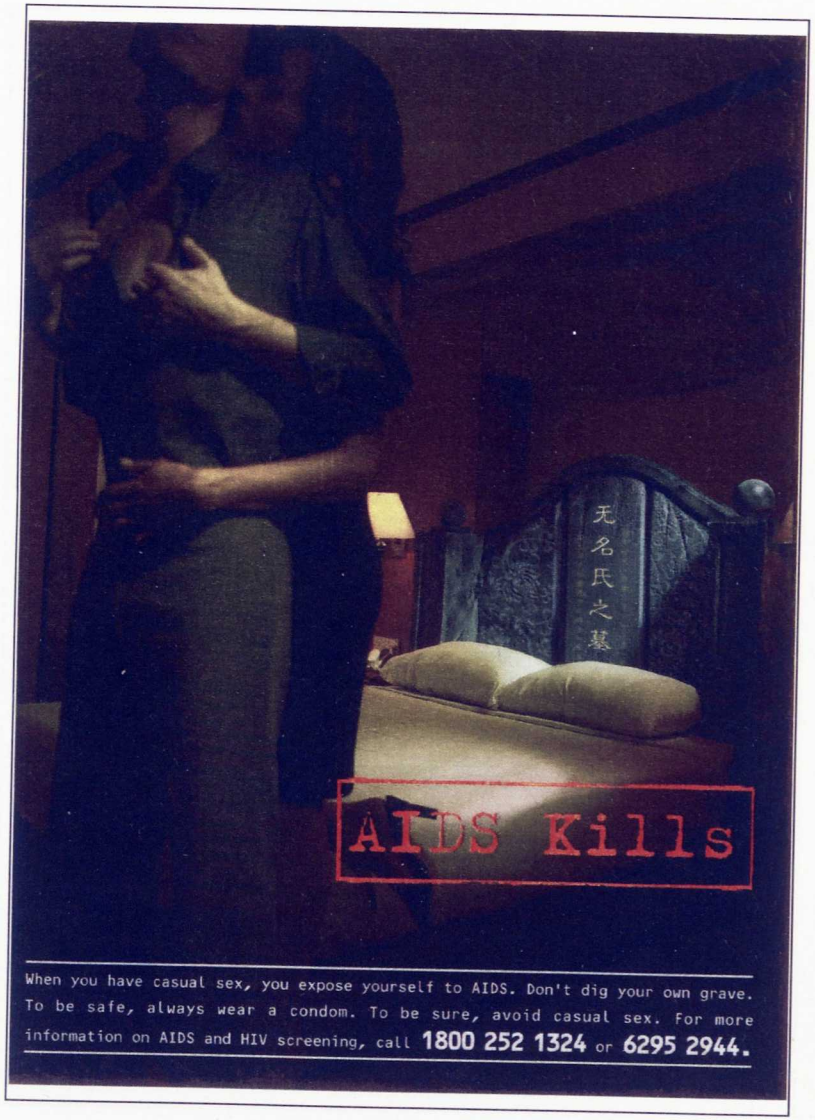


Figure 6 HIV/AIDS Poster, MOH
Source: 8 Days, March issue, 2003

Figure 5 HIV/AIDS Poster , MOH
Source: The Straits Times, Dec 28th, 1994

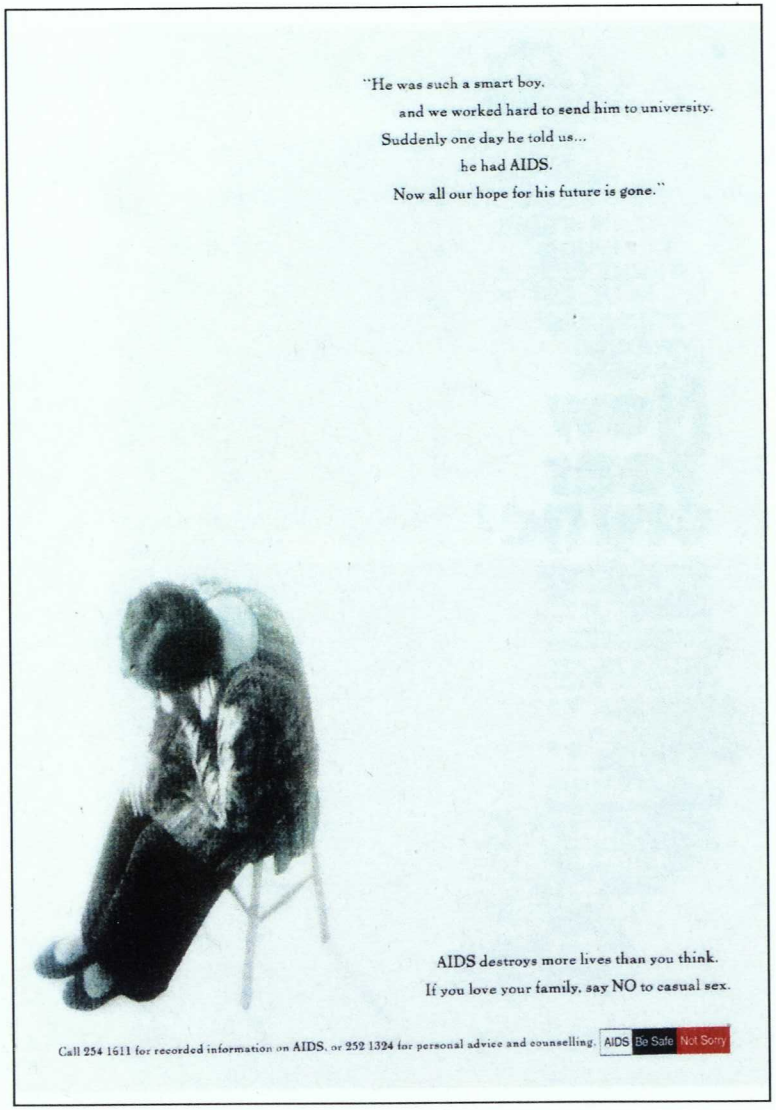


Figure 8 HIV/AIDS Poster, MOH
Source: 8 Days, February issue, 1996

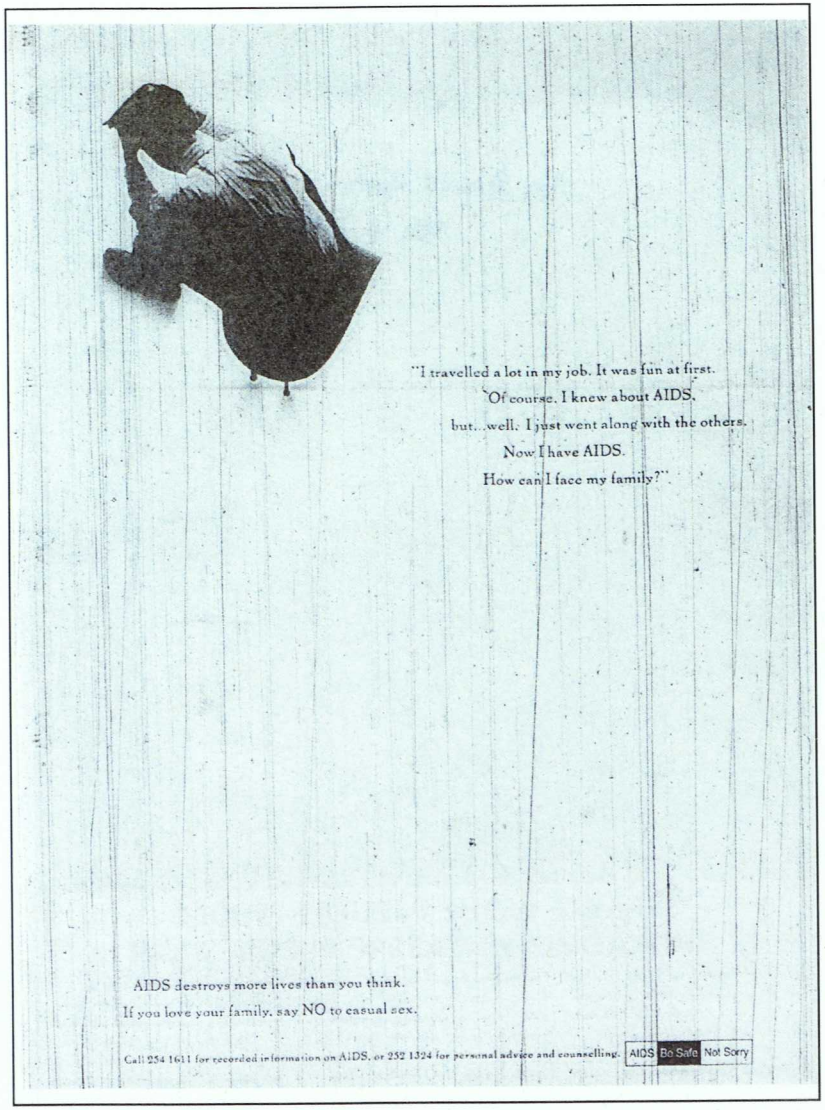


Figure 7 HIV/AIDS Poster, MOH
Source: The Straits Times, Dec 1st, 1995

Figure 10 HIV/AIDS Poster, MOH
Source: The New Paper, Dec 11th, 1998

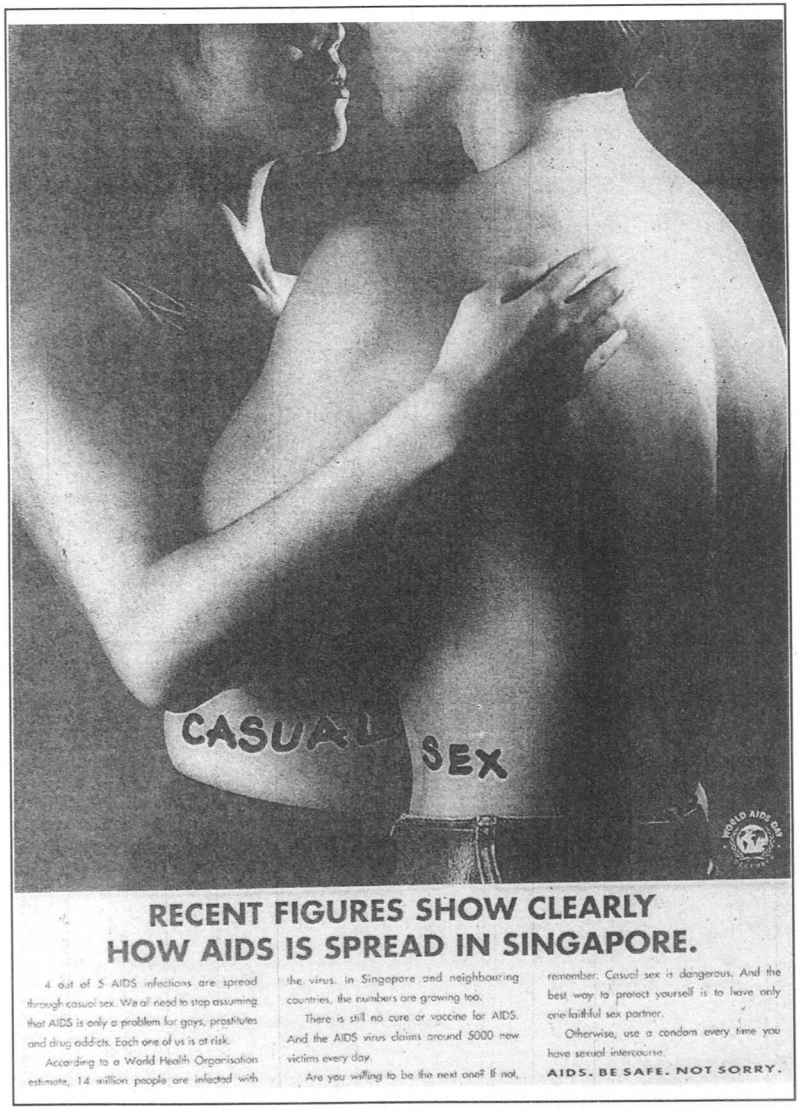


Figure 9 HIV/AIDS Poster, MOH
Source: The Straits Times, Dec 11993

Figure 12 HIV/AIDS Poster, MOH
Source: 8 Days, September issue, 1998

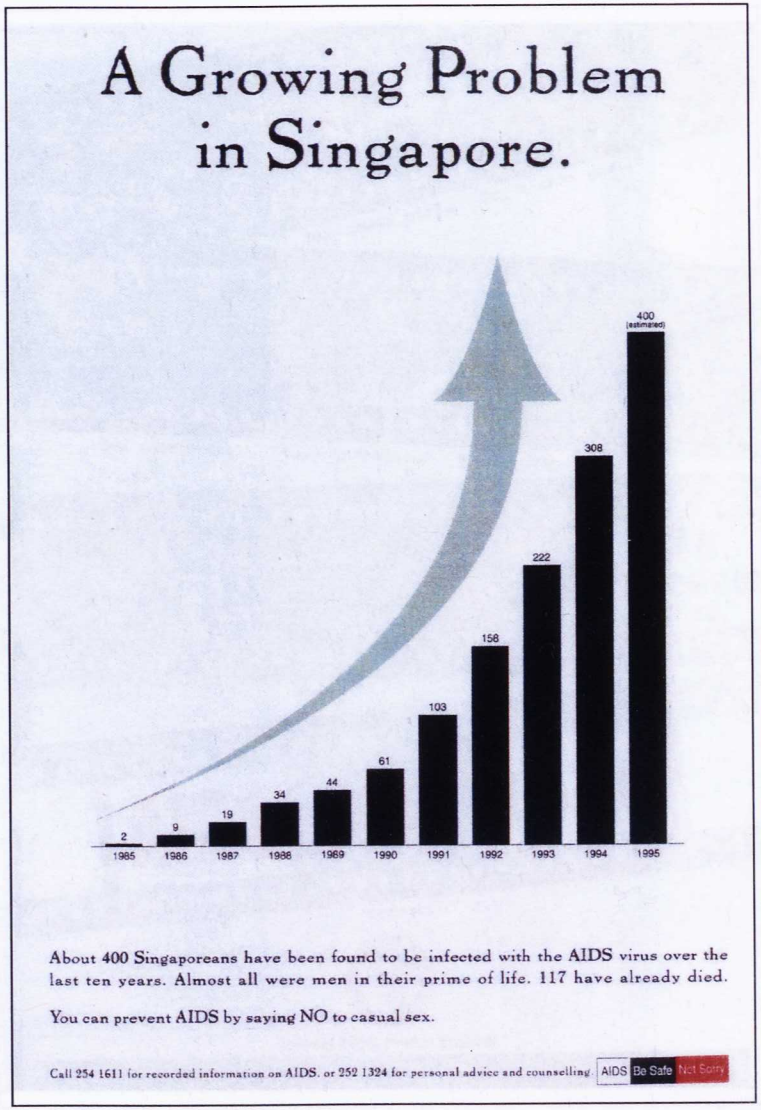


Figure 11 HIV/AIDS Poster, MOH
Source: 8 Days, March issue, 1996

Figure 14 HIV/AIDS Poster, MOH
Source: 8Days, March issue, 1999

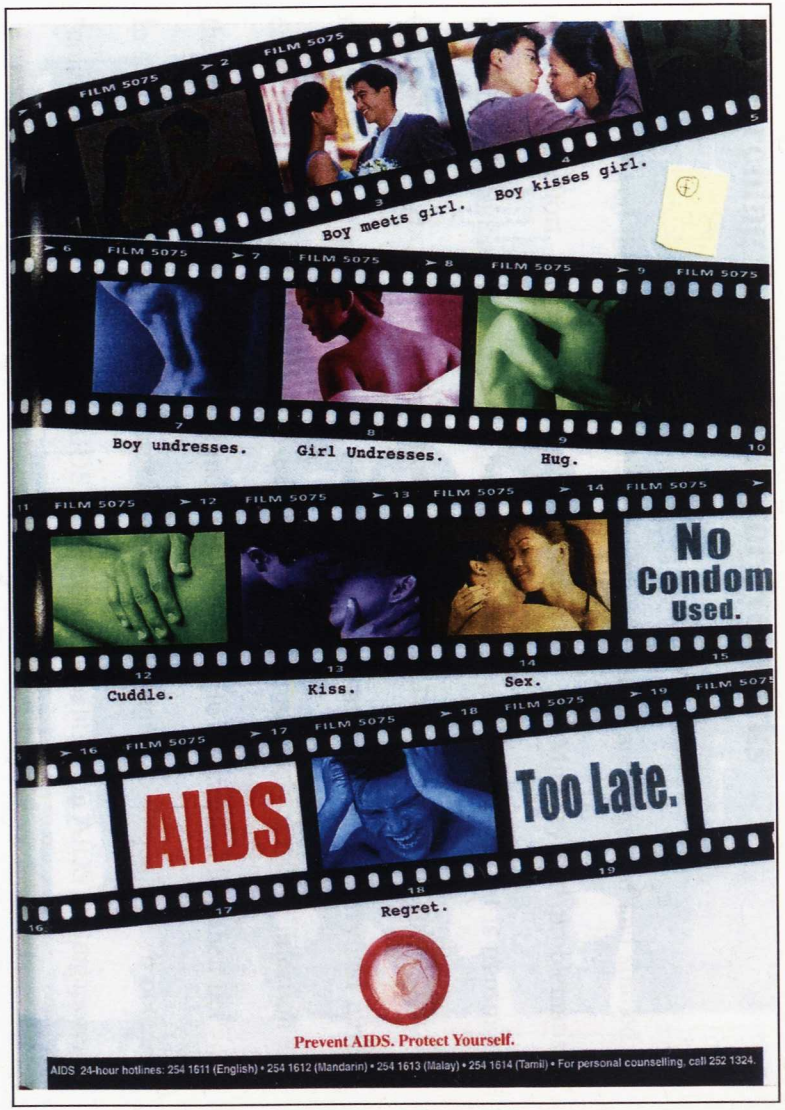


Figure 13 HIV/AIDS Poster, MOH
Source: 8 Days, May issue, 1997

9. Searching for Other Actor-Networks

Having followed the entrepreneur, the Ministry of Health, and observed and studied its engineering effort, I have thus so far suggested that the Ministry had problematised HIV/AIDS in Singapore in a particular way, that is, as a deadly virus that is transmitted through casual sex, and had constructed avoidance of casual sex as the most effective means of preventing HIV infection. I have also suggested that the Ministry had further constructed the middle-aged, heterosexual men as the group most at risk of infection and therefore had identified them as the most important ally to be enrolled into their network. In stabilising the network, the government had also attempted to disqualify two potential "contestants", namely Action for AIDS and Business Coalition on AIDS in Singapore.

I had then asked myself; why this relentless insistence on avoidance of casual sex? And why circumvent promoting condom use? In order to find answers to these questions, I had decided to turn my focus away from narrow concentration on the network immediately around HIV/AIDS prevention in Singapore and to consider some of the other networks that the Ministry of Health may be interested in maintaining or in being involved, and how these may articulate or interact with the network of HIV/AIDS prevention. In this section, I wish to focus on one such network of, what I shall term neo-eugenicism as well as to discuss the practical implications of the two networks articulating with one another for HIV/AIDS prevention in Singapore. The reason why I initially came to take notice of (neo)-eugenics was because I had sensed a strong eugenicist component in the Singapore government's longstanding attempt at producing and maintaining "good quality citizens" as mentioned earlier in the Introduction. Indeed,

as I turned my attention closer to the government's engineering effort, the eugenicist, or the neo-eugenicist networks became more and more apparent. I will elaborate on this further a little later on.

Eugenics, Social Hygiene Movement and Public Health

However, before I go on to elaborate on the Actor-Network of neo-eugenics in Singapore, let me briefly introduce the readers to the concept of eugenics and in doing so, talk a little bit about how eugenics came to be incorporated into the so-called social hygiene movement in England in the early twentieth century. This is because despite the seemingly enormous differences between the historical, social and politico-economic background of early twentieth century England and modern-day Singapore, and hence the differences in the actual specificities and material practices, I believe that there are in fact striking similarities in the two contexts in which eugenics came to be utilised in the co-production of citizen identity and (sexual) behaviours. By examining the social hygiene movement in England, it also becomes easier to capture those other networks that might be articulating with the network of HIV/AIDS in Singapore today.

In doing so, I am going to be drawing heavily on the work of Greta Jones, namely, *Social Hygiene in Twentieth Century Britain.* Although she does not explicitly use the ANT approach, her account of social hygiene movement nevertheless provides useful insights in that she goes on to explore in great detail the material and social practices through which the eugenics – social hygiene movements sought to make themselves durable in late nineteenth to early twentieth century England. Her work is also valuable in the sense that many such accounts take a surveillance approach based on the works of Foucault (for example Thorogood, N. 2000, as mentioned earlier in the literature review

section), which contradicts the theoretical perspective of my thesis based on Actor-Network Theory. Jones, however, has criticised the surveillance approach for not sufficiently taking into account the local material and social practices that co-constitute both eugenics and practices out of which it arose (Jones, G. 1986, p.36-39).

Now, although the exact definition of eugenics varies, however, it is often used to refer to a social philosophy and a social movement, which was influential mainly in Europe and North America during the first half of the twentieth century, and which advocated improvement of human hereditary traits through active social interventions. The movement also often led establishment of influential political and social pressure groups, such as the 'New Health Society' in Britain and the 'Peoples League of Health' in the U.S. In fact, the idea of selective breeding was suggested by as far back as Plato. For example, in his famous dialogue, *Republic*, he proposed that the best man have intercourse with the best woman as frequently as possible, and that the very inferior restrain themselves from having sexual intercourse of any sort (Bloom, A.D. 1991). However, modern eugenicist ideas and practices became systematised by Sir Francis Galton during the 1860s and the 1870s. Heavily influenced by his cousin, Charles Darwin, Galton saw that the mechanism of natural selection was being hindered by human civilisation, which, according to him, worked towards protection of the weak and underprivileged. He first used the term "eugenics" in his work *Inquiries into Human Faculty and its Development* (1883), and referred to eugenics as follows;

"That is, with questions bearing on what is termed in Greek, eugenes namely, good in stock, hereditarily endowed with noble qualities...we greatly want a brief word to express the science of improving stock, which by no means confined to questions of

judicious mating, but which, especially in the case of man, take cognisance of all influences that tend in however remote a degree to the more suitable races of strains of blood a better chance of prevailing speedily over the less suitable than they otherwise would have had" (Galton, F. 1883, p.23).

He thus proposed encouraging marriage of heterosexual couples from high-rank families, and encouraging them to have children by providing them with financial incentives. Such policies were seen as "positive eugenics"; that is, policies aimed at increasing the reproduction of those seen to have good hereditary traits. Certain policies, however, were seen as "negative eugenics". "Negative eugenics" aimed at discouraging the reproduction of those seen to have "poor" hereditary traits, and in the past, involved policies ranging from segregation, sterilisation to even genocide. The most infamous example of negative eugenics could be found in the racial policies of Nazi Germany in the 1930s and 1940s, however, many other nations practiced less extreme eugenic policies such as Sweden, which forcibly sterilised 62,000 "unfits", mostly women, 'mixed race individuals'; single mothers with many children, deviants, Gypsies, and other 'vagabonds', as part of its national program designed to weed out social undesirables in pursuit of a stronger, purer, "more Nordic" population (Gallagher, P. 1998). Similar policies were practiced in Canada, Austria, Norway, Finland, Denmark, Switzerland and Estonia against those people considered to be mentally deficient by their government. In England, however, eugenic ideas became incorporated into the so-called social hygiene movement, which in turn was very much linked with the traditional public health policies.

Jones has defined social hygiene as a "marriage between the hereditarian ideas of the late nineteenth century and early twentieth centuries and the public health and sanitary reform movement of the nineteenth century" (Jones, G. 1986, p.5). Social hygiene movement was born out of the increasing concern with the high incidence of endemic diseases among the poor after the Boer War (1899-1902) revealed the poor physique of British Army recruits, and sought to ameliorate the situation through a series of reforms aimed at improving their living and working conditions. In addition, however, towards the end of the nineteenth century, hereditary explanations were increasingly used to account for the differences between mortality and morbidity rate among various social classes. Social hygiene thus further concentrated on "moral, individual and domestic reforms" through "medical inspection, control, regulation, instruction, and increasingly, institutionalisation" (ibid. p.11). A number of "experts" in social hygiene sprung up during this period, and various aspects of individual life were placed under surveillance. Regulation of sex and sexuality was discussed earlier in the Literature Review; other aspects that came to be regulated included family and eating habit. Thus, Donzelot (1979), in his work *The Policing of Families*, describes how increasingly experts and counsellors intruded family privacy through "advice" on, for example, family economy and family relationships. Jones (ibid.) similarly points out that eating habit were also constantly subject to expert advice and admonition during this period.

Social hygiene did not however merely involve "improving" the individuals. It also advocated institutionalisation of those regarded as "unfit". In certain cases, such as in the case of institutionalisation of the unemployed or those with an alcohol addiction, the objective was rehabilitation or treatment with the ultimate goal of (re)disciplining and returning them to productive work. In other cases, however, this was not so. For some,

such as the "mentally deficient" or "feeble-minded", their "defects" were seen as hereditary and thus as being not amenable to rehabilitation or treatment. Institutionalisation was therefore advocated as a means of preventing such "unfits" from reproducing, and towards that end, a number of legislations were passed in the early years of the twentieth century, beginning with the Mental Deficiency Act of 1913. In the words of Jones, through such policies, it was hoped that "...gradually, the mass of mental defect in the community would be reduced due to detention and therefore loss of procreative rights of the feebleminded" (Jones, G. 1986, p.32).

And most interesting is the suggestion by those such as Jones (ibid.) and Mort (1987) that all these policies under the banner of social hygiene in fact served to accomplish capitalist economic objectives. Social hygiene movement arose also at a time when England was facing increasing economic rivalry from other European nations. Eradication of ill-heath (and of "ill" people) was therefore seen not only as the key to improving military strength, but also to reducing economic dependence, wasting of scarce resources and ultimately, improving productivity and economic efficiency. Social hygiene was thus regarded as a process through which the poor would be disciplined and made into rational, economic producers. In the words of Mort, social hygiene was motivated by a belief "...that a qualitative as well as quantitative increase in the birth-rate was the key to imperial power" (Mort, F. 1987, p.169). Now, it should however be noted that several practical limitations existed upon the influence of social hygiene movement, and that it never actually came to enjoy a hegemonic status in England; or in the words of ANT language, the network of social hygiene never became stable enough to develop into a "black box". Jones (1986) for example notes that British governments for the most time were concerned with day-to-day matters of running the

government, and were thus critical of any proposals for major social reconstruction that might increase administrative and financial burden. The governments were also very reluctant to legislate in morally controversial areas, such as birth control and sterilisation, and sexual education. However, it is without a doubt that social hygiene movement did exercise a significant influence upon the thinking of England's social policy. Thus, as late as 1974, the Conservative Shadow Minister of Education was reported as making a speech to his Party;

"...the balance of our population, our human stock is threatened. A recent article in Poverty...showed that a high and rising proportion of children are being born to mothers least fitted to bring children into the world and bring them up...they are producing problem children, the future unmarried mothers, delinquents, denizens of our borstals, subnormal educational establishments, prisons, hotels for drifters...What shall we do? If we do nothing, the nation moves towards degeneration..." (Sir K. Joseph, *The Guardian*, 21 October 1974)

The Actor-Network of Neo-Eugenics in Singapore

"Our best women were not reproducing themselves because men who were their educational equals did not want to marry them.... This lopsided marriage and procreation pattern could not be allowed to remain unmentioned and unchecked...I believed intelligence was inherited and not the result of education, food, and training" (L.K.Yew, 2000 cited in Eveland, J. 2005, p.4)

The readers may notice a striking similarity between the first and the second extract above. The speech by England's Conservative Shadow Minister of Education in 1974,

as shown in the first extract, was not well received at that time. The second extract, on the other hand, is taken from the memoir of Lee Kuan Yew, who had been the Prime Minister of Singapore between 1959 and 1990. He was referring to one of the most controversial speeches he had made in 1983 about the declining fertility trend in Singapore, and which sparked off what later came to be known as the "Great Marriage Debate". In this section, I thus now move on to discuss about the Actor-Network of neo-eugenics, drawing comparisons with the social hygiene movement of England where appropriate, and examine how this Actor-Network resonates with the one of HIV/AIDS prevention.

Here, I wish to draw the readers' attention back to what was mentioned in the Introduction, about the Singapore government's unique conceptualisation of its people. I had mentioned that for the Singapore government, its citizens were seen not so much as the recipients of the benefits of social and economic development, but more as valuable human resources that were indispensable for the country to exist as a viable nation. Now, in pursuing this goal, the Singapore government has passed a number of legislations in the field of health, education, labour and so on, especially since around the 1980s. This was the time when the government was becoming increasingly concerned with the declining fertility trend in their country. The government was however not anxious about the overall decrease; they were concerned with the fact that the trend was *considerably more visible among the university-educated women than among those with little formal education.* Hence in 1983 at the National Day Rally, the then Prime Minister Lee Kuan Yew pointed to what he saw as a serious problem in one of his most controversial speeches;

"If you don't include your women graduates in your breeding pool and leave them on the shelf, you would end up a more stupid society...So what happens? There will be less bright people to support dumb people in the next generation. That's a problem." (Lee Kuan Yew in National Day Rally 1983, from Wikiquote on http://en.wikiquote.org/wiki/Lee_Kuan_Yew)

In other words, the government was concerned that Singapore would have fewer "bright people" (who apparently could only be (re)produced by highly-educated man and woman), and that such a trend, if unchecked, would seriously degrade the quality of Singapore labour and undermine its ability to compete in the global economy. The government was thus convinced that measures were needed to counter this trend, and in the following year, introduced a New Population Policy, under which a series of policy initiatives were put in practice to increase the production of such "bright" citizens. For example, under the New Population Policy, cash grants were given to low-income couples with only primary school qualifications if they agreed to sterilisation after their first or second child, while tax rebates were granted to those couples with secondary qualifications if they had three or more children. The government also introduced the "Graduate Mother's Priority Scheme" which gave priority in primary school registration to the first three children of university graduate mothers, making it easier for these children to enter the country's best primary schools and thereby make an early head start in getting into the fast track. Another significant measure introduced was the establishment of the Social Development Unit (SDU) under the Ministry of Community Development, Youth and Sports. The founders had claimed that its objective was to "change the cultural and social mindsets that continue to stand in the way of graduates getting married" (www.mcds.gov.sg). However, in practise what it offers is a

computerized matchmaking service exclusively for university graduates. Since its establishment, it has thus organised various social and cultural events such as dance classes, holiday tours and self-development courses for graduates to come together, meet each other and find their life partner.

I argue that such attempts at match-making closely resemble those attempts at encouraging marriage between high-rank families under the social hygiene movement in the nineteenth century Britain. However, at least in Singapore, when the policies were first introduced, it seemed that the general public felt these policies were far too overtly elitist. Unprecedented public protest led to the government losing two of the contested seats and suffering a drop of 12.6% of the votes cast in the 1984 election. Both the primary school registration policy and the sterilisation policy were subsequently withdrawn in 1985, and eligibility requirements for tax rebates were modified so that more families could qualify. When the government was criticised for discriminating against the non-university graduates, it also established a similar government agency, called the Social Development Services (SDS), to "help" the non-university graduates find partners who "befit" their life standards. Of course, the establishment of a separate SDS still meant that the government continued to encourage mating between those with similar qualities as measured by educational qualifications, but the SDS apparently served to pacify public critique.

Today, the government may be less draconian in its attempt at increasing the stock of bright people, however, it nevertheless continues to try to maintain both quantitative and qualitative level of its labour force through a variety of measures. Numerous committees such as "Committee on the Family", "Family Matters! Singapore

Committee" and "Ministerial Committee and Working Committee on Marriage and Procreation" undertake researches and frequently offer policy recommendations to complement the government's initiatives "...to achieve a total social environment conducive to marriage, families and raising of children" (Ministry of Community Development and Sports, Singapore, 2001, 2002). Thus, in order to ensure that a sufficient level of fertility trend is maintained, the government for example still give out economic incentives such as cash grants, called the "baby bonus", which is given to families who have more than two children[29], and tax rebates to Singaporean women who give birth in Singapore. The government also seek to promote marriage and family, but perhaps more indirectly, through policies in other areas, such as housing, which I shall elaborate below.

The Singapore government first launched its large-scale public housing scheme in 1961. In many other countries, public housing projects are often intended to accommodate the low-income classes, and are associated with poverty and crime. In Singapore however, public housing are usually of very high quality while at the same time very affordable. Thus today, public housings, locally known as the HDB-flats, accommodate approximately 80 to 90% of low- and middle-income Singaporeans. HDB stands for Housing and Development Board, a statutory board of the Ministry of National Development, and the HDB-flats are heavily subsidised by the government, hence their affordability. The government has however placed numerous conditions one must fulfill in order to apply for an HDB unit. Thus, the applicant must be a Singaporean citizen, be 21 years of age or older and fulfill certain income and household requirements. And

[29] The Baby Bonus scheme was extended in 2004 so that cash is now granted from first baby.

most signficantly, the HDB requires the applicant to have a "proper family nucleus". A proper family nucleus is defined as consisting of the applicant, his or her spouse (and children, if any), or the applicant, his or her parents (and siblings, if any), or the applicant and his or her fiance(e) (but both must be aged 21 and above, and must also submit a certificate of marriage within three months of moving into the unit), or in the case that the applicant is an orphan, of the applicant and his of her unmarried siblings[30]. In other words, such conditions more or less oblige the majority of Singaporeans to lead a life in which marriage and family play a central part, if they wish to become independent and own a home.

The government also organises various public education programmes, counselling and campaigns with the aim of promoting positive attitudes towards marriage. For example, in 2003, the "Romancing Singapore" campaign was launched, which organised numerous "romantic events" such as tours and concerts for couples to encourage them to start thinking about settling down, and for singles to come out, socialise and meet their potential partners[31]. Numerous posters are also put up in public places such as bus stops, MRT stations, shopping malls and hawker centres, as well as in print and television media, that depict being a couple, marriage and family as consecutive stages of one linear process, and family life as the ultimate happiness and goal in one's life (Lazar, M.M. 1999). Lazar has conducted an extensive textual analysis of the so-called family advertisements in Singapore. One of the posters[32] she has analysed is titled "Don't leave it too late", and it shows solo shots of an elderly man and woman, sitting in a rocking chair, and reminiscing on their youth and missed opportunities of meeting someone with

[30] www.hdb.gov.sg

[31] http://www.romancingsingapore.com/home/main.asp

whom to marry and have a family. The visual is supplemented by further messages, which read; "Getting married and having a family brings fulfilment to one's life. So don't leave it too late". Lazar argues that this poster thus not only constructs bachelorism and spinsterhood as lonely and meaningless way of living but also conjoins "getting married" and "having a family (i.e. having babies)" in one life process as a matter of fact.

She discusses another poster, titled "Giving Men the Wrong Idea", and suggests that this poster addresses women in relation to men. The poster depicts a young woman sitting in her office and answering a telephone. She is constructed as a "gung-ho career woman" and is warned that she is giving out the impression that she is intimidating and unapproachable. A speech bubble, however, is shown above the woman, which reads; "where is the man of my dream?", indicating that in fact, she neither enjoys her current status of singleness nor wishes to stay single for the rest of her life. The poster thus apparently advises the woman to stop giving such an impression and that it is the woman's own fault if she cannot find a partner or happiness. This poster is in fact in a series with another poster, titled "Keeping Up with the Time", which in turn addresses men in relation to women. "Keeping Up with the Time" shows a man in a similar posture; he too is shown pondering aloud "where is my dream girl?" Lazar points out that the poster however chides him for being chauvinistic and thus advises him to approach girls who are *his intellectual equals*, such as the woman shown in the first poster. The poster further adds; "so chat up the girls. Make friends with them. That way, you'll get a real partner in life". Thus once again, the posters attempt to

[32] For a brief description of the posters, see Lazar, M. (1999 p. 160). No reference for the posters is noted by Lazar.

accomplish several things within a single visual framework; construct singleness as undesirable and simultaneously represent coupling as a first step towards lifelong marriage, and encourage marriage among men and women of similar (educational) qualities.

Lazar talks of other posters, which similarly represent marriage as a precursor to starting a family. Thus, in a poster titled "The First Child", a woman is shown cradling a baby and a man encircling her. The message "...the joy of planning for your wedding..." is immediately followed by another sentence, which reads "this joy you are experiencing now will even be greater when you hold your first child in your arms". Lazar argues that the clause beginning with "...when you hold your first child in your arms" once again unproblematically presupposes that "you" will have the child to hold in the first place soon after you are married.

Lazar has also examined various television commercials. One of them, shown below, is an extract taken from a commercial titled "Decision Time". It is a conversation between two male characters, Brian and Peter, and Brian is asking Peter for advice on marriage.

Brian: My girlfriend and I have talked about getting married. But I wonder if it will hinder my career.

Peter: Come on. It's done great things for mine. Family life's made my life really good. It broadened my horizon.

Brian: Well!

Peter: Get married, Brian. It is good for both of you.

Voice-over: Why build your career alone? Family helps.

Although Brian's initial concern was related to marriage, Peter responds by extolling the virtues of marriage through reference to family life and in doing so, blurs the distinction between marriage and family life. He then switches back to the original topic by advising Brian to get married, however, the voice-over slides back to the subject of family by concluding that family-life helps to build one's career. Lazar thus argues that the fact that the dialogue unproblematically switches back-and-forth between marriage and family life once again points to the taken-for-granted assumption that the two actions are a part of the same process. She suggests that Peter's detouring to mention family life in answering Brian's question about marriage could even suggest that there is in fact very little to tell about marriage itself. Marriage is represented as merely a step towards having a family, and it is family life that holds greater meaning and value.

Now I argue that such legislations and campaigning represent a range of socio-technical practices, which the Singapore government has employed in its attempts to create a network of *neo-eugenics*. But what do I exactly mean by neo-eugenics? Certain subcultures including cult organisations, such as the Raëlian Movement[33], and the Cosmotheist Community Church[34], have already used the term neo-eugenicism to mean positive eugenics assisted by human cloning and genetic engineering. However, for the purpose of my thesis, I wish to re-define neo-eugenicism as a set of discursive practices that are still concerned with improvement of human gene pool, but practiced not only through laws and regulations of the formal institutions, but also through the discursive power of social and material practices that seek to become durable by establishing networks. Earlier on, eugenics was defined as a set of ideas and social policies that

[33] http://www.rael.org/
[34] http://www.cosmotheism.net/

aimed for an improvement of human hereditary traits through active intervention, and it was also noted that eugenics in the late nineteenth and twentieth century involved both positive and negative eugenics. These policies, whether positively or negatively, directly attempted to control and regulate human reproduction through political and legislative power of the formal institutions. However, in Singapore today, I suggest that the government practices eugenics through engineering of its network, in which heterosexual family life is constructed as the "social truth" and individual citizens are issued with particular identities, which I argue are in turn based on the so-called Asian-values.

Today, there exists a host of literature on "Asian values" and this is certainly not the place to explore the concept in extensive detail (see for example Cauquelin, J. *et al.* (ed.) 2000, Tamney, J.B. 1996). But briefly, "Asian values" refers to a concept that became extremely popular in Asia in the early 1990s, especially (some argue exclusively) among the political elites in countries such as Malaysia, Singapore and Japan. The concept is predicated on the belief that in Asian countries, there exist a set of institutions and political ideologies, which reflect the region's unique culture and history. Although there is no single definition for the term, "Asian values" is said to encompass certain Confucian teachings, including loyalty towards the family, corporation and nation, the forgoing of personal interests and freedom for the sake of society's stability and prosperity, the pursuit for academic and technological excellence, and work ethic and thrift. Under the conceptual banner of "Asian values", all these aspects of life are apparently related to one another, and in real life, one's marriage and family status do often influence his or her career track and social status in Singapore, and other Asian societies such as Japan. It is certainly not a coincidence that the aforementioned

television commercial titled "Decision Time" also forged the subtle causal link between having a family and having a good career.

Thus, the identities the Singapore government tried to impose on its citizens were of heterosexual persons interested in getting married and starting a family, not necessarily only to fulfil their personal goals but also to succeed in their career. The government then established itself and its various legislatures and initiatives as the obligatory points of passage – that is, in order for the citizens to meet their partners and start a family, they had to give their consent and support to schemes such as SDS and SDU, HDB housing policies and baby bonuses. I argue that it was through this network of neo-eugenics that the government attempted to ensure the continued reproduction of "bright" people and thereby survive as a viable nation. But how then is this neo-eugenic network related to the network of HIV/AIDS prevention discussed earlier? Let me now go on to elaborate on the nature of the articulation of those two networks and the implications for Singapore's HIV/AIDS epidemic.

"Network-within-a-Network"; Implications for Public Health and the Future

In the previous section, I had suggested that in constructing the network of neo-eugenics, the government had issued a particular identity to the Singapore citizens. One should not forget, however, that the citizens were just among one of the many entities the government attempted to enrol and one such other entity of course included the Ministry of Health. As I said earlier, the neo-eugenic project in Singapore involved many policy areas, ranging from population, education, housing to public health. The government thus also had to convince the Ministry of Health, perhaps along with other Ministries, that it was in its own interest to support the neo-eugenic project and implement policies

that would contribute to propagation of the "good stock". Each of these entities was necessary to the government's network building, and for each one, the government claimed to be their spokesperson. That is to say, by controlling the movement of money and information, by organising meetings and conferences, and by circulating various texts such as memos and reports, the government established itself as the central obligatory points of passage through which the Ministry of Health (and other Ministries) would then have to pass in order to perform their newly-founded identities.

And this has meant that the Ministry of Health could only proceed with its engineering work so long as it was enrolled on to the government's network, and also that its work had to go through the obligatory points of passage set up by the government. In other words, the Ministry's network was a network-within-a-network. According to Michael, where "the network is multidimensional and contains within it relatively obscure associations and roles", there may exist smaller, more local networks within a large network. He continues to argue that thereby, actants may have "...many resources to draw upon which, while problematising certain components of the original network can ultimately contribute to its durability" (Michael, M. 1996, p.65). Thus, by building the Actor-Network of HIV/AIDS prevention within the network of the Singapore government, the Ministry of Health could draw resources and techniques, such as money, manpower and information, which would help consolidate its other networks. However, at the same time, Ministry also had to construct its network so that it would contribute to enhancing the durability of the network of the Singapore government, that is the one of neo-eugenics – because the disintegration of the government's project also signified the extermination of its own Actor-Network.

In constructing the network of HIV prevention, I had earlier suggested that the Singapore Ministry of Health problematised HIV/AIDS as a deadly disease that mainly spread through casual sex, and constructed avoidance of casual sex as the most effective way of preventing HIV infection. In the process, the government also attempted to enrol the heterosexual population by translating them into sexually conservative and family-oriented citizens. In other words, as sexually conservative and family-oriented citizens, the men were expected to denounce casual sex, whether protected or not protected, and give support to the Ministry's campaigns promoting abstinence and being faithful to one's partner after marriage. What the Ministry has simultaneously done, however, was to deny all those forms of sexual activities other than the ones between (preferably married) heterosexual couples, which do not necessarily have a reproductive purpose.

Condom could have certainly controlled the transmission of HIV, and this was precisely what happened. That is, as I mentioned earlier, both in Singapore and in other societies, interventions to promote condom use among commercial sex workers *did* show some success in reducing HIV incidence (see for example Bishop, G.D. and Wong, M.L. 2000). In fact, the success of the intervention has been such that in Singapore, at least the legal, brothel-based commercial sex workers are now generally perceived to be "safe" and "clean". In other words, this Actor-Network, which posited that promoting condom use among commercial sex workers is an effective means of preventing HIV infection, had already been established more or less as a scientific fact, or, in the ANT language, as a "black box". Let me thus suggest that this was the reason why the warning against commercial sex somehow faded out from the Ministry's campaigns. The Ministry could certainly have challenged this Actor-Network, however, in the end, it chose not to. This was, I argue, because in challenging this network, the Ministry saw

too great a risk of destabilising its own engineering effort – to "unblackbox" the Actor-Network of condom promotion among commercial sex workers meant that the Ministry then had to (re)negotiate with condom and (re)issue it another identity that would not hinder the Ministry's engineering. Yet the Ministry judged that this was simply an impossible task, and that the condom would refuse to identify itself an ineffective method of prevention – and hence, decided that all it would and could do was to ignore and distance itself from the network of condom promotion among the commercial sex workers, and concentrate on constructing avoidance of casual sex as the most effective means of preventing HIV infection *among the heterosexual male population.*

Thus, in constructing the network of HIV/AIDS within the network of neo-eugenics, casual sex, or to be more precise, sex (of whatever sort) using condoms, was regarded as constructing alternative identities and associated lifestyles such as bachelorism, late marriage, homosexuality, and a hedonistic lifestyle in which *the individuals could control their sexual activities and reproduction*, and which could potentially hinder the reproduction of the "good stock". And this is also the reason why I had suggested earlier that the heterosexual men perceiving any sort of "socially unacceptable" sex as a risk of infection was sufficient for the Ministry to stabilise its network – in other words, so long as the men abandoned sexual lifestyle with no reproductive value, they were considered valuable and trustworthy allies.

I had also earlier mentioned that in Singapore, there is very little protection of rights for PLWHA, and such rights included not only those to care, medication and work, but also rights to sex and marriage. In fact, PLWHA are strongly discouraged to have any sexual relationships once they are aware of their HIV-positive status; they can even face

prosecution if they have sex with a non-infected person or if they donate blood, knowing one's own HIV status, under section 11 of the Infectious Diseases Act. Such acts are seen as criminal, even if they were not born out of malicious intent. In fact, only recently, in 2005, five blood donors who were tested HIV positive when they donated blood in 2004 were charged in court. I suggest that there is an extraordinary similarity between such rulings and the move to institutionalise the "feeble-minded" so as to devoid them of their procreative rights in the nineteenth century England which I mentioned earlier, and that these are further testament to the Ministry's commitment to the Singapore government's neo-eugenic project.

What then are the possible implications for Singapore's HIV/AIDS epidemic? Despite the Ministry's attempt at constructing a network of HIV/AIDS prevention, I argue that it is ultimately let down by its inability to discipline just one single entity; that is, the HIV itself. That is to say, the Ministry has completely failed to translate HIV into a something that automatically brought AIDS followed by certain death to a person who engaged in casual sex; it turned out that HIV only occasionally passed from an infected to uninfected person through an exchange of bodily fluid, and whatever social meaning attached to such exchanges- "casual sex", "commercial sex" and so on – did not seem to influence the course of the virus and the probability of its transmission. And yet, by ignoring this resistance of the virus to be enrolled, I argue that the Ministry of Health has put its population at serious danger. That is, by constructing HIV/AIDS as being caused by casual sex, the Ministry has created a false sense of security among those who perceived themselves to be not engaging in such activity. Or put differently, by prescribing those roles to the heterosexual population in order to stabilise its network,

the Ministry was inviting them to take up a certain identity which it presented as being immune to HIV infection, but in fact, which it was not.

This is because, as Carter argues, "people's willingness and capacity to avoid harm is subtly bound up with their identities" (Carter, S. 1996, p.220). In other words, by linking a certain social behaviour with the risk of HIV/AIDS, those who do not identify themselves as engaging in such behaviour will be less willing and/or prepared to avoid harms. In the past, numerous studies have examined media representation of HIV/AIDS and the audience perceptions of it. I have already mentioned several such studies in the Literature Review (for example, Kitzinger, J. 1991), which had suggested that those who do not identify themselves with the "at risk" population as portrayed in the media advertisements are less likely to change their behaviours. There is thus a significant possibility that Singaporean men continue to put themselves at risk (for example, by having unprotected sex which they perceive is neither casual nor commercial), believing that they are immune because they have accepted the identity the Ministry had constructed for them. Certainly, the Ministry's HIV education does not seem to be succeeding in reducing let alone halting the number of Singaporeans getting infected to date.

I further suggest that the Ministry's construction of the People Living with HIV/AIDS as "social failures" not only exacerbates stigma and discrimination towards PLWHA but more importantly, discourages people from coming for HIV anti-body testing. In other words, by identifying PLWHA as the undesirable "Other", the Ministry has stoked up public fear and repulsion against not only the people living with HIV/AIDS but also against the state of being HIV-positive or having AIDS. I however argue that such a

fear merely encourages further demarcation of "Them" and "Us"; it is only natural that when they feel that threatened, people will attempt to restructure and regain their identity by distancing themselves from the identity of the "Other". And yet, such a demarcation is merely an illusion. In fact, I argue that PLWHA are the very people whom the Ministry should have enrolled into the network as an important ally. It has been reported elsewhere that discrimination associated with HIV/AIDS has hampered development of effective HIV prevention programmes (Ortega, N.S. *et al.* 2005). There are also those who have argued that the involvement of PLWHA in policy coordination and implementation is essential in delivering a comprehensive strategy to prevent further transmission of HIV (Adebayo, R.A. *et al.* 2003, Dionisio, D. *et al.* 2004).

Furthermore, I argue that the network building of HIV/AIDS prevention being constructed within the larger Actor-Network of neo-eugenics is a contradiction in itself, and such an arrangement may eventually disintegrate, undermining both the network of HIV/AIDS prevention and of neo-eugenics. The Ministry of Health might have attempted to contribute to making the project of neo-eugenics more durable by constructing avoidance of casual sex as an effective means of preventing HIV infection; however, by actually not preventing its citizens from becoming HIV-infected, in the long run the Ministry is in fact driving those infected to betray the government. That is, because of the very project of HIV/AIDS prevention, which constructs PLWHA as not having any procreative and productive role, the infected Singaporeans will no longer be able to play their allotted role of a hard working citizen, let alone of a citizen wanting to marry and reproduce.

On the other hand, will the Ministry of Health actually succeed in establishing HIV/AIDS as being caused by casual sex as a scientific fact, closing the black box, and keeping it closed? Here I wish to discuss briefly one of the possible forces that could influence the Ministry's project of HIV/AIDS prevention, and that is the force of globalisation. Now, there are various theories on globalisation and differing conceptualisations of it. For example, Harvey describes globalisation as the processes by which "...time and space are not given but are increasingly compressed by various novel technologies of transportation and communications that subdue and unify space" Harvey, D. 1989 cited by Urry, J. 2004). More recently, Bauman (2000) has argued that we are witnessing a shift from what he terms as "heavy and solid modernity" to a "light and liquid modernity" where the speed of movement of people, materials, images and information are paramount. Elsewhere, Urry (2003) has formulated the concept of a "global complexity" to capture and analyse the uneven and unforeseeable changes that the world is facing today.

What is common to all of these definitions is however their emphasis on the movement of humans and non-humans (which could include tangible entities such as the HIV but also non-tangible things such as information and knowledges), and on the unpredictability of such movements. It is argued that this is because the forces of globalisation are today resulting from the self-organising nature of the global networks and not from centralised, hierarchical direction of the nation-states (Castells, M. 1996). The mechanism by which such a self-organising nature, or the emergent properties, emerges is described by Gilbert as follows: in each local environment, simple elements co-evolve and adapt to their local circumstances. However, within the same environment, there are other similar entities that are also adapting. When each co-

evolves, they demonstrate the "capability to orientate to macro-level properties", and bring into being emergent properties (Gilbert, N. 1995, p.151). Once emergent properties materialise, globalisation can no longer be reduced back to its initial elements, the states, the regions, the businesses and so on that might have originally set the process in motion. It is driven by its internal forces, and its effects back on its elements are larger, more complex, and stronger than the sum of its elements.

The boomerang effects of such movements to the social orders at various levels (national, international) are thought to be tremendous. Hardt and Negri have suggested that state sovereignty has today been replaced by "a single system of mobile power", or what they call "the empire", and that no state can escape the discursive rule of the empire (Hardt, M. and Negri, T. 2000, p.13-14). Similarly, Beck (2003) has spoken of how corporations and states generate unintended and often unwanted consequences that return to haunt them, since they exist in a complex world where there is no clear distinction between inside and outside. Examples of specific case studies include the one by Castells (1996), in which he examined the effects of personal computers upon the state bureaucracy of the Soviet Union which, until very late twentieth century, had controlled all sorts of information flows.

There is thus no reason to believe that Singapore Ministry of Health and the government, and their attempt at building and stabilising their networks is immune to such forces of the "empire" or the "complex system", or whatever it may be termed. In other words, as Singapore's network on HIV/AIDS and on neo-eugenics, as well as those engineered by other actors elsewhere, co-evolve and adapt to their local environment, they are in fact involving themselves in the production of the emergent properties of the global network

on HIV/AIDS. Such a network is still in its making and its properties are yet to be defined, and yet it is plausible that such a network will "return" to influence each local Actor-Network, including the ones in Singapore. How might this process be conceptualised in terms of ANT?

To begin with, the project of HIV/AIDS prevention in Singapore was an effect of a conscious engineering by a particular actor, the Ministry of Health. I now however suggest that the effects of globalisation are such that, the local network may begin reaching out for other networks and developing associations with them on its own. The original network may thus combine with others to either form a bigger network, or split to form two or more smaller networks. Of course, this development may have neither been anticipated nor wished for, but the process will eventually escape the control of the Ministry of Health or the Singaporean government. In other words, the network-building somehow becomes organic; perhaps resembling something akin to our neural system, in which neurons connect with one another via nerves through synapses. The development of multiple associations will no doubt influence the engineering and managing of one network. This, if you like, means that potential allies and contestants are now presented with a multitude of memberships or enrolments to choose from, a variety of sources with which to judge the advantages and disadvantages of each membership, and of course, with the flexibility which allows them to change membership even more easily and frequently. (The idea of multiple memberships is certainly not new. As mentioned in Chapter 5, Singleton has showed exactly just how General Practitioners took advantage of multiple memberships to stay inside and at the same time outside the Actor-Network of CSP!). The task of enrolling and translating

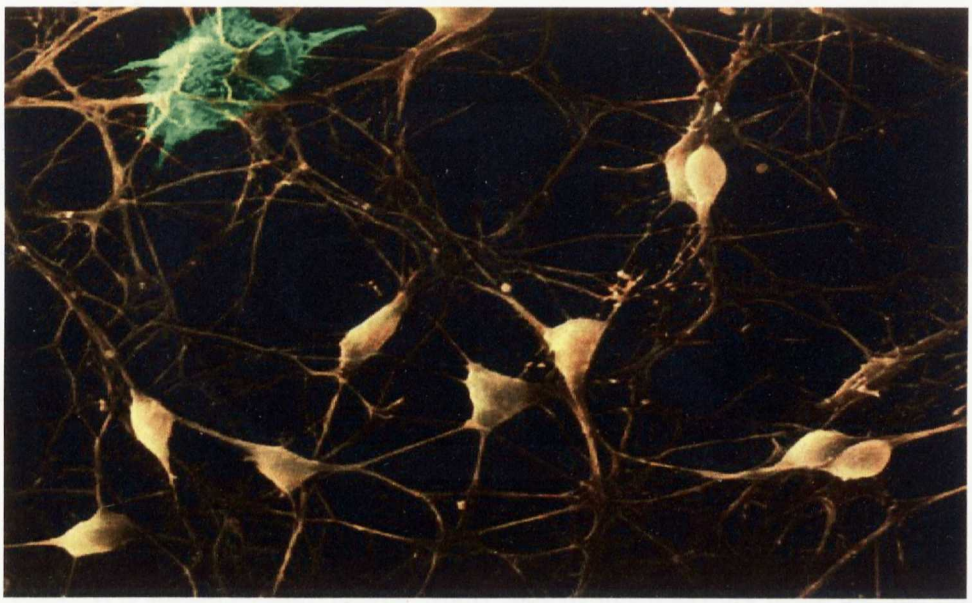
become increasingly competitive, of keeping the allies and contestants disciplined even more strenuous.

Therefore, other projects which, for example promote condom use or seek to protect sexual liberty for non-heterosexual couples, may forge unanticipated associations with the Ministry's Actor-Network of HIV/AIDS prevention. For example, just in the neighbouring country, in Malaysia, the NGOs are very active in promoting the welfare of PLWHA. In Thailand, the entire nation had succeeded in decreasing the HIV prevalence through promotion of condom use. It is just a matter of time until the tentacles of such networks reach out and forge links with the HIV/AIDS prevention efforts in Singapore. Furthermore, even within the Ministry's Actor-Network of HIV/AIDS prevention, certain actors have already begun to flutter. I have already suggested that the Business Coalition was not very satisfied with the Ministry's engineering work. It had refused to be completely disciplined by the Ministry, as it sought the status not of an ally but of a co-engineer. If however it is not successfully amiably disqualified, the BCAS could potentially betray the Ministry by setting out to engineer its own network. And what about the heterosexual population, the Ministry's most important ally? For how much longer can the Ministry convince them that it can act as their spokesperson, and that it is in their own interest to grant their obedience and be enrolled onto the Ministry's Actor-Network, if the rate of HIV infection continues to rise?

I am certainly in no position to prescribe the exact future course of development of the Ministry's HIV/AIDS project. What I can do, however, is to offer a tentative conclusion to my pursuing of various actors involved in this story and discuss the

limitations, and in so doing, also suggest how my own project may be taken forward to have any impact, if at all, to the situation of HIV/AIDS in Singapore and to the study of health education and promotion in general. Let me thus move on to the Conclusion now.

The Future of the Actor-Network?



Source: http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookNERV.html#The%20Brain

10. A Brief Summary and Some Thoughts on Doing Politics...

Update on the Actor-Network of HIV/AIDS Prevention in Singapore

In 2005, at one of the local district's community clubs, Singapore's Senior Minister of State for Information, Communications and the Arts & Health addressed the public about the alarming rate at which Singapore's HIV and AIDS prevalence has been increasing in the recent years, and called for tougher measures to curb the epidemic. As the single greatest cause of the failure of Singapore's HIV and AIDS prevalence go down, the Minister pointed a finger at human rights and gay activist and at their activities, which have apparently confused the public health issues with general societal issues, and hindered a rational approach to the control of AIDS.

"...it is time to stop blaming society for the spread of AIDS. AIDS is not spread by society. It is spread by individuals. Many aspects of society are being blamed for the spread of AIDS...the solution to the problem of AIDS must be based on individual responsibility."

He then continued to elaborate on the plans of his government to make individuals more responsible.

"We are considering changes in the law that make people individually responsible for their own actions...unless we change the law, we cannot change attitudes. And attitudes need to change if AIDS is to be controlled. We must return to that basic

principle that underpins a successful society – an individual is responsible and accountable for his actions."

(source: http://www.moh.gov.sg/corp/about/newsroom/speeches/).

The kind of changes in the law that the government was considering included making screening of pregnant mothers mandatory, introducing pre-marital testing for couples wanting to get married, and girding public health officers with more power "needed to perform their role"; that is, allowing them to "collect more information" and "conduct surveillance screening". It thus seems that the Ministry continues, and will likely to continue for the foreseeable future, to construct the project of HIV/AIDS prevention firmly within the larger Actor-Network of neo-eugenics.

Through the Findings and the Discussion section, I have argued that the Singapore Ministry of Health has attempted to construct avoidance of casual sex as the way of protecting oneself from HIV infection. In the process, the Ministry also attempted to amiably disqualify certain actors, including Action for AIDS and the Business Coalition for AIDS, while enrolling others, such as the heterosexual male population. I had further argued that the Ministry's insistence on denouncing casual sex was in turn the effect of its project being embedded within a larger network of neo-eugenics. The Actor-Network of neo-eugenics was being engineered by the Singapore government in its attempt at increasing and maintaining the good-quality stock of Singapore population. The government had constructed a certain identity, which was the identity of a model citizen based on the so-called Asian values, to create a durable network. This "Asian values", if you like, acted as the obligatory passage point through which the Ministry of Health had to go in order to construct its own network of HIV/AIDS; hence, the

Ministry could and would not enrol such material entity as condom, as condom was seen as a direct threat to the larger project of neo-eugenics.

So here, let me return to my very initial research question; why was the Singapore Ministry of Health not succeeding in halting its HIV/AIDS epidemic? I now propose that this is because of the Ministry's failure to understand the true nature of the relationship, or of co-constitution, between the heterosexual men and the HIV. As Haraway (2003) reminds us in her study of the relationship between men and dogs, an actant does not necessarily only include material things, but also other living species, such as dogs (she refers to these as companion species). While Haraway does not discuss the possibility in detail, these companion species could also include much smaller animals than dogs, such as the viruses and bacteria that cause infection and disease. In other words, we could argue that the humans and infectious agent, such as the HIV, had always co-constituted each other. Indeed, the history of any infection, such as syphilis, plague or even influenza, has been a co-production of human behaviours, environments and social relations.

In other words, just as novel behaviours (such as changes in patterns of mobility) or changes to environments (such as new methods of transport) may allow the emergence of new infectious companions, these in turn produce their own changes in behaviours, environments and social relations. Therefore, ever since HIV was first diagnosed and classified, there has continuously been such co-constitution of humans and their *habitus*. And within Singapore, the nature of such co-constitution had always been that the identity of the virus and the men were performed via the virus passing from one

body to another through an exchange of bodily fluid, not via the virus spreading through men engaging in casual sex.

The Ministry only succeeds in constructing HIV as a virus that transmits via casual sex because the men continue to agree to be enrolled onto its network, accept the identity based on "Asian values" as prepared by the Ministry, and choose avoidance of casual sex as a way of protecting themselves from HIV infection. But I wonder for how much longer will the men be enrolled? As I already suggested, in an increasingly globalised world, various identities, such as that of a "playboy bachelor" and "single, career-minded women", are becoming available. And what about those homosexual and bisexual men and women who already do not lead a lifestyle based on the so-called "Asian values"? Thus, there is every possibility that in the not-so-far future, the heterosexual men may eventually decide to betray the Ministry's project by taking up a totally different identity, or other actants may forge links with the Actor-Network of HIV/AIDS prevention and change its shape.

Certainly, one cannot ignore the possibility of multiple networks co-existing peacefully and democratically. For example, Moser, in his study on Alzheimer's disease, has shown that there is no single reality of the disease that is produced by science, but multiple and changing realities that interfered and co-existed with one another and how "we", the various "collectives", chose which realities to live in (Moser, I. 2006). Verran's account of scientific knowledge co-existing with Aboriginal forms of knowledge on firing in Australia also point to the possibility of different and seemingly conflicting knowledge regimes resolving their differences via what she calls an infra-ontology (Verran, H. 2005). Such involves making "inside connections"; that is,

realising and accepting that different communities constitute reality by their own unique methods, and taking "just enough of what matters ontologically" to negotiate on what knowledge should look like with other regimes (ibid., p.7, see also Verran, H. 2002).

I must admit that I have doubts over whether in the case of HIV/AIDS in Singapore, such "inside connections" can ever be formed between the ANT of, say, the Ministry of Health and of the Business Coalition, or of "playboy bachelors". Verran's case study looked at two communities that shared essentially the same goal; that is, "a desire to find ways to negotiate over firings, in an everyday sense" (Verran, H. 2002, p.735). In other words, they were quite prepared to negotiate and to enrol, and be enrolled onto, each other's network. Of course, I would not want to deny the possibility of multiple Actor-Networks on HIV/AIDS prevention in Singapore somehow finding ways to co-exist with one another, *and of HIV/AIDS incidence eventually declining as a result of such efforts.* Yet from what I have so far observed in the field over the period of just under one year, I cannot help but wonder whether perhaps it is only through disintegration and transformation of its network that the Ministry may finally be forced to rethink its strategies to overturn the current status of HIV epidemic in Singapore.

My Actor-Network and its Limitations

Yet this is by no means a prediction of some sort. What I have been suggesting so far is, after all, based on the engineering of my own Actor-Network. Throughout this paper, I have tried to enrol various entities, and arrange and order them to make my social scientific explanations stand up to scrutiny. And in the process, I, as the "engineer", and my Actor-Network, were also affected by the Ministry's engineering work no less.

Indeed, I felt that on certain occasions, the Ministry had invited me to be enrolled onto – or rather, to be amiably disqualified from, their Actor-Network; for example, by presenting me the picture that Singapore's HIV/AIDS epidemic is hardly a serious problem, and thereby not worthy of inquiry by foreigners such as I.

In other words, I too was involved in the network of Actor-Networks, and constantly faced tentacles from other networks reaching out and trying to forge associations with my project. Where I could change focus, I tried; and where I could turn my head around, I did – so that I did not end up exclusively examining one single Actor, that is the Ministry of Health, and that I could observe other actors, who were excluded or who remained marginal to the Actor-Network that was my main concern and focus. That is, in the words of Michael, I tried to "reconstruct the means to triumph of the big and the powerful, while simultaneously recover the alternative 'failed' or marginal networks and actors", because such networks often "lurk in the background and inform actors who are enrolled into larger networks" (Michael, M. 1996, p.65). Eventually, as I discussed in the Discussion, it turned out that the Actor-Network of my initial concern was one of the marginal networks to the greater network of neo-eugenics.

However, what I could observe was still constrained by the various associations that surrounded me at that time. I thus believe that there were certain actors and Actor-Networks that I could only catch a glimpse of, while others that were totally out of my sight, and as such, posed a limitation to my pursuit. As Murdoch has argued, "...it is not always possible to capture all the network elements; sometimes the sheer complexity of the relations might be almost impossible to follow through all their twists and turns". What I therefore chose to do was to simplify the complex relations into "first-order

approximations, that is, shorthand descriptions of the most significant relations and actions within the networks" (Murdoch, J. 1997, p.747), or, in the terminology of ANT, to black-box my Actor-Network.

Here, I may be open to the criticism that such process of black-boxing my Actor-Network is totally arbitrary. Certainly, ANT does not provide any standardised guideline as such that can direct constructivist researchers how to choose the most significant relations, or how to simplify and black-box their Actor-Networks. Yet to claim that there is such a convenient tool that is only available to ANT researchers, and that allows the researchers to analyse and make sense of relations from outside the networks, is equivalent to claiming the status of a meta-theory, and this is something that the ANT from the very beginning has refused to provide. The ANT researcher might choose and follow some actors as its study target, but in fact, there is no epistemological difference between that researcher and the actors being followed. The researcher, at any time, may become the actor to be followed by some curious-minded investigator. Furthermore, the ever-evolving nature of Actor-Networks means that each new case of enrolment and disqualification may be different to the last, and the relations observable now may not be visible the day after. In that sense, the black-boxing process can only be arbitrary; in fact, it is only meant to be arbitrary. I thus do not claim that I stand outside the Actor-Network or that I occupy epistemological high ground. I certainly cannot and do not conclude that my Actor-Network has shown that the Singapore Ministry of Health's project, constructed within the network of neo-eugenics, was responsible for the continuing rise of HIV prevalence in Singapore. The reader may thus ask, so what can I conclude? What has all this pursuing achieved in the end?

Democratisation of Scientific Knowledge...Or?

As I mentioned earlier in the Literature Review, there are some STS theorists who have argued that the social mission of critical science studies is to bring science and technology further under popular control; in other words, to democratise science and technology. Those such as Epstein thus point to the role of "science shops" that "bring researchers into collaboration with citizens", of "science courts" that "invite laypeople to pass judgement on political controversies with scientific dimensions" and "citizen boards" to assess technological risks (Epstein, S. 1996). Fujimura (1991) has similarly called for social scientists to "take side", and promote the interests of the weak and the marginalised. They have thus been quite sceptical of what ANT is capable of achieving and have asked; is ANT not anything more than a description? Does not description imply passivity and detachment? (Murdoch, J. 1997)

Yet, on the other hand, Latour has on numerous occasions counter-argued that too often, social science critical studies have behaved liked "Justice of Peace" (for example, see Latour, B. and Crawford, T.H. 1993). According to Murdoch, Latour's aversion to critical studies owes much to the works of Michael Serres. Serres has similarly argued that critical studies "no longer consist of giving philosophy the right to judge everything – a regal position from which it makes rulings right and left on everything – but the responsibility to create, to invent, to produce..." (Serres, M. in Serres, M and Latour, B. 1995, p.137). I have similarly asked myself whether or not I should ever set myself to "teach" the "ignorant" Singapore citizens about the good and the bad of science and technology regarding HIV/AIDS prevention. Can I really "empower" the citizens to see scientific and technological discoveries with critical eye? Do I even have the right to judge how people choose to understand and accept scientific knowledge? I did not think so. I did not think that my engineering work could or should even attempt to "debunk"

certain "powerful" actors, whether that is the Singapore government or the Ministry of Health, and reveal their engineering effort so that the enlightened Singapore citizens can participate more actively in constructing of scientific knowledge about HIV and AIDS. Who am I to go about "democratising" science? For whose democratisation is it anyway? If the particular knowledge about HIV/AIDS prevention in Singapore is an effect of a network-engineering, so is the attempt at "democratising" science. And Actor-Network theorists, including myself, do not possess any means that may be justified theoretically, or right that may be justified ethically, to suggest to which Actor-Networks to enrol.

On the other hand, however, Latour has shown concern that in the recent years, "...dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives" (Latour, B. 2004a, p. 227). In other words, he is sensing a serious crisis whereby ANT's past effort at opening the black box and exposing the engineering processes to warn against accepting prematurely objectified facts is now giving the "extremists" the excuse not to admit the "hard-won evidence that could save our lives" (Latour, B. ibid. p.227). Latour gives an example of such "extremists" denying the evidence that global warming is largely caused by industrial pollutants and thus opposing strict environmental regulations. If one extends his concern, we even face the possibility that in the near future, someone starts arguing that there is not enough scientific evidence to show that anti-retroviral drugs improve the quality of life of those infected with HIV and thus we should suspend distributing the drugs! Latour believed that such absurdity has been allowed to occur because he had wrongly believed "...that there was no efficient way to criticize matters of fact except by moving away from them and directing one's attention towards the conditions that made

them possible" (Latour, B. ibid. p.231). Yet, he has argued, this had meant uncritically accepting what the matters of facts were, while in fact, matters of facts were merely a way of assembling political order without due processes. In other words, the question of *what is* could and should not have been separated from the question of *what ought to be* in the first instance.

What he has thus proposed to do is to "turn the matters of facts back into matters of concern"; that is, to rid the dichotomy between the matters of facts and matters of concern, and let the "collective", or the community that constitutes of human and nonhuman things, decides upon what should be included in its version of reality (Latour, B. 2004b). His idea is that every now and then, we have a provisional agreement on what reality is to look like – it is a reality in which voices of some humans or nonhumans are ignored and thus not represented, but then, when these voices do present themselves, the 'collective' must decide whether or not to accept their demands for reification, and if it does, how it should integrate the new voices into the previously constructed reality. In articulating this "collective", Latour has also pointed to the importance of the 'spokesperson', who must be able to represent those humans and nonhumans that are otherwise silenced.

Latour believes that this process, or what he calls the new "Constitution", may hold the chance of saving our world from descending into chaos, or what he calls the state of endless wars – "wars outside and wars inside...cultural wars, science wars and wars against terrorism" (Latour, B. 2004a, p.225) – that has resulted out of science attempting to determine reality on the one hand and constructivism attempting to unblackbox everything on the other.

Now, some has argued that his vision of future is all too vague and his solution, the call for the Constitution, unrealistically utopian (for example, see Puddephatt, A.J. 2004). Yet many of his ideas have already begun to appear, perhaps not as dramatically as Latour has envisioned, but in a more mundane form. Latour himself has given the example of asbestos, which, in its original reality, was perceived as an effective and profitable material. However, as time went on and numerous humans (workers, inspectors, medical doctors) and nonhumans (other properties of asbestos) begun pressing for representation, the reality of asbestos changed from being a "magic material" to a "nightmarish imbroglio of law, hygiene and risk" (Latour, B. 2004b, p.23). Latour may thus not have offered us concrete solutions or policy recommendations, but I argue that he has certainly showed us how one might, as in the title of his most recent book, "bring sciences into democracy" (Latour, B. 2004b) and presented us with the language, the ANT, with which to achieve this.

In other words, ANT was never meant to provide a "metalanguage", with which to arbitrate the power struggle among the various actors, but an "infralanguage" – a theoretical language and its associated concepts that allow us to make sense of the networks and relations which construct the social and the natural reality as we see them. ANT helps us to see the provisional nature of reality as established by the "collective" and also reminds us that we, as the "collective", are constantly making decisions based on imperfect information, which in turn is constantly competing with other information. And I argue that it is within this newly created language that Latour sees the alternative role for "critical studies".

Certainly, the assessment of Latour's claiming ANT as a new "critical theory" has varied. Those such as Lee and Brown (1994) have argued that despite its claim, ANT risks becoming yet another grand "metalanguage", by claiming that everything; actors, knowledge and practices, can be explained by Actor-Networks. Murdoch on the other hand has argued that though ANT may not qualify as a new critical theory, it may be recognised for performing a critical task, that is, of providing a "...basis upon which a symmetrical social theory" (Murdoch, J. 1997, p.753) may then develop. It is the critical theory that seeks not to arbitrate, but that forces us to recognise the multiple voices, both human and nonhuman, and decide ourselves which voices to listen to. In a similar vein, I believe that the role of ANT, and consequently the contribution of my Actor-Network, lies in digging out one more silenced voice, creating one more Actor-Network, with which the readers may or may not decide to forge links to make sense of the social world in which they live, to build, modify and update their own Actor-Networks.

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UNDP http://www.undp.org

WHO www.who.org

12. Appendices

Appendix 12.1 Interview Guideline

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

Introduction:

- Thank the interviewee for his/her time
- Explain what the research is about
- Explain the procedure
- Ask if there are any questions

The context within which HIV is perceived:

- **Would you say that HIV is a problem in Singapore? How serious a problem is it?**

In your opinion, what is the nature of the problem? In what ways does it affect Singapore as a country? Is it merely a public health problem or...? (e.g. economic, social, political...?)

- **Who is affected by HIV epidemic in Singapore?**

Is that how HIV is perceived as by the general public? government?

HIV prevention efforts:

- **How do you perceive the role of your organisation in the prevention efforts?**

What are the aims and activities of your organisation in the field of HIV prevention?

- **And as far as you are aware or concerned, who else is involved in the prevention efforts?**

From the standpoint of your organisation, what do you perceive their (other actors') roles as? What are their contributions? How do they complement each other? How would you define the working relationships among those groups? i.e. Do you see a power relation? Is there a mutual exchange of information, ideas and opinions? Are there disagreements? If so, over what? How are disagreements solved? Or are they?

- **Who, in your opinion, is or should be responsible for the mass public education? i.e. not specifically targeted at certain population groups.**

Government campaigns:

- **Do you feel that the current government campaigns are targeted at certain sector(s) of the population?**

e.g. Is there any sexual bias? Ethnic bias? Age bias? Why do you feel that? Why do you think that is? Are those people perceived to be at the greatest risk?

- **What do you think are the main messages to these people?**

Why do you think these messages are chosen? Do you expect these messages to work? Why?

- **How do you think are these messages meant to work? (i.e. Appealing to certain values? By scaring people off?)**

If not, why do you think these messages will not work? (If other non-public health motives are mentioned,) what about in terms of other motives other than public health efforts? Do the messages accomplish those aims? What about other possible messages such as condom promotion? Are they being considered? If not, why not?

Conclusion and thanks:

- Thank again
- Ask if there are any questions

Appendix 12.2 Simplified version of the interview guideline

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

The context within which HIV is perceived:

- Would you say that HIV is a problem in Singapore?
- If so, how serious a problem is it?
- In *your* opinion, what is the nature of the problem?
- In what ways does it affect Singapore as a country?
- So who is affected by HIV epidemic in Singapore?
- Is that how HIV is perceived as by the general public?
- Is that how HIV is perceived as by the government?

HIV prevention efforts:

- How do you perceive the role of your organisation in the prevention efforts?
- Who are other important contributors to prevention efforts?
- Who is, or should be, responsible for the mass public education?

Government campaigns

- Do you feel that the current government campaigns are in fact targeted at certain sector(s) of the population?
- What do you think are the main messages to these people?
- How do you think are these messages meant to work?

Appendix 12.3 Introduction letter sent to the potential interviewees

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

Thank you very much for showing interest in participating in a semi-structured interview. This forms an important part of a larger work, which aims to improve the quality of health promotion/education programmes by better understanding the lifestyle, needs and aspirations of the people at which health education programmes are targeted. Your participating in this interview will be extremely valuable in understanding HIV education in Singapore.

Self-introduction

My name is Lisa Imadzu I am a researcher based at the Health Services Research Unit of London School of Hygiene and Tropical Medicine (part of the University of London). I work with Dr. Simon Carter at the LSHTM, and with Professor George Bishop at the National University of Singapore.

What will you be asked to do?

If you agree, you will be asked to participate in a semi-structured interview, which will last for approximately 40-50 minutes.

With your permission, the interview will be taped and will be listened and transcribed by my assistant and myself. In the case you do not wish the interview to be taped, it will be recorded by hand by my assistant. Whichever is the case, the recording will be treated confidentially and what you say will be completely anonymous. The tape-recordings will be stored as audio files on my personal computer which is protected by password, and all data on paper will be stored in a cabinet fitted with a lock.

This research has been given approval by the Ethics Committee both of my home institution (LSHTM) and of NUS.

Your rights:

You have the right to

1. Stop the discussion or ask for the tape recorder to be stopped at any time, without the need to explain why,
2. Demand to see the transcript of *your* interview.
3. Demand either the final full report or a summary report or both. The summary report will be available electronically and the full report will be available in printed form.

Any questions?

If you have any questions, please contact Lisa:

Telephone: 6 7851062

Mobile: 9 3532174

E-mail: lisa.imadzu@lshtm.ac.uk

Appendix 12.4 Consent form

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

Date: _____

Place: _____

Time: Start _____ End _____

****

Information on Participants
(To be completed by the participants)
(In CAPITALS please)

Name: _____

Age: _____ Sex: _____

Profession (optional): _____

Position (optional): _____

Please delete as appropriate:

1. I have/have not read and understood the "Participant Information Sheet",
2. I understand/do not understand what is required of me if I take part in it,
3. I understand/do not understand my rights as outlined in the information sheet,
4. My questions concerning the study have/have not been answered in person/over the phone/over e-mail,
5. I agree/do not agree to participate in the interview under the conditions stated in the "Participant Information Sheet".
6. I wish/do not wish to have the summary report/ full report/ both.

Signature: _____

Date: _____

Appendix 12.5 Introduction letter sent to the focus group discussion participants

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

Thank you very much for showing interest in participating in a two-series discussion group. This forms an important part of a larger work which aims to improve the quality of health promotion/education programmes by better understanding your lifestyle, needs and aspirations and taking into account what you have to say.

Who am I?

My name is Lisa Imadzu I am a researcher based at the Health Services Research Unit of London School of Hygiene and Tropical Medicine (part of the University of London). I work with Dr. Simon Carter at the LSHTM, and with Professor George Bishop at the University of Singapore.

What will you be asked to do?

If you agree, you will be asked to participate in a two-series discussion group, each lasting about 40-50 minutes. The discussions are meant to be informal and chatty; although I will provide the issues I would like you to be talking about, otherwise I will largely stay in the background. Please think of them more as a casual get together among your friends and/or colleagues.

The discussions will be taped and will be listened and transcribed by myself and my assistant. However, all recordings will be treated confidentially and what you say will be completely anonymous. The recordings will be stored as audio files on my personal computer which is protected by password, and all data on paper will be stored in a cabinet fitted with a lock. You will be paid a small amount of cash to compensate for your travel and time after attending the second session.

This research has been given approval by the Ethics Committee both of my home institution (LSHTM) and of NUS.

Your rights:

You have the right to

1. Stop the discussion or withdraw yourself from the discussion if it becomes too uncomfortable, without the need to explain why.
2. Demand to see the transcript of *your* group's discussion.
3. Demand either the final full report or a summary report or both. The summary report will be available electronically and the full report will be available in printed form.

Any questions?

If you have any questions, please contact Lisa:

Telephone: 6 7851062

Mobile: 9 3532174

E-mail: lisa.imadzu@lshtm.ac.uk

Appendix 12.6 Focus group discussion guideline

A Study on HIV education in Singapore

Study organiser: Lisa Imadzu

Session 1

Introduction:

- Thank the participants
- Explain what the research is about
- Explain the procedure restate the rights of the participants
- Ask if there are any questions

Questions on values and priorities in general:

- **Question 1**: "What do you think are the characteristics of a typical Singaporean man? What do you think of the 3K's?***...let them elaborate in their own words.***
- What are the 3K's? Where does these stereotyping come from? Can they give some examples? Are these a "male thing"? Or generally a Singaporean thing? What do they think of the image? Is it fair? Is there some truth in it?

- **Question 2**: " hat, as a middle-aged man in Singapore, do you feel you are being asked of you?"***...try to let them come up with their own words, if not give some prompts such as those below. Ultimately, lead them to talk about marriage and family...***
- **National Service?** (let them elaborate – does it make them more Singaporean? More male? What is being asked by NS? i.e. physical fitness, discipline etc...)

- **Job?** To be a breadwinner? To make money? Are they being asked to take up certain types of job? Is this a male thing? Where does the pressure come from?

- **Marriage?** Do/did they feel the pressure? From who?

  To those who are married, what made them make the decision to get married? Were there any conditions they felt were being asked in order to get

married? Do they feel that marriage is a restriction to their freedom? If not, why not? If yes, why? In what ways? Is there still pressure to act/behave in certain ways after marriage?

To those who are not married, what are the reasons they are staying single? Would they eventually want to get married? Is marriage a priority in their life at this moment? If not, why not? Are there any conditions they feel are being asked in order to get married? Do they feel that marriage a restriction to their freedom? If not, why not? If yes, why? In what ways? Is there still pressure to act/behave in certain ways after marriage?

- **Having a family?**

  To those who are married, is having children a priority? If yes, why? If not, why not? Was there a pressure from anyone? From who?

  To those who are not married, would having children be their priority when they marry? i.e. is getting married synonymous with having children and building a family? If yes, why? If not, why not? Is there a pressure here as well? From who?

Questions on Social Development Unit & Social Development Service:

- **Question 3**: "For example, SDU and SDS can be seen as one source of pressure for you guys to get married... or do you see it as a pressure?"
- What do they think of it? Does it work? What are its positive effects? And negative effects?
- What do they think is the government's intension? What do they think of it? Is the government succeeding? If yes, why and how? And if not, why not?

Questions of relationships and sex:

- **Question 4**: "OK, so we talked about marriage and families...but what about casual relationships?***"...ask what "casual relationship" means to them i.e. With who? With what kind of women? Does is involve sex?***

To those who are not married, do they feel that they can still engage in casual relationships without much pressure to get married? Or should they stop "playing around" and start thinking about settling down? What do they think their parents/government/society etc. think of such a relationship? Do they think there is a value in such a relationship?

To those who are married, do they think it's all right for middle-aged guys to be engaged in casual relationships (as they define it)? If yes, why? If no, why not?

- **Question 5**: "...And what about commercial sex? What are your views on that?"
- What kind of people do they think visit commercial sex workers? Single men, married men, old, young...etc.
- Why do they think these people visit commercial sex workers?
- Is it wrong? If yes, why? If not, why not? As compared to casual relationships? Or does it depend on men i.e. married, single, foreigners...? Or does it depend on legalities i.e. brothel-based or street walkers? Or does it depend on...?

Conclusion and thanks:

- Thank again
- Ask if there are any questions

Session 2

Introduction:

- Thank the participants and explain to them the session is not meant to find about how much they know about HIV/AIDS; that they are not being tested for their knowledge but it is more about finding out what they think about the issue.

General questions on HIV/AIDS in Singapore:

- **Question 1**: "Do you know much about HIV/AIDS? Or...think that you are well-enough informed about it?"***...ask them what is well-enough informed for them. Let them define...i.e. as a general knowledge?***
- When was the first time they heard of it? How old were they? Where did they know/learn about it? What was the context?
- And what did they think of it? Were they scared? Did it pose a personal threat? If not, why not? Who did they think were at risk?
- Did they try to find more about it? if yes, from where? Why? If not, why not?
- What about now? Have their thinking about HIV/AIDS changed? Are they more/less concerned? Who are at risk do they think now? Does it affect them in any way? If yes, in what ways? If not, why not?

Questions on HIV education in Singapore:

- **Question 2**: "Can you remember any of the past (and current) **TV and radio advertisements and/or posters and/or bill boards** cautioning against HIV?"***...ask them to define and explain in their own words.***
- Which ones? If posters or bill boards, where did they see them?
- Why did they remember- what stuck to their mind?
- What do they think the intended messages were? To who do they think those advertisements are targeted?
- Did they feel that the ads were also targeting them? In another word, were they personally touched/moved by the ads? Did the ads speak to them? If yes, why? In what ways? What messages did they personally get? If not why not?

- **Question 3**: "How about **pamphlets/brochures/booklets?** Do you remember picking up any on HIV/AIDS?" ***...ask them to define and explain in their own***

words.

- Which ones? Where did they pick them up?
- Why did they remember- what stuck to their mind?
- What do they think the intended messages were? To who do they think those advertisements are targeted?
- Did they feel that the ads were also targeting them? In another word, were they personally touched/moved by the ads? Did the ads speak to them? If yes, why? In what ways? What messages did they personally get? If not, why not?

- "OK, so now we're going to show you some posters and pamphlets...can you have a look through them, talk about them among yourselves if you want. Then afterwards, we're going to ask you some more questions...try to look out for things like...who these things are targeting at, what kind of messages these are trying to convey..."

- **Question 4**: "So who do you think the adverts/pamphlets are targeted at?" Who are at risk? Why do they think that? ***...ask them to elaborate. i.e. "men who fool around" "dangerous crowd" "men who engage in casual sex"...what does "fool around" mean? "casual sex"?***

- **Question 5**: "What do you think are the HIV risks that are portrayed in the adverts? i.e. what kind of things or activities put people at risk?" And what precautions/preventative actions are the adverts/pamphlets advocating?***...ask them to elaborate. i.e. "safe sex"- what is safe sex? "no casual sex" – no sex with who? "be faithful" – faithful to your wife? Girlfriend? Does is mean have only one sexual partner at a time? Or in your life?***

- **Question 6**: "And which of the adverts (if there are any), do you think are effective?"***...ask them to define what "effective" means. What should these adverts accomplish? i.e. give information? Try to change perceptions and behaviour?***
- So effective in the sense that they define, which are effective and which are not? And why do they think that?

- Do any of the adverts or pamphlets speak to them? If yes, why? How? If none do, why not?

Conclusion:

- Thank them
- Ask if there are any questions

Appendix 12.7 Notes on Singlish (adopted from www.wikipedia.org)

Introduction:

Singlish originated with the arrival of the British and the establishment of English language schools in Singapore. Soon, English filtered out of schools and onto the streets, to be picked up by non-English-speakers in a pidgin-like form for communication purposes. After some time, this new form of English, now loaded with substantial influences from Indian English, Baba Malay, and the southern varieties of Chinese, became the language of the streets and began to be learned "natively" in its own right. Creolization occurred, and Singlish then became a fully-formed, stabilized, and independent English creole.

Due to its origins, Singlish shares many similarities with pidgin varieties of English, and can easily give off the impression of "broken English" or "bad English" to a speaker of some other, less divergent variety of English. In addition, the profusion of Singlish features, especially loanwords from Asian languages, mood particles, and topic-prominent structure, can easily make Singlish downright incomprehensible to a Briton or American. As a result, the use of Singlish is greatly frowned on by the government, and two former prime ministers, Lee Kuan Yew and Goh Chok Tong, have publicly declared that Singlish is substandard English that handicaps Singaporeans, presents an obstacle to learning good English, and renders the speaker incomprehensible to everyone except another local. In the interest of promoting equality and better communication with the rest of the world, the government has launched the Speak Good English Movement to eradicate it, at least from formal usage. In spite of this, in recent years the use of Singlish

on television and radio has proliferated as localized Singlish continues to be popular among most Singaporeans.

Singlish is strongly discouraged in Singaporean schools at a governmental level as it is believed to hinder the proper learning of standard English, and so faces a situation of diglossia. The use of Singlish when speaking in classes or to teachers, however officially frowned upon, is rather inevitable given that many teachers themselves are comfortable with the dialect. For many students, using Singlish is also inevitable when interacting with their peers, siblings, parents and elders. In polytechnics, students feel the greater need to socialise with their peers in a learning environment less rigid than primary or secondary school, and as a result Singlish is popular. The government continues to wage an uphill battle in discouraging students from developing a Singlish-speaking habit.

Singaporean men find speaking Singlish necessary during their time in the military, or national service, as Singlish has replaced Hokkien as the standard vernacular in the Singapore Armed Forces. The informality of Singlish fits well in stressful training situations, and are used among soldiers regardless of ethnic groups and level of education. Many phrases originating in the military have filtered into the lexicon over the years and they have become a method of distinguishing those who have undergone NS.

In most workplaces, Singlish is avoided in formal settings, especially at job interviews, meetings with clients, presentations or meetings. Nonetheless, select Singlish phrases are sometimes injected into discussions to build rapport or for a humorous effect, especially when the audience consists mainly of locals. In other informal settings, such as during

conversation with friends, or transactions in kopi tiams (coffee shops) and shopping malls, Singlish is used without restriction. The only exception is that it may be considered impolite to speak Singlish when a foreigner is present, as it is likely that he or she will have difficulty comprehending what is being said.

Singlish Grammar: The grammar of Singlish has been heavily influenced by other languages and dialects in the region, such as Malay and Chinese, with some structures being identical to ones in Mandarin and other Chinese languages. As a result, Singlish has acquired some unique features, especially at the basilectal level. Note that all of the features described below disappear at the acrolectal level, as people in formal situations tend to adjust their speech towards accepted norms found in other varieties of English.

Singlish is **topic-prominent**, like Chinese and Japanese. This means that Singlish sentences often begin with a topic (or a known reference of the conversation), followed by a comment (or new information). Compared to other varieties of English, the semantic relationship between topic and comment is not important; moreover, nouns, verbs, adverbs, and even entire subject-verb-object phrases can all serve as the topic:

- **Dis country** weather very hot, one. — *In this country, the weather is very warm.*
- **Dat person there** cannot trust. — *That person over there is not trustworthy.*
- **Tomorrow** doh need bring camera. — *You don't need to bring a camera tomorrow.*
- **He play soccer** very good also one leh. — *He's very good at playing soccer too.*

The above constructions can be translated analogously into Chinese, with little change to the word order.

The topic can be omitted when the context is clear, or shared between clauses. This results in constructions that appear to be missing a subject to a speaker of British, American, Asutralian or New Zealand English:

- Not good one lah. — *This isn't good.*
- Cannot liddat go one lah. — *You/it can't go just like that.*
- How come never show up? — *Why didn't you/he/it show up?*
- I like badminton, dat's why go play every weekend. — *I like badminton, so I go play every weekend.*

Nouns

Nouns are optionally marked for plurality. Articles are also optional:

- He can play **piano**.
- I like to read **storybook**.
- Your computer got **virus** arnot? — *Does your computer have viruses?*

To be

The copula, which is the verb "to be" in most varieties of English, is treated somewhat differently in Singlish. When occurring with an adjective, "to be" tends to drop out, and is often replaced by an adverb, such as "very":

- Dis house **very** nice.
- Dat car **not** worth the money.
- How come so late in the night you still **playing** music, ar?
- You **looking** for trouble, izzit?

In general, "to be" drops out more behind nouns and pronouns (except "I", "he", and "she"), and much less behind a clause (what I think is...) or a demonstrative (this is...).

The past tense

Past tense marking is optional in Singlish. Marking of the past tense occurs most consistently in strong verbs (or irregular verbs), as well as verbs ending on -t and -d, such as:

- I **went** to Orchard Road yesterday.
- He **accepted** in da end.

Due to consonant cluster simplification, the past tense is unmarked when it is part of a complex consonant cluster:

- He **talk** for so long, never **stop**, not even when I **ask** him.

The past tense tends to be unmarked if the verb in question goes on for an extended period, rather than as an isolated event

- When I was young, ar, I **go** to school every day.
- When he was in school, he always **get** good marks one.
- Last night I **mug** so much, so sian already. (mug — *cram for exam.* sian — *bored/tired.*)

Change of state

Instead of the past tense, a change of state can be expressed by adding *already* or *liao* to the end of the sentence, analogous to Chinese (*le*). This is not the same as the past tense, as it does not cover past habitual or continuous occurrences, and can refer to a real or hypothetical change of state in the past, present or future:

- He throw it **liao**. — *He has already thrown it away.*
- Aiyah, cannot wait any more, must go **oreddy**. — *Oh dear, I cannot wait any longer. I must leave immediately.*

Negation

Negation works in general like English, with **not** added after "to be", "to have", or modals, and **don't** before all other verbs. Contractions (can't, shouldn't) are used alongside their uncontracted forms. However, due to final cluster simplification, the -t drops out from negative forms, and -n may also drop out after nasalizing the previous vowel. This makes nasalization the only mark of the negative.

- I do ([dõ]) want. — *I don't want to.*

Another effect of this is that in the verb "can", its positive and negative forms are distinguished only by vowel:

- I can /k n/ do this lah.
- I can't /kan/ do this lah.

Also, **never** is used as a negative past tense marker, and does not have to carry the English meaning. In this construction, the negated verb is never put into the past-tense form:

- How come today you **never** (=didn't) hand in homework?
- How come he **never** (=didn't) pay just now?

Interrogative

In addition to the usual way of forming yes-no questions, Singlish uses two more constructions. In a construction similar (but not identical) to Chinese, **or not** is appended to the end of sentences to form yes/no questions. *Or not* cannot be used with sentences already in the negative:

- This book you want **or not**? — *Do you want this book?*
- Can **or not**? — *Is this possible / permissible?*

The phrase **is it** is also appended to the end of sentences to form yes-no questions. **Is it** implies that the speaker is simply confirming something he/she has already inferred:

- They never study, **is it**? — *No wonder they fail!*
- You don't like that, **is it**? — *No wonder you had that face!*

Kena

Kena is used as an auxiliary to mark the passive voice, in addition to "to be" and "to get". It is derived from the Malay word with the same spelling that means to encounter or to come into physical contact. *Kena* can be used with either the infinitive or the past participle. It must be used with a verb that affects the subject in a negative way, and is similar in this respect to passive markers in Chinese, such as Hokkien *tio* or Mandarin (*bèi*):

- He was scolded. = He got scolded. = He **kena** scolded. = He **kena** scold.

Note:

- He **kena** praised.

When the context is given, *Kena* may be used without a verb:

- Better clean the room, otherwise you **kena**. — *You will be punished if you don't tidy the room.*

One

The word *one* is used to emphasize the predicate of the sentence by implying that it is unique and characteristic. It is analogous to the use of particles like (*ge*) in Cantonese, (*e*) in Hokkien, or (*de*) in southern-influenced Mandarin. *One* used in this way **does**

not correspond to any use of the word "one" in British, American English, Australasian English, etc:

- Wah lau! So stupid **one**! — *Oh my gosh! He's so stupid!*
- I do everything by habit **one**. — *I always do everything by habit.*

Discourse particles

Particles in Singlish are highly comparable to Chinese. In general, discourse particles occur at the end of a sentence. Their presence change the meaning or the tone of the sentence, but not its grammaticality. Particles are noted for keeping their tones regardless of the remainder of the sentence. Most of the particles are directly borrowed from southern Chinese varieties, with the tones intact. *(Only those main particles that appear in the discussions and interviews are mentioned here – author.)*

Lah

The ubiquitous word **lah** (/l ˊ/ or /l /) is used at the end of a sentence. Note that 'lah' is often written after a comma for clarity, but there is never a pause before a lah. This is because in the original Malay, 'lah' is appended to the end of the word and is not a separate word by itself. In Malay, 'lah' is used to change a verb into a command or to soften its tone, particularly when usage of the verb may seem impolite. To drink is *minum*, but 'Here, drink!' is *minumlah*. Similarly, 'lah' is frequently used with imperatives in Singlish:

- Drink, **lah**! — Come on, drink!

'Lah' also occurs frequently with "Yah" and "No" (hence "Yah lah" and "No lah"). The results sound less brusque and facilitate the flow of conversation.

Lah is often used with brusque, short, negative responses:

- Dun have, **lah**! (Brusque response to, "Lend me some money, can?")
- Dun know oreddy, **lah**! (Brusque response to someone fumbling with an explanation.)

Lah is also used for reassurance:

- Dun worry, he can one **lah**. — *Don't worry, he can [do it].*
- It's okay **lah**. — *It's all right.*

Wat

The particle **wat** (w t/), also spelled **what**, is used to remind or contradict the listener, especially when strengthening another assertion that follows from the current one:

- But he very good at sports **what**. — *Shouldn't you know this already, having known him for years?*
- You never give me **what**! — *Or else I would have gotten it, right?*

Lor

Lor (/l ´/), also spelled **lorh** or **loh**, is a casual, sometimes jocular way to assert upon the listener either direct observations or obvious inferences. It also carries a sense of resignation, that "it happens this way and can't be helped":

- If you don't do the work, then you die-die **lorh**! — *If you don't do the work, then you're dead!*
- Okay **lorh**, you do what you want. — *Fine, go ahead and do what you want.*

Ar

Ar (/ /), also spelled **arh** or **ah**, is inserted between topic and comment (often to give a negative tone):

- Dis boy **arh**, always so naughty one! — *This boy is always so naughty!*

Ar (/ /) with a rising tone is used to reiterate a rhetorical question:

- How come lidat one, **arh**? — *Why is it like that? / Why are you like that?*

Ar (/ /) with a mid-level tone, on the other hand, is used to mark a genuine question that does require a response: ('or not' can also be used in this context.)

- You going again **ar**? —*"Are you going again?"*

Meh

Meh (/m ˊ/) is used to form questions expressing surprise or skepticism:

- They never study **meh**? (I thought they do?)
- You don't like that **meh**? (I thought you do?)
- Really **meh**? (Is that really so?)

Siah

/sj ˊ/, also spelled Sia, is used to express envy and for emphasis. The term "siah" is derived from the Malay word "sial" which means unlucky or damned. The term sial is still used extensively in the Malay context.

- He very solid **siah**. — *He's damn capable.*
- Wahlau, very heng **siah**. — *Goodness me (=Wahlau)! That was a close shave (=heng)!*

Wah

Wah is used as a form of exclamation, usually followed by another sound to denote the kind of exclamation.

- **Wah**! Cool leh! (Wow! Cool leh!) — *Wow! That's cool!*
- **Wah** piang eh! Damn hard ah, the exam. (Bloody hell, the exam is so hard lor) — *The exam was really difficult.*
- **Wah** lau! Eat leh... (Come on, eat!) — *Come come! Dig in!*
- **Wah** seh! Chio leh! (Wow, very beautiful leh!) — *Wow, that(she)'s so beautiful!*