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FROM 'POISONOUS SHRIMP' TO 'PORCUPINE':
AN ANALYSIS OF SINGAPORE'S
DEFENCE POSTURE CHANGE IN THE EARLY 1980s

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This paper is an extension of his masters thesis on the same topic. Mr Ng has also written several articles for *Pointer*, a quarterly journal of the Singapore Armed Forces. His most recent publication, “‘Why Not A Volunteer Army?’ Reexamining the Impact of Military Conscription on Economic Growth For Singapore’, appeared in the *Singapore Economic Review*.

This paper has no official status or endorsement and represents the views of the author alone.

Abstract

In the early 1980s, Singapore announced a crucial change in its defence policy, from a defensively deterrent strategy (known as the 'poisonous shrimp') to a more actively deterrent variant (known as the 'porcupine'). This paper utilises Graham Allison's three models of decision-making analysis to study why Singapore announced this policy change, even though no actual policy or strategic change could be observed to have taken place. By altering Allison's models to make them more applicable to Singapore's political and military contexts, this paper finds that the Rational Actor Model fails to fully explain why Singapore made the policy announcement. The paper argues that the Organisational Process Model and the Political Bargaining Model analyses contribute to the most plausible and convincing explanations for the announcement in the early 1980s by providing both the timing and the motive for the rhetorical change in Singapore's defence posture.

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From 'Poisonous Shrimp' to 'Porcupine': An analysis of Singapore's Defence Posture Change in the early 1980s

Pak Shun Ng

Introduction

Defence analysts of Singapore commonly identify the early 1980s as an important period of time that signaled the introduction of a new Singapore defence policy. Previously, in the late 1960s to 1970s, Singapore had been described by military analysts and observers as having built its military according to a 'poisonous shrimp' policy.¹ The notion behind a 'poisonous shrimp' policy is to raise an aggressor's cost of attacking Singapore to such an undesirable level that no country would consider invading it.² Later, in Brigadier General Lee Hsien Loong's (then Chief of Staff (General Staff) of the Singapore Armed Forces (SAF)³) maiden public speech as a soldier in 1982, he declared the need for Singapore to shed the 'poisonous shrimp' image and build its military to survive any attack,⁴ a policy that was later likened to that of a 'porcupine'.⁵ Analysts generally drew upon this announcement to comment that Singapore had shifted from a defensive deterrence policy to a more active deterrence alternative at that time.⁶

However, contrary to common wisdom, no discrete policy or strategic change actually took place during the early 1980s. Singapore had consistently undertaken an offensively-oriented buildup of its military since the late 1960s, and no material change in policy or strategy could be observed during the early 1980s. Instead, this paper argues that the announced transition of Singapore's image represents a very specific type of military change: a rhetorical change in the way the Singaporean leaders articulate Singapore's defence posture. This paper proposes that the rhetorical change took place because the SAF, backed with the timely maturity of Singapore's military capability and its indigenous military planning capacity, could credibly convince both Singaporeans and foreigners of Singapore's true defence posture to improve its stature through a public announcement. These assertions are tested by reference to Graham Allison's three models of foreign policy decision-making.

Analysis of Military Change

According to recent analyses of military change, several factors cause a country to reposition its military. Some scholars in the fields of security and policy studies argue that a military changes its 'goals, actual strategies,

and/or structure of [its] organisation' when culture, politics and technology change within and outside of the military organisation.⁷ For others, a military changes when military concepts, technology, leadership, society and the experience of defeat vary.⁸ Further, in these analyses, only the country and its military organisation are treated as important analytical units. Unlike realist analyses that perceive military change as state-centric decisions, organisational theorists focus on the roles of military and civilian institutions within the state in guiding a military to change. One group of studies argues that political institutions create and affect the willingness of the military organisation to transform itself by making military leaders expect rewards when they respond to civilian goals.⁹ Another set of studies contends that the more the military (organisational) culture supports change, the more likely the military will change,¹⁰ because 'it is difficult, if not impossible, for new ways of fighting to take root within existing military institutions' without an accepting and ready military culture.¹¹ In all these theories, the state or its organisations are argued to drive the military to change when one or more sources of military change, among a 'laundry list' of potential causes, vary.

The commonly-identified 'sources' of military change address as most relevant both exogenous and endogenous causes of military change. Exogenous factors of military change can include technology and external influences in military doctrines and politics, while endogenous factors of military change can comprise internal variables of military culture, defence politics and military leadership. These two types of factors differ in the ways that they motivate a military to change: exogenous factors stir a military to respond, while endogenous factors directly initiate change. By insufficiently distinguishing between both types of factors in the 'laundry list', theories of military change lose explanatory power, because changes in relevant exogenous factors do not necessitate a military response. Furthermore, when both exogenous and endogenous factors are described in one sweeping catalogue, this list can obscure the presence of actors who are charged to improve the functions of the military, be they civilian or military policymakers. Thus, military change would not be analysed and understood clearly by labeling its causes loosely to include both exogenous and endogenous factors, which obscure the true keys to any successful military change: the actual agents of change.

To understand military change, any analysis must take into account the roles that the state, its organisations, and its leaders play. According to some analyses of military change, civilian and military institutions play an important role in changing the military. However, armed forces are affected

by both foreign and domestic policies, which are necessarily driven by both the state and its organisations.¹² Thus, an accurate study of military change should recognise as its basic inputs both the state and its organisations simultaneously. However, even these two basic inputs are not the exclusive sources of reform. Instead, military change can be the product of interactive ‘noises of competing voices: individuals, groups, state organisations and global ideologies’.¹³ Not surprisingly, a military can change under the orders and influences of civilian and military leaders in ways that contradict the stated missions of the state or its organisations. If the views and positions of these leaders *vis-à-vis* the state and its organisations are not separated, an analysis of military change cannot truly appreciate and understand how its three inputs interact. Being unaware of their powers in affecting the outcomes of military policymaking, policymakers can make unnecessary, unwise, and even harmful decisions that can affect state survival. Therefore, if an analysis of military change misses any of these three agents of military change, it will fail to grasp the crucial interactions between agents in the decision-making process, and undermine the ability of policymakers to initiate changes effectively.

Graham Allison’s Three Models of Decision-Making Analysis

A classic approach to policy choice analysis by Graham Allison serves as a useful starting point for a more multi-dimensional and interactive analysis of military change. In *Essence of Decision*,¹⁴ Allison seeks to explain the Cuban missile crisis facing the United States in the 1960s by employing three different analytic models: Rational Actor, Organisational Process, and Political Bargaining Models. However, Allison’s model assumptions need to be altered to explain the Singapore case. First, in the Rational Actor Model, Allison assumes perfect rationality and information for a unitary decision-maker (the state). The lack of realism in this assumption is part of the motivation for Allison to explore the two other models. Next, in the Organisational Process Model, Allison claims that simple organisational rules limit the set of possible organisational behaviors, leading to organisational friction in crisis situations. Last, Allison formulates the Political Bargaining Model by asserting that policymakers make decisions via bargaining to pursue different goals. However, with respect to the Rational Actor Model, Allison has ignored the real problem of uncertainty that faces all rational states and which would necessarily complicate his theory.¹⁵ Also, Allison has not accounted in the Organisational Process Model for the event in which simple rules can guide or produce complex behaviours,¹⁶ which can and do become tenable organisational solutions in the absence of a crisis. Furthermore, Allison fails to address situations

where an executive leader might not need to bargain and might value the same ends as their subordinates.¹⁷ In terms of practical concerns with the models, the Organisational Process and Political Bargaining Models describe mainly the political relationships in the United States, which makes them too 'culture-bound' to provide relevant analysis for other countries.¹⁸ Therefore, while keeping the original framework of Allison's models intact, the assumptions of these models need to be customised, so that policy analysts can fully explore the strengths of a multi-dimensional policy analysis and still produce relevant policy recommendations in each new case study.

Benefits and Implications of this Paper

This paper hopes to benefit both defence scholars and policymakers in four ways. First, for defence researchers and analysts, this analysis presents a new case study of military change of a small (or weak) state. As small states become increasingly important in the international system, analysts can make their studies of big states and international relations more applicable to reality with a working understanding of the military options facing weak states. Traditionally, international relations theorists have ignored small states as an important area of study.¹⁹ However, the number of small states has grown in the international system, especially in the past century, and these small states increasingly influence the policies of big powers.²⁰ Thus, an analysis of a small state and changes in its military is timely in contributing to an appreciation of its effects on the big powers of the world, specifically with the increased interactions between big powers and small states in the international system.

Second, this analysis increases the range of decisions that Allison's model can address by sharpening their assumptions to understand why a military might choose to change, even in the absence of crisis. Although Allison's models provide an enlightening viewpoint on the decision-making processes in the midst of crises, Singapore did not face a crisis comparable to the Cuban missile crisis when Brigadier General Lee Hsien Loong changed the rhetorical claims of Singapore's defensibility in the early 1980s. Suitably modified, Allison's models can still analyse the decision-making processes behind this announcement and provide a deeper understanding of organisational change in the absence of crisis.

Third, this study improves understanding of the reasoning and methods that leaders have recourse to in resolving contradictions between state actions and official policies. Singapore's declaration of the inadequacy in its defensive posture was inconsistent with its aggressive military buildup

since the late 1960s, a contradiction that should have been obvious to all informed observers of Singapore's military. However, Singapore's defensive posture might still be seen by other, less-informed audiences as a genuine position that the Singapore government had taken to safeguard Singapore's security. With the use of game-theoretical concepts, this paper highlights the dangers of inter-state misperceptions from situations where stated policies contradict actual state behaviors. It then identifies relatively low-cost means that leaders might adopt to address the inconsistencies between stated policy and action.

Fourth, in practical terms, this paper places in context the change in tone of subsequent interactions between Singapore and its neighbours. The declaratory change of Singapore's defence posture was a rhetorical, not a substantive, reform. Together with Brigadier General Lee Hsien Loong's subsequent speeches, however, these public announcements revealed the true combat readiness of the Singapore military, in (tacit) comparison with its neighbouring countries, and helped strengthen its position in bilateral relationships *vis-à-vis* its neighbours, especially in periods of tension. By assuming a more offensive posture that more accurately described Singapore's actual military capability, Singapore could change its message to its neighbours from one of 'we'll be here, don't come to us' to one of 'we'll take you on'.²¹ In particular, many examples of bilateral tensions exist between Singapore and Malaysia and between Singapore and Indonesia. In these instances, political rhetoric has always been an integral part of how Singapore relates to its neighbours and *vice versa*. By understanding why Singapore made clear its active deterrence posture, analysts were able to better appreciate how Singapore could back its strong responses towards subsequent cross-country political bickering to prevent political rhetoric from bringing cross-nation ties to 'the stage of no return', where actual military conflict would become necessary.²²

This paper has one important methodological limitation. It cannot rely upon primary sources of information, such as transcripts of discussions and early drafts of defence policies, because most Singapore military documents are classified. However, the paper will support its arguments by using various unclassified governmental and academic secondary sources concerning the changes in Singapore's defence policies. Also, this paper incorporates interviews of defence scholars in the Singapore academic community and senior leaders in the Singapore Ministry of Defence (MINDEF) and the SAF to elicit their opinions on Singapore's military strategies. These varied sources yield a spectrum of opinions and assessments on the specific posture change in the 1980s to support the three-pronged analysis.

To apply modified versions of Allison's three models of decision-making analysis in the context of Singapore's military change in the next three sections of the paper, this paper will treat Singapore, the country, as a unitary rational actor. The military organisations (three services, joint components) will be the units of analysis for the Organisational Process Model, while the military and political party leadership (senior military leaders and civilian leaders of Singapore's ruling party, the People's Action Party (PAP)) will be the units of analysis for the Political Bargaining Model. For Allison, each of the three models of decision-making analysis serves its particular role in contributing to a holistic understanding of the Cuban missile crisis. This paper, however, deviates from Allison's neutral approach towards any of his models. It claims that, while the Rational Actor Model analysis cannot fully explain the policy change declaration, the Organisational Process Model and the Political Bargaining Model analyses contribute to the most plausible and convincing explanation for Brigadier General Lee Hsien Loong's announcement in the early 1980s by providing both the timing and the motive for the rhetorical change in Singapore's defence posture.

Rational Actor Model Analysis

Singapore's declaratory defence policy change from a 'poisonous shrimp' to a 'porcupine' has been studied by analysts²³ for its effects on increasing the level of Singapore's military capabilities and its roots in catalysing Singapore's subsequent defence policy changes. Yet, other than from Brigadier General Lee Hsien Loong himself, this declaratory change has not received much discussion in terms of its causes. In this section, two possible rational arguments for this announcement are constructed by modifying Allison's Rational Actor Model. First, Singapore could be said to follow Israeli military development in announcing a more offensive deterrence policy; second, it could have declared an offensive deterrence policy to help it better deter potential threats. Counterarguments will then be presented to show how this announcement could not plausibly be accounted for solely as a state-driven decision, because the rational arguments could justify the announcement only in a limited sense.

Before the arguments and counterarguments are presented, this paper details briefly the limitations of Allison's Rational Actor Model and proposes some clarifications to the underlying assumptions of the model to make it more applicable to the Singapore case. According to Allison, the Rational Actor Model assumes that a country carries out a rational policymaking process as a unified actor, with one goal to pursue, and one time period to consider, in order to maximise value for the decision-maker.²⁴ To Bendor and Hammond, these assumptions are too restrictive because an actor

usually has to satisfy multiple objectives instead of a single goal, and an actor has to take into account whether time-distant options should be valued as much as current alternatives.²⁵ To clarify these criticisms of Allison's Rational Actor Model, this paper analyses Singapore's decision to change its defence posture by assuming that Singapore had an ultimate goal of state survival – a goal that remained constant since independence in 1965. This revised model predicts that Singapore announced the change in defence posture to preserve its long-term sovereignty.

Rational Argument: Israeli Connection

With these clarifications in mind, Singapore could have claimed to take on a more active deterrence stance, for some political watchers, because of Israeli military influences. From November 1965, only three months into Singapore's independence, Singapore started inviting the first batch of Israeli military personnel to advise on its buildup of defence capabilities.²⁶ For the next ten years, Singapore developed its Army's training syllabi and produced trained military instructors with the help of the Israeli military advisors.²⁷ Moreover, Singapore had also purchased AMX-13 tanks and 155mm artillery from Israel,²⁸ implemented universal conscription to supplement its military manpower needs, and adopted land warfare doctrines similar to the Israeli Army.²⁹ Singapore's 'porcupine' posture could thus be seen as following the developmental path of the Israeli military. Just as Israel obtained its pre-emptive conventional and nuclear defence capability to deter and defend itself successfully against possible attacks from its Middle Eastern neighbours, Singapore's public statement of a more active deterrence posture in the early 1980s could be thought of as the 'logical conclusion' of Israeli-style motivations.³⁰ Given the influence of military advisors, the 'porcupine' could be considered as the 'only strategy which made sense'³¹ in securing Singapore's long-term sovereignty.

Throughout the first two decades of statehood, however, Singapore showed itself to be politically discriminating in applying Israeli policies and associating with Israel. For example, unlike Israel, Singapore did not extend its national service requirements to its female citizens. Singapore's Prime Minister had recognised that a national service could 'reinforce the people's will to defend themselves' by incorporating the participation of women.³² Nevertheless, since the Chinese majority in the Singapore population regarded soldiering as an inferior activity,³³ the fledgling Ministry of Interior and Defence declined to take on the extra political burden of incorporating females into what remained a men-only duty in Singapore, unlike the Israeli model. Furthermore, Singapore had always known the

possible adverse political repercussions of associating itself politically with Israel, and had thus tried hard to distance itself from any overt Israeli connection. Indeed, Singapore chose Israeli defence training only after India and Egypt had turned down its requests for military assistance.³⁴ Also, even though Singapore had entered into diplomatic relations with Israel in the late 1960s, and had allowed an Israeli embassy to be set up on the island, Singapore did not establish a corresponding mission in Tel Aviv.³⁵ In addition, Singapore had always been aware that its position as a Chinese enclave in a Muslim-concentrated Malay archipelago would be a prime target for nationalistic criticisms from its Muslim neighbours, because where 'religious prejudices have to be stirred up against Singapore then Singapore is Israel'.³⁶ Instead, Singapore had tried to compare itself with other small states, such as Switzerland or the historical city-state of Venice.³⁷ Thus, Singapore would not have wanted to announce a defensive posture that imitated the Israeli path of military development as an entirely reasonable and logical option on which to continue its existence as a sovereign state in a potentially hostile region.

In terms of military planning, Singapore and Israel faced different strategic concerns and options that dictated different courses of development for both armed forces. This divergence in military development necessarily makes the claim that Singapore's military development was modeled after its Israeli counterpart refutable. Unlike Israel, Singapore has never had any military ambitions to recover lost or threatened territories since independence in the same way that Israel had to face the existential threat of losing its UN-sanctioned territories in 1948.³⁸ Furthermore, Israel could adopt a defence strategy of pre-emption because of its ability to sustain a costly level of military expenditure (and obtain weapons of advanced technology from highly proficient local defence industries) and to obtain strong American support. On the other hand, Singapore neither had the Israeli level of defence spending and the Israeli technical expertise, nor strong lobbies in the United States to emulate the Israeli military doctrines successfully.³⁹

More importantly, although the Israeli military mission contributed to the early development of the Singapore Army, the Republic of Singapore Navy and the Republic of Singapore Air Force were developed in consultation with military advisors from the United Kingdom, Australia, and New Zealand.⁴⁰ Throughout the 1970s, the SAF was not developed with its Israeli counterpart in mind, but rather in response to the specific circumstances that it faced. MINDEF planners developed tailored solutions to problems in military manpower deployment and weapon system acquisitions unique to

Singapore. For example, project directorship positions were created for almost every single major military project to emphasise decentralisation of efforts within MINDEF, while the development of the Republic of Singapore Navy was retarded due to staff being fully occupied with the refugee 'boat people' escaping from Vietnam.⁴¹ Therefore, although the Singapore Army was built with Israeli influences at its infancy, the SAF as a whole did not model itself after the Israeli military because of differences in objectives and resources. Also, Singapore had relied on other sources of help to develop its navy and air force initially, before adopting unique solutions to address problems within and outside MINDEF.

Rational Argument: Improved Deterrence

According to another rational agent argument, Singapore adopted a more active deterrence posture because it could better deter potential aggressors. With the 'poisonous shrimp' posture, Singapore was seen to be limiting itself to either state suicide or surrender in the face of a strong aggressor:

What happens if you step on a poisonous shrimp? He dies, but he will kill you. So if you notice him, you don't step on him. But a shrimp does not know how to surrender. You cannot threaten a shrimp. You can threaten a nation. If someone threatens to step on us, and our only alternatives are suicide or surrender, then there will be a very strong argument for surrender.⁴²

Instead, Brigadier General Lee Hsien Loong believed Singapore should adopt a defence posture that emphasised not only how it could inflict intolerable costs on potential enemies and thus deter them better by this threat, but also how it could outlast attackers in an actual conflict:

So we need a policy which says: 'If you come I'll whack you, and I'll survive.' This is a workable strategy. I may not completely destroy you, but you will have to pay a high price for trying to subdue me, and you may still not succeed.⁴³

Chok Tong Goh, then Singapore's Minister of Defence and Second Minister for Health in 1983, echoed the theme of survivability by explaining how Singapore should position itself according to the image of a 'porcupine':

To have permanent peace, all Singaporeans must be ready, operationally ready, to keep out threats from any direction. The sharper our defensive skills, the higher the chances of our being left alone to progress and prosper in peace, to work and play. Take the porcupine, for example.⁴⁴

To Goh, the survivability of a 'porcupine' posture would not come naturally; the SAF would have to develop its 'defensive skills' through more and better training exercises so that Singapore would be 'able and ready to bristle and rattle [its] quills to warn off unfriendly footsteps as easily and naturally as a porcupine'.⁴⁵ By declaring that the Singapore military had aligned itself to a more offensive posture that stressed Singapore's survivability, Singapore could then claim to better deter its potential threats, powerful or weak, by the rational implication that an increased offensive posture is more of a deterrent in general.

While the deterrence argument seems to present the most plausible rational explanation for the policy declaration in terms of preserving Singapore's long-term sovereignty in the international system, two counterarguments make the claim of superior deterrence from an active deterrence posture suspect and the declaration itself puzzling: the absence of any clear structural, environmental change facing Singapore during the early 1980s, and the discrepancy between the declaratory posture of a 'poisonous shrimp' and the actual buildup of the SAF.

According to state-centric realist theories, a country changes its policies subject to the *primat der aussenpolitik*: external pressures account for a country's internal politics and policies. Therefore, if Singapore were to have changed its defence posture to a more offensive variant, these theories would argue that external environmental changes must have faced Singapore to effect, or at least encourage, the announcement. However, the converse is more reflective of Singapore's external environment. Singapore faced an international system that remained constant from independence in 1965 until the early 1980s. The Cold War was still the order of the day, as the United States and the Soviet Union continued to be locked in a state of mutual assured (nuclear) destruction from the start of the Vietnam War in 1965 to renewed negotiations on nuclear and space issues in 1984.⁴⁶ In Southeast Asia, Vietnam's invasion of Kampuchea in the late 1970s could pose as a valid structural change in Singapore's perceptions. The predictions of the 'domino theory'⁴⁷ could have arguably made Singapore aver a more offensive posture of national defence. However, Singaporean leaders acknowledged that this theory was 'simplistically formulat[ed]' in the 1950s⁴⁸ and was not applicable in the late 1970s, because Vietnam was driven by nationalism and strategic concerns, rather than communist ideology, to invade Kampuchea, and thus would not threaten Thailand⁴⁹ and, by extension, Malaysia and Singapore.⁵⁰ Furthermore, by observing the percentage of government budgets allocated to the military among Southeast Asian nations, Singapore did not need to fear an arms race from

its neighbours because, along with Singapore, most of its neighbours had gradually decreased their military expenditure–government expenditure ratio throughout the 1970s and the early 1980s.⁵¹ (See Appendix A.) Therefore, either *vis-à-vis* the world, or the Southeast Asian region, Singapore did not face a significantly different environment in the years prior to its declared change in defence posture to rationally necessitate a more offensive alternative for better deterrence.

To study Singapore’s declaratory defence policy change in the early 1980s, the ‘poisonous shrimp’ policy must be taken as a given for any rational explanations of its departure to make sense. However, from the late 1960s to the early 1980s, the buildup of the SAF clearly contradicted the underlying positions of a ‘poisonous shrimp’ and made the announcement of a change in defence posture rationally baffling. In the first three years of Singapore’s independence, British troops were present in Singapore to safeguard its external defence.⁵² Thus, Singapore could choose to plan for only two brigades in its military buildup ‘for [its] protection in normal times’,⁵³ according to the security requirements recommended by the 1967 British White Paper on Defence.⁵⁴ As the SAF stood at the time, it could appropriately be described as a ‘poisonous shrimp’, since the Singapore military’s initial meagre capabilities would have caused it to perish in any conflict with its enemies. However, when the British announced their withdrawal of military forces east of Suez by December 1971 on 15 January 1968,⁵⁵ Singapore could no longer enjoy ‘underwritten security’ by relying on the British defence umbrella⁵⁶ and would have to change its defence plans accordingly. As part of Singapore’s efforts to be self-reliant in the future,⁵⁷ the SAF made military acquisitions from 1968 onward in a way that strongly suggested a defence strategy of offensive pre-emption.⁵⁸ Thus, the announcement of the need to move away from a ‘poisonous shrimp’ posture could not be rationally explained, as the ‘poisonous shrimp’ image was inconsistent with Singapore’s military buildup post-1968 in the first place, and Singapore had always adopted a defence posture that could already ‘better deter’ potential threats in the hope of preserving its sovereignty in the long run since the late 1960s.

By analysing the arguments that support the policy announcement as a rational decision, the revised Rational Actor Model thus could not fully explain the announcement of an offensive shift in Singapore military posture. Instead of strictly mimicking Israeli paths of development, Singapore had been fiercely independent in molding its foreign and defence policies because of differing political and military concerns from Israel, and so it would not and did not model its military developments under Israeli influences. In

addition, Singapore did not experience any environmental change that realist arguments suggested to necessitate a better deterrent posture. Perhaps most convincingly, the buildup of Singapore's military capability clearly rejected the existence of a 'poisonous shrimp' posture to better deter potential threats insofar as, after the British withdrew its military presence from Singapore, the SAF's offensive weapon acquisitions were not congruent with any purely defensive posture. Thus, other reasons must exist to account for Singapore's declaration of a posture change in the 1980s. These arguments necessarily fall outside the purview of the revised Rational Actor Model.

Organisational Process Model Analysis

From the previous section, the revised Rational Actor Model is shown to fail in fully addressing why Singapore announced a change in its defence posture from a 'poisonous shrimp' to a 'porcupine'. This section will outline how the Singapore military adopted two policies—constriction and sustained high levels of military spending—to reduce Singapore's domestic and foreign uncertainties after independence. It will then argue that these two policies eventually became routinised as part of the natural progression of the Singapore military organisation to provide the credibility for the Singaporean leaders to declare such a posture change during the early 1980s.

Again, this paper acknowledges and argues for a departure from Allison's Organisational Process Model. In the Organisational Process Model, Allison contends that organisations exist to minimise uncertainty, and thus persistently resist change. He notes that organisations are bound by standard operating procedures (SOPs) 'to facilitate easy learning and unambiguous applications' in performing critical tasks, and that these rules 'do not change quickly or easily'.⁵⁹ Because organisations are said to be unwilling to change their rules quickly, Allison claims that, when established rules do not account for all contingencies, organisations only change when a crisis situation occurs to force the change, and they will change in unexpected ways that deviate from their stated missions.⁶⁰ However, Allison's assertions are unsatisfactory in addressing empirical cases of organisational change, especially in the military. According to military history, even though militaries might resist change, they change slowly but surely, and modify their strategies and doctrines in both small and big steps. Militaries also change in the absence of crisis, when they undergo planned changes and when they wish to expand to minimise uncertainty and 'seize additional resources'. In addition, by learning from the experiences of wars, militaries change to make themselves less vulnerable

in future conflicts, an act consistent with their instrumental purposes.⁶¹ Thus, instead of applying Allison's models strictly, this paper recognises that the military can reduce its uncertainties by formulating rules or policies that can be beneficial to military change in the long run. The revised model predicts that the uncertainties Singapore faced at the early stages of its independence made the SAF adopt policies that were subsequently routinised as SOPs year after year, and these policy routinisations enabled the 'porcupine' claim to be credible and believable.

Singapore's Internal and External Uncertainties

Uncertainties abounded for Singapore in 1965, the year it gained independence as a small nation of limited natural and human resources. Uncertainties materialised for Singapore in two forms that mattered to its defence: internal and external perceptions of threats or vulnerabilities.⁶² Internally in the domestic scene, Singapore faced two main types of perceived threats: communism and communalism.⁶³ Externally in the international arena, Singapore's security was described to be vulnerable to two hostile neighbours: Malaysia and Indonesia.⁶⁴ These two threat variants were to inform and influence the policies that designed the SAF's roles in both defending Singapore and promoting nation-building.

Although Singapore also faced other types of threats that could be domestically destabilising,⁶⁵ communism was one of its top internal threats because it had historically caused much disturbance. Even before independence, Singapore had considered the Communist Party of Malaya (CPM) as a major internal threat. From 1948 to 1960, the CPM perpetrated 'riots, industrial unrest, assassination, arson, and damage to persons and property'⁶⁶ in Singapore to unseat the Singapore government through 'armed struggle and united front tactics'.⁶⁷ After Singapore became independent, the CPM renewed their struggle against the Singapore government in 1968 by propaganda,⁶⁸ terrorism and subversion. The pro-communist elements were charged to have committed various arson and bombing incidents from 1969 to 1976, and the Singapore government continued arresting members of the communist underground satellite organisations as late as 1980.⁶⁹ Thus, communism was a relevant internal threat to Singapore from 1965 to the start of the 1980s.

Besides the communist threat, Singapore pre- and post-independence also had to deal with communalist claims by its Chinese and Malay sub-populations, which threatened Singapore's stability as a new nation. Prior to Singapore's independence, communalism was seen to pose 'the gravest threat' to the stability of the Malaysian Federation,⁷⁰ and it was one of the

main causes of two major episodes of ethnic violence in Singapore, the Maria Hertogh riots⁷¹ and the 1964 riots.⁷² These experiences greatly shaped Singapore's treatment of its multicultural population after independence, as the Singapore government undertook the responsibility to stop the rise of 'Chinese chauvinism' and 'Malay chauvinism'. Being geographically situated in a Malay archipelago, Singapore was extremely mindful that 'Chinese chauvinism' could hurt its relations with Malaysia and Indonesia and give its Muslim neighbours a claim to intervene on behalf of the Singaporean Malays.⁷³ Similarly, 'Malay chauvinism' presented a real threat to Singapore in the midst of Islamic fundamentalist movements in Southeast Asia. For example, an extremist Islamic fundamentalist organisation tried as late as 1982 to 'overthrow the government through communal unrest and sabotage' and through propaganda that argued for 'a political spirit among [every Muslim] to crush the suppressive policies of the PAP fascist'.⁷⁴ Communalism thus remained as a threat to Singapore's internal security throughout almost two decades after independence.

In terms of external threats to Singapore's security, Singapore saw itself as vulnerable to Indonesia, mainly because of a history of military conflict between the two states. After the Second World War, Indonesia was the only country that had threatened Singapore's security by refusing to recognise the Malaysian Federation from 1963 to 1965, of which Singapore was then a member. As part of then Indonesian President Sukarno's vision of *Demokrasi Terpimpin* (Guided Democracy), Indonesia reacted strongly against the creation of the Malaysian Federation and engaged in a policy of *Konfrontasi* (Confrontation), which involved 'a low-level military challenge to the Malaysian states'⁷⁵ to 'deny [its] international legitimacy'⁷⁶ through 'infiltration, subversion, and limited war'.⁷⁷ Singapore was thus a target of Indonesian sabotage and bombing⁷⁸ and was even considered as a possible location for Indonesian invasion⁷⁹ until the end of *Konfrontasi*, one year after Singapore's independence.⁸⁰ Even though Singapore did not face any other physical threat to its security from Indonesia after that period, the experience of *Konfrontasi* would be a realistically threatening scenario that would keep Singapore alert to any subsequent political destabilisation from its neighbour.

Although Malaysia never engaged in any physical conflict with Singapore, Malaysia could also be seen as a threat to Singapore's security because of the acrimonious political separation of Singapore from the Malaysian Federation⁸¹ and subsequent strained relations between the two countries. Singapore was expelled from the Malaysian Federation largely because the PAP had tried to establish a 'Malaysian Malaysia' where all

ethnic groups would enjoy equal privileges,⁸² which countered the aim of the ruling party (UMNO) to discriminate against the Chinese minority in favour of Malay political supremacy.⁸³ Since many Malaysian leaders strongly opposed Singapore's independence, Malaysia took various steps to exploit Singapore's lack of military preparation between 1965 and 1969, which reinforced Singapore's 'underlying sense of vulnerability'⁸⁴ by playing on Singapore's fears of a possible Malaysian invasion.⁸⁵ In particular, Malaysian politicians tried to prevent Singapore from building a strong military that could threaten Malaysia,⁸⁶ such that Singapore's Prime Minister had to play Themistocles in securing a military force to face the Malaysian threat⁸⁷ of having its army '[march] down to take Singapore back into the [Malaysian] Federation forcibly'.⁸⁸ Malaysia also refused to evacuate its troops in Singapore and release Singaporeans in the Malaysian Armed Forces until heavy British pressure and intense political bargaining among governments resolved these issues.⁸⁹ Furthermore, Singapore was not militarily ready for the threat that the Malaysian government would cut Singapore's water supply, which provided half of its water needs,⁹⁰ to prevent Singapore from adopting foreign policies 'prejudicial to Malaysia's interests'.⁹¹ Even with subsequent leadership changes in the Malaysian government, Singapore did not lose 'its sense of innate vulnerability' towards Malaysia.⁹²

Responses to Uncertainties: Conscription and Sustained High Level of Military Spending

Given these internal and external uncertainties, Singapore created a conscript military force as part of the ruling political party's 'survival exercise'.⁹³ Among other schemes of military manpower recruitment, Singapore chose to introduce military service in 1967 for male citizens above the age of 18 years, in order to both 'safeguard and defend' against its external uncertainties (Indonesia and Malaysia) and 'accelerate the process of nation-building' to reduce its internal uncertainties (communism and communalism).⁹⁴ To the Singaporean leaders, conscription or universal military service could achieve 'maximum security at the minimum cost', and also help to 'break down the barriers of communalism'⁹⁵ by '[providing] opportunities for Singapore youths to acquire a sense of commitment to the nation', at least in theory.⁹⁶ Thus, conscription was a function of both external threats and 'the state-building preoccupation and strategies of the PAP government in post-1965 Singapore'.⁹⁷

Besides conscription, Singapore also pledged to support a relatively high level of military spending in its government budget to acquire sophisticated

weaponry and develop its own defence industry so as to address Singapore's foreign uncertainties. Especially in face of the withdrawal of British troops in Singapore to reduce its military commitments 'east of the Suez',⁹⁸ the SAF needed a generous military budget to arm itself from scratch. Also, by committing a substantial amount of the government budget to defence, the Singapore government signaled its resolve to weaken external vulnerabilities. A high level of military spending not only allowed Singapore to acquire sophisticated weaponry abroad, it also allowed the development of a local defence industry in order to 'enhance the defence capability of the country and make it credible by meeting its operational needs in peacetime and in crisis'.⁹⁹ Therefore, a sustained high level of military spending could fund both foreign and local military acquisitions to reduce Singapore's external uncertainties.

On the other hand, as a small state with many links to the international arena, Singapore's domestic policies were a function of not only domestic concerns, but also foreign influences.¹⁰⁰ Therefore, although Singapore usually mobilised its police force for matters of internal security, the SAF was also relevant to Singapore's domestic interests insofar as it could help preserve Singapore's political and economic stability. Since independence, the PAP had 'increasingly relie[d] on performance criteria' of stable levels of growth and employment to legitimise its existence in Singapore politics.¹⁰¹ By offering a credible amount of national defence, a strong SAF could prevent prospective foreign investors from 'pull[ing] out their investments and transfer[ring] them to safer havens'¹⁰² and instead make investors confident of Singapore's economic potential. Thus, a sustained level of high military spending could affect how the SAF protected Singapore not only directly against external uncertainties, but also indirectly against domestic uncertainties.¹⁰³

Both the policies of conscription and sustained high level of military spending were Singapore's immediate responses after independence to reduce its internal and external uncertainties: communism, communalism, Malaysia, and Indonesia. By judging the state of Singapore politics and the SAF in 1975, these policies seemed to have achieved their objectives. Internally, conscription and high military spending directly and indirectly engendered social cohesion among Singaporeans and produced an increasing sense of camaraderie among conscript youths regardless of race and religion, which were crucial in curtailing the spectre of communalism and communism. Externally, conscription and high military spending provided Singapore with the manpower and weaponry, through some 300,000 conscript, regular and reserve forces¹⁰⁴ and the highest military

spending per capita in Asia,¹⁰⁵ to pose a reasonable deterrence towards its two historically-hostile neighbours.

Policy Routinisations: Policies become Standard Operating Procedures (SOPs)

However, these two policies remained in Singapore throughout the 1970s and into the start of the 1980s. Absent any major political and public opposition, these policies became routinised as SOPs in the SAF as they were re-enacted year after year. This repeated policy implementation had important consequences for the trajectory of Singapore's defence posture. Not only did the persistent execution of these policies show the consistent vigilance of the Singapore government to adapt to Singapore's uncertainties, but it also led to years of assiduous and relentless accumulation of military manpower and capital. From this military buildup that the twin policies made possible in their yearly implementations, Singapore created for itself a 'window of opportunity'¹⁰⁶ to further reduce its uncertainties by credibly announcing a more aggressively offensive posture, akin to that of a 'porcupine'. In fact, as the 'poisonous shrimp' policy was shown earlier to be inconsistent with Singapore's defence acquisitions since 1968, the announcement of a 'porcupine' posture would actually reflect a signpost of the military buildup post-1968 at which the SAF would intend to arrive.¹⁰⁷

For Singapore to announce such a drastic 'policy change', the Singaporean leaders must have felt that Singapore's military capability would make the 'porcupine' claim credible and believable. And, indeed, this claim was credible because the routinised policies had created a civilian population that had generally accepted its responsibility to defend Singapore as its own nation, and they had made possible weapon acquisitions of superior quality and quantity than its perceived external threats.

Even though conscription faced opposition early in its inception, the policy was eventually accepted as part of the Singaporean way of life because of its judicial routinisation by the Singapore government. Initially, Singapore's conscription policy started off as a major success, as out of 9,000 called up in the first batch for national service, more than 95 per cent reported.¹⁰⁸ From 1970 to 1972, the Singapore Army, Navy and Air Force increased their numbers from 10,000 to 14,000 with approximately 8,000 reservists, from 200 to 500, and from 24 to 1,500 respectively.¹⁰⁹ In 1978, the size of Singapore's armed forces had increased 433 per cent from the previous decade.¹¹⁰ Even though the Singapore government faced civilian resistance to national service in order to achieve its domestic 'fringe benefits',¹¹¹ the PAP reacted to criticisms by promptly depoliticising the discussion of defence, changing the conscription policy to accommodate business interests,

and prohibiting public complaints about national service. Eventually, national service became 'a non-issue' by the 1976 national election,¹¹² and has remained since then as a 'social rite of passage in which generations after generations [of Singaporeans] participate'¹¹³ and from which 'a common shared experience among the [conscripted] youth' contributed to nation-building in Singapore.¹¹⁴

As Singapore committed itself to a policy that sustained high yearly military spending, its annual military spending grew at a tremendous rate to make the SAF a potent military force in Southeast Asia. At the end of 1968, Singapore's defence budget was announced to target 10 per cent of its gross national product (GNP),¹¹⁵ or 6 per cent of gross domestic product (GDP) annually.¹¹⁶ By 1972, Singapore's military expenditure was nearly compatible with that of Indonesia and Malaysia in terms of per capita figures.¹¹⁷ Singapore's defence spending through the 1970s was maintained at 4.2 per cent to 6.8 per cent of its GDP, and together with the rapid growth of the Singapore economy, Singapore increased its military expenditure 114 per cent over the 1969–78 period.¹¹⁸ It spent more than US\$600 million per year on national defence by the start of the 1980s.¹¹⁹ Without any parliamentary opposition until 1981, the PAP was free to sustain a high level of military expenditure year after year.¹²⁰ Thus, by the end of 1981, the SAF was able to boast of better equipment than its Malaysian and Indonesian counterparts in quality as well as in quantity, especially by taking into account how, unlike Malaysia and Indonesia, Singapore had only a limited land, air, and sea territory to defend. (See Appendix B)

Therefore, by the early 1980s, Singapore had transformed its military force into 'a practically unstoppable military force' when compared against the 'numerically superior but technologically inferior armed forces of many Southeast Asian countries'.¹²¹ The high level of sustained military spending had made Singapore's three military services formidable forces in the presence of their regional counterparts. Singapore's Army had 'the money to buy a comparatively large armoured force'¹²² and create an 'imbalance of firepower' to its favour, as the Malaysian Army did not even have the 155mm artillery howitzers to match those of the Singapore Army.¹²³ The Singapore Navy owned, among other ships, six landing craft to support its amphibious operations. The Republic of Singapore Air Force acquired the capability to launch both air defence and ground attack missions, and it also had 'one transport squadron capable of airlifting a fully equipped infantry battalion anywhere in Southeast Asia and one helicopter squadron available for counterinsurgency or search and rescue operations'.¹²⁴ Furthermore, coupled with the conscription policy, the continuously high level of military spending

enabled the SAF to '[multiply] the fighting prowess of every soldier and compensate for the relatively small force due to the small size of [Singapore's] population'¹²⁵ by acquiring and producing sophisticated weaponry. After building a military force from scratch over fifteen years, the continued high level of military expenditure had enabled Singapore's army and navy to be comparable with its neighbours, and its air force to be stronger in number and in quality than its Malaysian and Indonesian counterparts.

As a result of the routinised policies of conscription and sustained high level of military spending, the revised Organisational Process Model appears to fit the empirical evidence in Singapore's history to explain the timing of the announcement: Singapore's defence capability had matured by the early 1980s in facing its domestic and foreign uncertainties. Furthermore, the increase in ties during that period between the United States and Singapore in terms of defence-related activities could be seen to independently verify the growing maturity of the Singapore military. Between 1981 and 1983, Singapore signed two memoranda of understanding and two agreements with the United States. These bilateral treaties concerned the exchange of personnel between the armed forces of both countries, the provision of training for the Singapore military under the US International Military Education and Training (IMET) Program, and the exchange of notes on communicating secure military information between both countries.¹²⁶ In such personnel exchange programs, not only Singapore but also the United States would hope to gain from 'an active relationship' between the two armed forces by sharing 'the experience, professional knowledge and doctrines of [both military] Services to the maximum extent permissible'.¹²⁷ With regard to the IMET and the General Security of Military Information Agreement (GSOMIA), the United States required co-signers to observe stringent security requirements.¹²⁸ Thus, for the United States to have entered into such military arrangements with Singapore, Singapore must have shown that the SAF was capable of operating alongside United States armed forces while maintaining the required level of security protection when it received, used and transferred military information and technology. From the growing capability of the SAF and the increased military interactions with the United States, Singapore could be regarded as possessing a relatively mature military force in the early 1980s, even by international standards. Therefore, Singapore did have reason to be confident that it could credibly assume the 'porcupine' posture in the early 1980s.

However, even though the policy routinisations were able to explain how the SAF could technically become a 'porcupine' and make the timing

of the announcement appropriate, they do not explain why Singapore would want to declare the policy change. In general, a state does not publicly declare improvements in its military capability. By doing so, it runs the risk of prompting other states to reduce their security commitments correspondingly, by 'allow[ing] potential allies to reduce their own efforts, [and] reliev[ing] third parties of the need to provide assistance'.¹²⁹ Furthermore, an arms race might occur when the known improvements in military capability of one country force its potential enemies to react unfavourably. In the case of Singapore, it would face similar consequences were it to disclose its military readiness. Assuming that the declaration was truthful, Singapore's ability to defend itself and survive would then be necessary, but not sufficient, for it to disavow itself publicly from the posture of a 'poisonous shrimp'. Therefore, while the Organisational Process Model analysis could explain the timing of the declaration, it still does not explain fully why routinisation of certain policies would make Singapore want to announce a more offensive posture. Instead, other reasons must have existed that outweighed the potential consequences Singapore faced in revealing its military capabilities through a public speech by a senior SAF officer.

Political Bargaining Model Analysis

As pointed out at the end of the previous section, the Organisational Process Model is useful in illustrating how the SAF obtained the material capability and psychological confidence to assume a 'porcupine' posture in Singapore's defence strategy in the early 1980s. However, this model still fails to explain fully why Brigadier General Lee Hsien Loong announced the change from a non-existent 'poisonous shrimp' policy to a more offensive and survivable posture. According to a much-modified version of Allison's Political Bargaining Model, this section will critique the argument that the Singapore's ruling party could have declared a more offensive posture in order to gain the political support of military personnel through co-option. Instead, this paper proposes that the SAF could have used the announcement to improve its stature by convincing local Singaporeans and foreigners that Singapore could be defended against potential threats, and that the announcement was the product of matured indigenous military planning coupled with a major change in leadership style within MINDEF.

Among Allison's three models of decision-making analysis, the Political Bargaining Model requires the most alterations to fit the analysis of Singapore's defence policy. In this model, Allison basically argues that governmental decisions are ultimately the result of bargains and compromises between independent decisions of different government or

party officials, who are themselves endowed with different interests and influences.¹³⁰ However, these model assumptions do not relate to policymaking in reality. In real life, policymaking in the executive office does not necessarily proceed via bargaining, because policymakers do not automatically have different goals.¹³¹ In fact, in the case of the American executive branch that Allison describes, the American President would and does choose individuals who 'identify with his beliefs to a greater extent than would a randomly chosen group of candidates', in order to minimise potential conflicts of political goals.¹³² Even when conflicts occur between individuals in the policymaking process, these individuals might only disagree on the means and still share a consensus on the preferred policy ends.¹³³ As the Political Bargaining Model assumptions are too restrictive to explain real-life government decisions sufficiently, they should be relaxed so as to increase the explanatory power of the model.

In addition, the Political Bargaining Model assumptions do not fit well in the context of Singaporean politics and the SAF in the early 1980s because instances of factional bargaining were limited, or even possibly non-existent, within the Singapore political system and the military. As Singapore's ruling political party, the PAP had (and still has) been able to attain and maintain its dominance in Singapore politics since independence due to a combination of historical, cultural and political factors.¹³⁴ These factors have allowed the PAP to stay in power without any opposition party that could 'pose a real electoral threat to the PAP'¹³⁵ by rationalising its policies as issues of national survival, such that unpopular policies could be introduced 'without apparent damage to [the PAP's] political dominance and legitimacy to rule'.¹³⁶ Furthermore, within the PAP, bargaining among different portfolio holders was unheard of, at least publicly. For the first twenty years of independence, Singapore was led by a group of first-generation PAP leaders who 'fought with [Prime Minister Kuan Yew Lee] and stood by him' throughout the process of nation-building.¹³⁷ Even though these leaders might have promoted different policies, they 'did not coalesce into factions within the party' and were instead consistently united before the voters.¹³⁸

With respect to military leadership in MINDEF, Keng Swee Goh, Singapore's Minister of Defence throughout most of the late 1960s and 1970s, is often credited as the 'man behind Singapore's defence' and 'creator and prime mover of MINDEF [and the] SAF'¹³⁹ who maintained tight control over the development of the SAF. Kim San Lim and Yoon Chong Howe, the other two Ministers of Defence during the 1960s to the early 1980s, also exercised top-down decision-making approaches similar to Keng Swee Goh

in MINDEF. These three ministers could thus also be seen as unitary decision-makers who made decisions and implemented their plans without question.¹⁴⁰ In short, Singapore's decision-making had tended to be fairly unitary under a *de facto* one-party political system, a cooperative party leadership *circa* the early 1980s,¹⁴¹ and a series of Ministers of Defence who had tremendous powers to carry out their decisions without internal challenges. Therefore, Allison's claims of government bargaining in his Political Bargaining Model seem inadequate in describing how the Singapore ruling party or the Singapore military came to the decision to announce a shift in Singapore's defence posture to a more offensive stance.¹⁴²

Given these limitations of Allison's original model, this paper proposes a more modest political framework for understanding Singapore's military change. It views the announcement either as the decision of a single, united group of PAP leaders that could afford to deviate from strictly rational considerations of the state, or as the decision of a single, united group of senior military leaders who could basically determine how Singapore should posture itself militarily. This paper addresses the possibility that Singapore's political masters could have proposed the shift to an offensive posture so that senior military leaders would be willingly co-opted into the political party, while the military in general would be more inclined to become an administrative constituent of the ruling political party. This paper traces the changes in MINDEF leadership throughout the 1960s and the early 1980s to make an alternative argument that the SAF could have announced the posture change to improve its credibility by convincing Singaporeans and others that Singapore could indeed be defended. This revised model predicts that Brigadier General Lee Hsien Loong made the announcement of moving the SAF from a 'poisonous shrimp' posture to a more offensive variant in order to further the goals of Singaporean political or military leaders: an increase in the PAP's power and credibility or an improved stature of the military, respectively.

Announcement as a Political Means to Co-opt the Military

Although no public document has detailed the political motivations behind Singapore's announcement of a policy shift from a 'poisonous shrimp' to a more offensive and survivable alternative, in two separate, recent analyses, Huxley¹⁴³ and Worthington¹⁴⁴ see the early 1980s as the start of important changes in Singapore's civil-military relationship. Both analysts assert that the SAF officer corps had begun to play a substantial role in Singapore politics in the early 1980s as part of the PAP's strategy to co-opt the SAF for political support. In that light, the declaration of an

offensive posture at the same time could arguably fit as an example of how the PAP would co-opt the SAF as its constituent for political survival in Singapore.

According to Huxley, the SAF could be seen to have entered Singapore politics since the 1980s from 'numerous indications of ... political involvement—if not intervention as such'.¹⁴⁵ First, Huxley points out that serving SAF officers had started to shoulder part-time responsibilities in the controlling bodies of national and public boards and councils in the early 1980s, and that those who later assumed full-time political or public sector positions had prior part-time experience on these boards and councils.¹⁴⁶ Then, he highlights several examples of how senior SAF officers had migrated from their military appointments into political positions. He cites two examples that are relevant to the early 1980s: the move of Brigadier General Chin Tiong Tan in 1982 to become the Second Permanent Secretary of the Ministry of Home Affairs; and the move of Brigadier General Lee Hsien Loong in 1984 to become a PAP Member of Parliament (MP) and a junior minister in 1985 with MINDEF and the Ministry of Trade and Industry.¹⁴⁷ From these examples, Huxley argues that the senior leadership in the PAP had expanded the roles of SAF officers during the early 1980s to protect the Singaporean government and the ruling party from weak political successors, by co-opting

a network of senior reservist officers possessing proven moral backbone and decision-making ability throughout the apparatus of government and state ... [so as] to implant potential leaders competent to assume a central role in running Singapore should future generations of PAP politicians prove unequal to the task.¹⁴⁸

Huxley also hypothesises that the PAP could have enlarged the SAF's sphere of political influence in order to disperse political power and 'maintain stability and continuity' in the ruling party, pre-empt the 'remote possibility' of uninvited political intervention from the armed forces, and allow the far-fetched scenario of *autogolpe*, though he concedes that these are speculative trajectories.¹⁴⁹ Huxley concludes that a more acceptable reason why the SAF could have been co-opted into Singapore politics might be that the ex-military officers, in their capacities as political masters, could maintain Singapore's defensibility by 'preserv[ing] and enhanc[ing] both the military effectiveness and the social status of the SAF'.¹⁵⁰

On a similar note, Worthington (quoting Dunleavy and Rhodes) contends that Singapore's military leaders are a major component of Singapore's core

executive, a group of leaders who 'pull[s] together and integrate[s] central government policies, or act[s] as final arbiters within the executive of conflicts between different elements of the government machine'.¹⁵¹ Worthington details how non-partisan bureaucrats are 'somewhat politicised' in Britain and Australia,¹⁵² and then claims that the Singapore political leadership acknowledges the politicisation of the Singapore civil service and recognises it as a strength of the Singapore government.¹⁵³ With a politicised Singapore bureaucracy, Worthington contends that the Singapore military officer corps would unsurprisingly form part of the core executive by pointing to the same personnel movements that Huxley identified.¹⁵⁴ Just as the PAP could be argued to have increasingly co-opted Singaporean academics into Singapore politics by targeting individuals 'with the inclination and ability to become part of the decision-making elite [without wanting] to join the ruling party',¹⁵⁵ Worthington asserts that the Singapore military leadership had been co-opted by the PAP for their military expertise to ensure its political control.¹⁵⁶

If Huxley's and Worthington's descriptions of the PAP's history of active co-option are accurate, the PAP could theoretically have authorised the military component of the core executive to announce the posture change from a 'poisonous shrimp' to a 'porcupine'. The PAP could have co-opted the Singapore military by announcing a posture that would appeal to both regular soldiers and senior military officers. According to military analysts, civilian politicians would support a particular military policy that could 'ensure the maintenance of the preferred *domestic* distribution of power'.¹⁵⁷ Militaries in general aim to reduce uncertainties in their operations by establishing a more active and offensive posture because they can then construct a 'standard scenario' of conflict to practise their organisational tactics and responses and deny their enemies the use of their 'standard scenarios' by forcing the opponents on the defensive.¹⁵⁸ Therefore, even though a policy change did not take place, the PAP might have sanctioned the announcement to possibly earn the endorsement of the military professionals, who would see the 'porcupine' as the right posture to adopt for Singapore's defence. The result would be to influence the regular soldiers to further support the ruling party and its other policies. Furthermore, senior military officers could also potentially be attracted to an offensive military posture and agree to move from the military to the political sector through *chiiriyō* (地位利用)¹⁵⁹ in order to both lend the PAP their political support and continue to protect the interests of the SAF in a government and ruling party that supported the military as 'one of Singapore's key institutions'.¹⁶⁰

Though the case for military co-option and politicisation could theoretically be made to explain why the 'policy change' was declared during the early 1980s, this argument is untenable. Since its inception, the SAF had been civilianised as a national organisation, and it remained apolitical throughout the 1980s and beyond. Although Huxley and Worthington see the military-to-civilian/political personnel movement in the early 1980s as the start of the politicisation of the military, this personnel movement actually reflected the growing maturity of military manpower planning and the extent of civilianisation in the SAF by the civilian government.

Although many Southeast Asian militaries 'wield[ed] immense powers' and political influence in the latter part of the twentieth century, the SAF since its inception has always been subject to such 'persistence of civilian [political] control'¹⁶¹ that the PAP would not need to co-opt the SAF in order to strengthen its political control. Since the inception of the SAF, Singapore defence policy has been deliberated mainly by the Prime Minister and other Cabinet-level civilian leaders. During the SAF's early years, civilians had also been seconded as military officers for more detailed policymaking and execution, because the SAF lacked qualified military professionals immediately post-independence.¹⁶² Even in the 1980s, civilians continued to hold military leadership positions. In fact, Brigadier General Chin Tiong Tan is a prime example that weakens the co-option hypothesis, because he started his military career as a seconded officer from the Administrative Service, where he had served at the Ministry of Finance and Ministry of Law.¹⁶³ Furthermore, the Ministers of Defence have rarely been former SAF senior officers.¹⁶⁴ In terms of protocol, the Permanent Secretary of Defence is senior to the Chief of Defence Force, and civilians have always assumed the directorships of manpower and finance within MINDEF.¹⁶⁵ Even Lieutenant General (Retired) Winston Choo, the longest-serving Chief of Defence Force in the SAF from 1974 to 1992, consciously kept the SAF apolitical by assigning others (aside from only regulars and full-time national servicemen) to a single army division, in order to reduce the possibility of a military-led coup.¹⁶⁶ As the civilian leadership had always maintained 'tight political control' of the SAF since the 1960s,¹⁶⁷ the PAP leadership did not need to co-opt SAF officers during the early 1980s or at any other time to increase its political control. The hypothesis of co-option thus does not apply in the context of Singapore politics.

Brigadier General Chin Tiong Tan's civilian background prior to his military secondment necessarily negates one half of the argument that the

military-to-civilian personnel movement reflects a PAP-co-opted SAF. However, Huxley and Worthington do seem to have a strong case of military co-optation at the start of the 1980s with the possibly political nature of the career movement of Brigadier General Lee Hsien Loong from the SAF to the PAP. Still, Brigadier General Lee Hsien Loong's migration from the SAF to the political arena simply illustrates the first fruits of the Singapore government's manpower planning in the late 1960s and early 1970s to attract talented individuals into the Singapore government. With the quick military buildup in Singapore post-independence, the SAF would have critically needed military professionals to take over from the seconded civilian officers as soon as possible and run it as a truly professional military organisation. The SAF Scholarship scheme was thus started to attract talented soldiers into the SAF.¹⁶⁸ However, the scholarship scheme did not only aim to attract national talent for military command and administrative purposes. By offering SAF scholars rapid career advancement 'to the top echelons', the Singapore government hoped to attract the best talent to the government by offering

[o]pportunities for university education, with full pay as an officer whilst they are in university, and good prospects for advancement either in the Armed Forces, or in civilian life after their commission is up.¹⁶⁹

Already at the early stage of manpower structuring, the Singapore government had planned that some of the scholars would eventually be channeled to the civilian sector to take up '*directorships or consultancy work [in] Government-owned companies or statutory authorities*'.¹⁷⁰ Therefore, Brigadier General Lee Hsien Loong, a President's and SAF Scholar, and other 'scholar-soldiers' did not move from their military careers to the PAP, the civil service and other government-linked companies because the PAP started a concerted co-optation effort in the early 1980s. Instead, these personnel movements testify to the manpower planning by the Singapore government in the early 1970s that began to bear fruit ten years after the inception of the SAF Scholarship scheme. Furthermore, the 'scholar-soldiers' would have been moved into civil appointments to prevent a 'one-way brain drain' that the SAF Scholarship scheme had engendered from the civilian sector to the military, and facilitate their accelerated military career paths given the limited number of senior military posts.¹⁷¹ Since the SAF has remained apolitical throughout its history, and the specific military-to-civilian/political personnel movements have actually confirmed the civilianised state of the SAF, the PAP did not need to use an announcement of a more offensive military posture to co-opt a military that has been consistently under its control.

Announcement as a Way to Condition Locals and Foreigners of Singapore's Defensibility

As the PAP did not have to announce a more offensive military posture to co-opt the SAF, a more plausible reason why Brigadier General Lee Hsien Loong declared the supposed 'policy change' might be to make Singapore's military buildup consistent with the stated posture of the SAF. By announcing the obvious inadequacy of the 'poisonous shrimp' strategy in defending Singapore, the SAF could improve its stature among local citizens and foreign observers by revealing to them that Singapore was indeed survivable and defensible, just like a 'porcupine'.

In general, countries conduct themselves in the international system according to images and perceptions they assume and form of each other.¹⁷² If a nation can project an image that it desires and in which others can believe, it might find that image to be more useful than an improvement in military or economic power in achieving its goals. Conversely, a nation that projects an undesirable or unbelievable image can

involve costs for which almost no amount of the usual kinds of power can compensate and can be a handicap almost impossible to overcome.¹⁷³

For example, Nazi Germany could peacefully secure initial territorial gains beyond its military capability in Europe before the start of the Second World War because it projected a desirous image of itself as one of hoping only to resolve the limitations of the Treaty of Versailles, and that other states believed in Nazi Germany's image as one of purely justifying its 'legitimate' *Lebensraum* claims.¹⁷⁴ On the other hand, the misperception of Norway as being 'unwilling or unable to defend its neutrality against England' contributed heavily to Hitler's decision to launch a risky attack on Norway,¹⁷⁵ in the hope that

the Norwegians would be so overwhelmed by the attacks, that the government would surrender without too much of a fight. In fact, German troops were ordered to only fire if fired at.¹⁷⁶

However, in reality, Oslo wired Berlin the Norwegians' intention not to submit voluntarily to the German invasion, and Nazi Germany incurred more casualties from this conflict than it had originally expected.¹⁷⁷ Therefore, a state would not want to present an image or posture of itself that is inconsistent with its defence buildup and potentially leads other countries to misunderstand its true capabilities.

Similarly, for the case of Singapore, the SAF could have wanted to project an image of Singapore's defensibility in the 1980s consistent with its aggressive buildup. By defining Singapore's defence posture according to its true military capability, the SAF could then convince local Singaporeans that Singapore could be adequately defended, and help foreign countries update their perception of Singapore in their foreign policy analyses before considering any possible military options against Singapore. As discussed earlier, all Singaporean males contributed to Singapore's defence as regular soldiers and reservists, while citizens in general were also involved in Singapore's defence by supporting the soldiers and reservists through mandatory national service. As a strategy that equated Singapore's survival strategy to state suicide, the 'poisonous shrimp' would not be an image that Singaporeans would support if a threat to Singapore's security were actually to materialise. Thus, the SAF would wish to declare the 'porcupine' posture for the SAF as soon as the associated military capability became credibly available. Referring back to the previous section, the 'porcupine' image could be credibly announced as Singapore's defence posture in the early 1980s due to the policy routinisations of conscription and sustained high military spending. By revealing Singapore's true state of defensibility, the SAF could convince Singaporeans and others that Singapore did not need to resort to state suicide or surrender in any external conflict, and in so doing improve its own stature among Singaporeans and foreign observers.

The previous section also mentions that an arms race or other unfavourable system effects might result if Singapore declared its true military capability. However, given the need to resolve the image inconsistency, the SAF could have portrayed Singapore's actual defensibility short of publicly acknowledging its offensive weapon arsenals, by using a public announcement, or 'cheap talk'. 'Cheap talk' refers to 'costless [and] nonverifiable' announcements¹⁷⁸ that do not change the payoffs to any strategy.¹⁷⁹ Given that such announcements cannot be verified and are costless to make, they seemingly should be ignored and the final outcome should not be affected. However, in both theoretical and empirical analyses, 'cheap talk' has been found to help coordinate behaviours of two players in a coordination game to obtain higher payoffs.¹⁸⁰ For example, in experimental games, the presence of 'cheap talk' almost always allows players to achieve better game outcomes than in its absence. Players were able to choose the best outcome in these experimental games 95 per cent of the time when one player's public announcement of his decisions *ex ante* allowed both players to coordinate and select the preferred outcomes together.¹⁸¹

The concept of 'cheap talk' could be applied to explain the interaction between war and international relations. In the international system, two countries could coordinate to choose peace instead of war if each country knows that war is inefficient, by preferring a pre-war condition to a post-war scenario and if each country knows that the other is rational and considers the benefits and costs of war in the same way.¹⁸² Therefore, 'cheap talk' would succeed in coordinating actions between two countries, because both parties could reduce the dangers of 'guess[ing] what the other will guess one's self to guess the other to guess, and so on ad infinitum'¹⁸³ with the presence of 'common knowledge'.¹⁸⁴ In general, if both parties are rational and are known by each other to be rational, the presence of 'common knowledge' can dissuade them from unnecessarily betting and speculating about the other's capabilities.¹⁸⁵

In the case of Singapore, by disclosing its military preparations, the SAF could substantiate its claim to make Singapore more survivable with a 'porcupine' posture. Consequently, Singaporeans and foreigners would no longer need to doubt the irrational incongruence of Singapore's declared military posture of the 'poisonous shrimp' with its actual offensive military buildup. On the one hand, the locals could be convinced that Singapore was indeed defensible. On the other hand, when Singapore's capabilities and intentions became 'common knowledge' to foreigners, Singapore's possible foreign threats would be less likely to make any military miscalculations.

Even though Brigadier General Lee Hsien Loong's public announcement could suffice in revealing Singapore's true state of military capability to Singaporeans, some could argue that this announcement would not qualify as 'cheap talk'. Unlike costless 'cheap talk', Brigadier General Lee Hsien Loong's announcement involved potentially high 'audience costs', because the SAF would suffer from military consequences of losing an actual conflict. These cost considerations mean the SAF would be 'disinclined to incur or create if [it was] in fact *not* willing'¹⁸⁶ and capable of having a military force that would live up to the 'porcupine' image. However, even though the announcement might not be 'cheap' in terms of its potentially costly consequences, it can still signal Singapore's intentions to survive any attack as a 'porcupine'. More importantly, the SAF would and could undertake the associated 'audience costs' of the policy declaration, because the 'policy change' had already been a *fait accompli*. As detailed in the previous section, the policy routinisations of conscription and sustained high military spending had enabled the SAF to better defend Singapore from its perceived threats in the early 1980s. Therefore, the declaration was 'costless' insofar

as it did not necessitate a physical change in Singapore's defence policy to make the PAP's claim credible; Singapore's defence policy had already aimed to make Singapore survivable and defensible with offensive capabilities ever since the British troops withdrew. Therefore, the SAF could plausibly realign Singapore's defence posture with its military capability to improve its stature *vis-à-vis* local Singaporeans and foreign observers, and it could bear any possible 'audience cost' because the declaration reflected not a desired outcome, but an already achieved state of affairs.

The above argument provides a plausible explanation of why the SAF would want to reveal Singapore's true defence posture. However, it still does not explain why Brigadier General Lee Hsien Loong, a senior military officer, was entrusted with this particular declaration. To fill the gap in the above explanation, this paper proposes that Brigadier General Lee Hsien Loong could have been the spokesperson for the rhetorical change in Singapore's defence posture because of the twin factors of a different style of military leadership within MINDEF and the maturity of indigenous military planning *circa* the early 1980s.

Although Singapore had four different Ministers of Defence from the late 1960s to the 1980s, Singapore's first three Ministers of Defence (Keng Swee Goh, Kim San Lim, and Yoon Chong Howe) exercised tremendous power over major military decisions without much feedback from the military professionals. Feedback from career soldiers in the SAF was limited because, as mentioned earlier, it lacked qualified local military professionals immediately post-independence to offer professional advice and opinions on weapon acquisitions and policy planning. Thus, these three civilian ministers made key decisions for the Singapore military and the military professionals simply followed their orders. For example, under enormous pressure to respond to the withdrawal of British troops in 1971, Kim San Lim made important decisions in 1968 that shaped the order of battle of the SAF, including the purchases of fighter aircraft, surface-to-air missiles, communication equipment, and missile gunboats.¹⁸⁷ Facing a dearth of talented military careerists, Keng Swee Goh chose not local infantry officers but expatriates to build up the Air Staff of the Republic of Singapore Air Force.¹⁸⁸ Preferring to 'attack the enemy with massive firepower at a distance', Yoon Chong Howe accelerated the buildup of the strike capability of the Republic of Singapore Air Force by sanctioning the purchase of A4 Skyhawks and the development of fighter airbases.¹⁸⁹

While these three ministers shaped the early growth of the SAF with a top-down leadership style, this changed with the appointment of Chok

Tong Goh as Singapore's fourth Minister of Defence in 1983. Unlike his predecessors, Chok Tong Goh favoured a bottom-up leadership style that invited involvement from military professionals to determine the future of the SAF. '[S]ome eighteen years of the top-down style of leadership' thus ended in MINDEF and the SAF, as Chok Tong Goh required his staff to produce short- and long-term plans for the development of the SAF instead of issuing his personal decisions as orders for his staff to carry out.¹⁹⁰ In fact,

it took some time for [his] staff to adjust from just taking orders to coming up with new ideas and to defend them ...¹⁹¹

Instead of telling the [Army, Navy, and Air Force] Services what to do at MINDEF headquarters, [Chok Tong Goh] expected the Services to come up with proposals for his decision.¹⁹²

Coupled with the change in leadership style, the SAF scholars from the first few batches of the scholarship scheme had also matured by the early 1980s to help plan for the development of the SAF, a scenario that coincided effectively with Chok Tong Goh's bottom-up leadership approach. With the return of 29 SAF scholars/graduates to their respective Services from 1974 to 1976,¹⁹³ the SAF saw a rapid increase in the number of local military officers with the necessary educational background to assume high-ranking positions by the early 1980s. Indigenous military planning was first accepted by the MINDEF leadership in 1978 when the Air Defence Committee created the blueprint for the development of the Singapore Air Defence Artillery. This plan would have been insignificant if not for the fact that it signaled the recognition on the part of the military leadership that local military planners, of whom the SAF scholars formed a disproportionate majority, could develop master plans for the future of the SAF.¹⁹⁴ By 1983, SAF scholars had assumed Department Head appointments in the Joint Operations and Planning Directorate, Joint Plans Department, G5 Army (Army Plans Department), Naval Plans Department, and the Air Plans Department, exercising a disproportionately huge influence (when compared to their small physical numbers in the armed forces) in planning for the SAF's future. Given the burgeoning presence of indigenous military planning within MINDEF and a military leadership receptive to professional feedback, local planners of the ten-year SAF development plan in the 1980s began to focus on developing the SAF to 'deter an enemy from taking military action against Singapore and, should deterrence fail, to fight and to gain a decisive victory'.¹⁹⁵ Thus, Brigadier General Lee Hsien Loong's declaration of the inadequacies of the non-existent 'poisonous shrimp' posture, and Chok Tong Goh's exhortation to his staff in transforming the SAF into a 'porcupine',

were perhaps unsurprising given the state of Singapore defence planning in the early 1980s.

In summary, the revised Political Bargaining Model failed to find a link between Brigadier General Lee Hsein Loong's announcement and military co-option to increase the power and credibility of Singapore's ruling party. Yet, it fared better in explaining why the announcement was a means for the SAF to condition its local and foreign audiences about Singapore's defensibility and thus improve its stature among these audiences. Also, the announcement was the product of a new working relationship between the military leadership and the military professionals. On one hand, the co-option theory is tempting in explaining the announcement of the 'policy change' from a 'poisonous shrimp' to a 'porcupine' as a part of the PAP's effort to solicit political support from the military ranks. On the other hand, the SAF has consistently been apolitical prior to and beyond the 1980s. The complete civilianisation of the military at the higher decision-making levels, coupled with an awareness among the military professionals to remove any possibility of political threat emanating from the military, make the case for military co-option by the PAP hard to establish.

Instead, since the policy announcement did not change the trajectory of the actual (offensive) buildup of the SAF, Brigadier General Lee Hsien Loong could have announced the 'policy change' in order to reconcile the image of Singapore as survivable and defensible with its offensive military acquisitions. By rendering knowledge common to all with an announcement of a *fait accompli*, Brigadier General Lee Hsien Loong could successfully update both Singaporeans and foreigners of Singapore's actual military capabilities.¹⁹⁶ Both the change in military leadership style, and the maturity of indigenous military planning, made such a posture declaration possible, because SAF scholars, such as Brigadier General Lee Hsien Loong and others, were able to announce their visions of a SAF that could defend Singapore effectively with the backing of a more consultative military leadership.

Conclusion

Accounting for the necessarily speculative analysis of the PAP's actual intentions behind the policy announcement, this paper argues that the Organisational Process Model and the Political Bargaining Model provide the most plausible explanation of why Singapore declared a change in its defence posture in the 1980s. The Organisational Process Model first reveals the timely maturity of Singapore's military capability and its indigenous military planning capacity. The Political Bargaining Model then details

how the SAF could announce such a change in defence posture credibly to improve its stature among Singaporeans and foreigners by convincing them that Singapore would, and could, defend itself successfully and survive any potential threat.

Through three separate sections, this paper analyses the various factors of defence policy decisions that face a small state. It reveals how small states make choices similar to great powers, but are more often likely to concern themselves with preserving national survival than with other national objectives. This paper also proposes modifications of Allison's decision-making models in order to analyse how a small state in the non-Western world makes decisions in the absence of crises. Furthermore, this paper suggests that an understanding of the interaction of 'cheap talk', 'common knowledge' and 'audience costs' can illuminate how and why state actions should be made consistent with official policies.

Naturally, this analysis would benefit from access to classified military documents in order to verify what otherwise remain calculated predictions concerning the intentions of Singapore's leaders when they decided to declare the change in Singapore's defence policy. Also, this analysis can be further refined and improved by expanding its focus beyond the case of Singapore's defence policy. These limitations of the current study provide one of many opening points for future research.

Notes

- ¹ Quoted Kuan Yew Lee's statement: 'In a world where the big fish eat small fish and the small fish eat shrimps, Singapore must become a poisonous shrimp' from Tommy Koh in *The Quest for World Order: Perspectives of a Pragmatic Idealist*, ed Amitav Acharya, The Institute of Policy Studies, Times Academic Press, Singapore, 1988, p. 177.
- ² Richard Deck, 'Singapore: Comprehensive Security—Total Defence', in *Strategic Cultures in the Asia Pacific Region*, eds Ken Booth and Russell Troad, St Martin's Press, New York, NY, 1999, p. 249.
- ³ In the early 1980s, 'Chief of Staff (General Staff)' was equivalent, *de facto*, to the third highest-ranking position in the SAF. See Patrick Smith and Philip Bowring, 'The Citizen Soldier', *Far Eastern Economic Review*, vol. 19, no. 2, 3 January 1983, p. 26.
- ⁴ Bilveer Singh, *The Vulnerability of Small States Revisited: A Study of Singapore's Post-Cold War Foreign Policy*, Gadjah Mada University Press, Yogyakarta, Indonesia, 1999, p. 281.
- ⁵ I thank an unnamed senior military officer from the SAF for the source article on soft copy. See Chok Tong Goh, 'Speech at the Republic of Singapore Air Force Graduation Ceremony at Paya Lebar Airport', 1 November 1983.
- ⁶ Bilveer Singh, 'A Small State's Quest for Security: Operationalizing Deterrence in Singapore's Strategic Thinking' in *Imagining Singapore*, eds Kah Choon Ban, Anne Pakir and Chee Kiong Tong, Times Academic Press, Singapore, 1992, pp. 97–131; Tim Huxley, *Defending the Lion City: The Armed Forces of Singapore*, Allen & Unwin, NSW, Australia, 2000.
- ⁷ Theo Farrell and Terry Terriff, 'The Sources of Military Change' in *The Sources of Military Change*, eds Theo Farrell and Terry Terriff, Lynne Rienner Publishers, Boulder, CO, 2002, pp. 5–16.
- ⁸ Murray Davies, *Commanding Change: War Winning Military Strategies for Organizational Change*, Praeger Publishers, Westport, CT, 2001, pp. 13, 33.
- ⁹ Deborah Avant, *Political Institutions and Military Change, Lessons From Peripheral Wars*, Cornell University Press, Ithaca, NY, 1994, p. 17.
- ¹⁰ John Nagl, *Counterinsurgency Lessons From Malaya and Vietnam, Learning to Eat Soup with a Knife*, Praeger Publishers, Westport, CT, 2002, p. 215; Barry Watts and Williamson Murray, 'Innovation in Peacetime' in *Military Innovation in the Interwar Period*, eds Williamson Murray and Allan Millett, Cambridge University Press, Cambridge, UK, 1996, p. 410.
- ¹¹ Watts and Murray, 'Innovation in Peacetime', p. 409.
- ¹² Samuel Huntington, *The Common Defense*, Columbia University Press, New York, NY, 1961, p. 2.
- ¹³ Michael Dillon, 'Introduction' in *Defence Policy Making: A Comparative Analysis*, ed Michael Dillon, Leicester University Press, Guildford and King's Lynn, UK, 1988, p. 2.

- ¹⁴ Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed., Addison-Wesley Educational Publishers, New York, NY, 1999; Graham Allison, *Essence of Decision: Explaining the Cuban Missile Crisis*, 1st ed., Scott, Foresman, Glenville, IL, 1971.
- ¹⁵ Jonathan Bendor and Thomas Hammond, 'Rethinking Allison's Models' in *The American Political Science Review*, American Political Science Association, Washington, D.C., vol. 86, no. 2, 1992, pp. 306-9.
- ¹⁶ Bendor and Hammond, 'Rethinking Allison's Models', pp. 309-13.
- ¹⁷ Bendor and Hammond, 'Rethinking Allison's Models', pp. 313-18.
- ¹⁸ Lawrence Freedman, 'Logic, Politics and Foreign Policy Processes: A Critique of the Bureaucratic Politics Model', *International Affairs*, Royal Institute of International Affairs, London, UK, vol. 52, no. 3, 1976, p. 436.
- ¹⁹ Miriam Elman, 'The Foreign Policies of Small States: Challenging Neorealism In Its Own Backyard', *British Journal of Political Science*, Cambridge University Press, Cambridge, UK, vol. 25, no. 2, 1995, p. 171.
- ²⁰ Alan Henrikson, Working Draft, *Small States in World Politics: The International Political Position and Diplomatic Influence of the World's Growing Number of Smaller Countries*, (Prepared for Conference on Small States, 1999).
- ²¹ Interview with Lieutenant General (Retired) Winston Choo, former Chief of Defence Force of the SAF (Lieutenant General Choo's residence, Singapore, 22 December 2003).
- ²² Interview with Lieutenant General (Retired) Winston Choo.
- ²³ Singh, 'A Small State's Quest for Security: Operationalizing Deterrence in Singapore's Strategic Thinking' in *Imagining Singapore*, eds Kah Choon Ban, Anne Pakir and Chee Kiong Tong, Times Academic Press, Singapore, 1992, pp. 97-131; Huxley, *Defending the Lion City: The Armed Forces of Singapore*, Allen & Unwin, NSW, Australia, 2000.
- ²⁴ Allison and Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, pp. 24-7.
- ²⁵ Bendor and Hammond, 'Rethinking Allison's Models', pp. 305-7.
- ²⁶ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, HarperCollins Publishers, New York, NY, 2000, p. 15.
- ²⁷ Heng Chee Chan, 'Singapore', in *Military-Civilian Relations in South-East Asia*, eds Zakaria Ahmad and Harold Crouch, Oxford University Press, Singapore, 1985, p. 141. See also Tim Huxley, *Defending the Lion City*, p. 11.
- ²⁸ Patrick Mayerchak, 'The Role of the Military in Singapore', in *The Armed Forces in Contemporary Asian Societies*, Edward eds Olsen and Stephen Jurika, Westview Press, Boulder, CO, 1986, pp. 173-4.
- ²⁹ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, pp. 17, 25.
- ³⁰ Andrew Tan, 'Singapore's Defence: Capabilities, trends, and implications', *Contemporary Southeast Asia*, vol. 21, issue 3, 1999, pp. 451-74.
- ³¹ Huxley, *Defending the Lion City*, p. 56.

- ³² Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965–2000*, pp. 17–8.
- ³³ Singaporean's low respect for soldiering comes from the Chinese proverb that says *hao han bu dang bing, hao tie bu da ding* (a good man does not serve in the military, good metal does not become nails). Since independence in 1965, Chinese has been the majority ethnic grouping in Singapore.
- ³⁴ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965–2000*, p. 15.
- ³⁵ Michael Leifer, *Singapore's Foreign Policy: Coping with Vulnerability*, Routledge, New York, NY, 2000, p. 65.
- ³⁶ Quoted from *The Mirror* (Singapore), vol. 4, no. 5, 29 January 1968, p. 7, in Bilveer Singh, 'Singapore's Management of its Security Problems', *Asia-Pacific Community*, Asian Club, Tokyo, Japan, no. 29, Summer 1985, p. 87.
- ³⁷ Sinnathamby Rajaratnam 'Interview No. 2' (7 December 1985) in *The Prophetic and the Political: Selected Speeches and Writings of S. Rajaratnam*, eds Heng Chee Chan and Obaid Ul Haq, St. Martin's Press, New York, NY, 1987, chapter 6, pp. 494–5.
- ³⁸ For more information on the 1948 Arab-Israeli War, see Dan Kurzman, *Genesis 1948: The First Arab-Israeli War*, World Publication Company, New York, NY, 1970.
- ³⁹ I thank Andrew Tan for bringing up this point during the interview and making available to me his unpublished thesis for further elaboration. See Andrew Tan, *Conventional Deterrent Strategies for Small States: Singapore and Israel Compared*, (unpublished thesis, 1989), pp. 93–7; Interview with Andrew Tan, Assistant Professor at the Institute of Defence and Strategic Studies, Singapore, 5 December 2003.
- ⁴⁰ Personal Communication with Pao Chuen Lui, Chief Defence Scientist of the SAF, 1 May 2004.
- ⁴¹ Pao Chuen Lui, 'A Historical Perspective of Defence Management Systems in MINDEF', in Commencement Lecture for the inauguration of the Defence Management Systems Course, 17 April 1996.
- ⁴² In an interview with the ASEAN Forecast periodical, Brigadier General Lee Hsien Loong reiterated the limitations of the 'poisonous shrimp' strategy that he pointed out earlier on 9 January 1982 at the National University of Singapore Forum on Scientists. See 'A Conversation with BG (Reservist) Lee Hsien Loong', *ASEAN Forecast*, Executive Publication, Singapore, vol. 4, no. 10, 1984, p. 164.
- ⁴³ 'A Conversation with BG (Reservist) Lee Hsien Loong', *ASEAN Forecast*, vol. 4, no. 10, 1984, p. 164.
- ⁴⁴ Goh, 'Speech at the Republic of Singapore Air Force Graduation Ceremony at Paya Lebar Airport', 1 November 1983, p. 2.
- ⁴⁵ Goh, 'Speech at the Republic of Singapore Air Force Graduation Ceremony at Paya Lebar Airport', 1 November 1983, p. 3.
- ⁴⁶ *Cold War – Timeline*, Federation of American Scientists, available at http://www.fas.org/man/dod-101/ops/docs/coldwar_timeline.htm, [accessed 3 January 2004].

- ⁴⁷ The 'domino theory' argues that the loss of Vietnam to communist forces would lead to communist expansionary movements throughout Kampuchea, Thailand, Malaysia, Singapore and Indonesia, as the 'remaining states of Southeast Asia would be incapable of resisting the aggressive thrust' of communism. See Jerry Silverman, 'The Domino Theory: Alternatives to a Self-Fulfilling Prophecy', *Asian Survey*, vol. 15, no. 11, November 1975, p. 916.
- ⁴⁸ Teik Soon Lau, 'Role of Singapore in Southeast Asia', *World Review*, University of Queensland Press, Brisbane, Australia, 1980, p. 40.
- ⁴⁹ According to the 'domino theory', Thailand would be considered 'the frontline state of ASEAN (Association of the Southeast Asian Nations)' to fend off a communist invasion from northern Southeast Asia. See Teik Soon Lau, 'Role of Singapore in Southeast Asia', *World Review*, 1980, p. 40.
- ⁵⁰ Interview with Andrew Tan.
- ⁵¹ David Denoon, 'Defence Spending in ASEAN: An Overview' in *Defence Spending in Southeast Asia*, ed Kin Wah Chin, Institute of Southeast Asian Studies (ISEAS), Singapore, 1987, p. 60.
- ⁵² Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, p. 19.
- ⁵³ 'Military spending modest and purely for defence', *The Straits Times*, Straits Times Press, Singapore, 6 December 1967, p. 8.
- ⁵⁴ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, pp. 38-9.
- ⁵⁵ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, p. 42.
- ⁵⁶ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, p. 47.
- ⁵⁷ 'Australian Military Presence in Malaysia/Singapore: Army and RAAF Contributions, 1968', *Withdrawal of British Defence Forces from Malaysia/Singapore*, National Archives of Australia, Canberra, series accession number: A5619/1, control symbol: C22 PART 3, available at <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=3188826>, [accessed 1 January 2004].
- ⁵⁸ Tim Huxley is one of a few writers who see the 'poisonous shrimp' strategy as declaratory and not substantial. He contends that 'strategic pre-emption of potential adversaries' has been the only strategy that suited Singapore's defence needs and explained its military buildup. He also discusses the various weapon systems acquired by the SAF from inception that could be considered as offensive in nature. However, he does not explain why the move from 'poisonous shrimp' to 'porcupine' was announced, or why the 'porcupine' posture was 'officially acknowledged' only in the early 1980s. See Huxley, *Defending the Lion City*, pp. 56-8.
- ⁵⁹ Allison and Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, pp. 169-70.
- ⁶⁰ Allison and Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, pp. 163-82.
- ⁶¹ Barry Rosen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*, Cornell University Press, Ithaca, NY, 1984, pp. 46-7.

- ⁶² Economic survival was also a valid vulnerability that Singapore faced in its early years of independence, however this threat (to Singapore's survival) straddles both internal and external perceptions of vulnerability that matter to the defence policymaking process, and is thus left out of this categorisation.
- ⁶³ Quoted Kuan Yew Lee's statement at the SAF Day Dinner on 2 July 1987: 'The internal threat to our security comes from communism and communalism. Although the forms may be changed, the basics are no different' from Boon Hiok Lee, 'Leadership and Security in Singapore: The Prevailing Paradigm' in *Leadership Perceptions and National Security: The Southeast Asian Experience*, eds Mohammed Ayoob and Chai-Anan Samudavanija, Institute of Southeast Asian Studies, Singapore, 1989, p. 161. See also Singh, 'Singapore's Management of its Security Problems', p. 81.
- ⁶⁴ Felix Chang, 'In Defense of Singapore', *Orbis*, Winter 2003, p. 108. See also Singh, 'Singapore's Management of its Security Problems', p. 85.
- ⁶⁵ Terrorism and secret society activities constitute the other dangers that Singapore faced domestically. See Singh, 'Singapore's Management of its Security Problems', p. 81.
- ⁶⁶ Teik Soon Lau, 'National Threat Perceptions of Singapore' in *Threats to Security in East Asia-Pacific: National and Regional Perspectives*, ed Charles Morrison, LexingtonBooks, Lexington, MA, 1983, p. 116.
- ⁶⁷ Singh, 'Singapore's Management of its Security Problems', p. 81.
- ⁶⁸ The CPM engaged in pamphleteering and propaganda by using pseudoclandestine radio stations based in South China, such as the 'Voice of Malayan Revolution' and the 'Voice of the People of Thailand', and distributing policy documents (one of these documents was titled 'Hold High the Great Red Flag of Marxism-Leninism and Mao Tse-tung Thought and Courageously Forge Ahead!') to urge communist insurgency against Singapore. See Yuan-li Wu, 'Planning Security for a Small Nation: Lessons from Singapore', *Pacific Community*, vol. 3, no. 4, 1972, p. 663; Lau, 'National Threat Perceptions of Singapore', pp. 116-7.
- ⁶⁹ The communist underground satellite organisations included the Malayan National Liberation Front and the Malayan People's Liberation League. The Singapore government arrested 30 of their members in 1974, 50 in 1976, 39 in 1977, 9 in 1979, and 13 in 1980. See Lau, 'National Threat Perceptions of Singapore', p. 117; Singh, 'Singapore's Management of its Security Problems', p. 81.
- ⁷⁰ Rajaratnam, 'Solutions to Communal Problems', chapter 2, p. 105.
- ⁷¹ The Maria Hertogh riots arose because of a court battle for custody of Maria Hertogh, a Dutch girl and a converted Muslim, between her Dutch natural parents and Malay foster parents. The British court ruled that Maria's Muslim marriage was invalid under Dutch laws and placed the Muslim girl in a Christian convent before she would return to the Netherlands. The act of placing a Muslim girl in a Christian convent and the subsequent rejection of the Malay foster parents' appeal sparked off a racial riot that left 18 dead and 173 injured. See 'The Maria Hertogh Riots' (11 December 1950), Singapore Ministry of Education, in *National*

Education, available at <http://www1.moe.edu.sg/ne/images/NEframe.html?SGstory/SGstory.html>, [accessed 11 November 2003].

- ⁷² The 1964 riots arose amidst tensions between the Chinese and Malay community because the Singapore-based Chinese political party (PAP) was seen to threaten the dominance of the Malay political party (United Malay National Organisation (UMNO) and its policies favouring the ethnic Malay community in political privileges. On the Prophet Mohammed's birthday in 1964, 25,000 Malays congregated in Singapore and started a week-long riot that left 23 killed and 460 injured. See Jürgen Haacke, *ASEAN's Diplomatic and Security Culture: Origins, development and prospects*, RoutledgeCurzon, New York, NY, 2003, p. 39; 'What Fuelled the 1964 Riots?', National Archives Singapore, in *KnowledgeNet* Singapore, available at [http://www.knowledgenet.com.sg/singapore/Chronicle/July/issue4\(2\)/Contests.htm#C1](http://www.knowledgenet.com.sg/singapore/Chronicle/July/issue4(2)/Contests.htm#C1), [accessed 11 November 2003].
- ⁷³ Singh, 'Singapore's Management of its Security Problems', pp. 83-4.
- ⁷⁴ Lau, 'National Threat Perceptions of Singapore', p. 120.
- ⁷⁵ Chang, 'In Defense of Singapore', p. 108.
- ⁷⁶ Leifer, *Singapore's Foreign Policy: Coping with Vulnerability*, p. 2.
- ⁷⁷ Lau, 'National Threat Perceptions of Singapore', p. 122.
- ⁷⁸ One notable example of Indonesian sabotage was a bombing incident in 1964, when two Indonesian commandos exploded a bomb at the Hongkong and Shanghai Bank in Orchard Road in 1964 and killed three civilians. See Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965-2000*, p. 20.
- ⁷⁹ Indonesia's then President Sukarno had 'set up a special task-force in readiness to invade Singapore' with 'separate units for the Army, Navy, Air Force and even a missile section'. See Khoon Choy Lee, *Diplomacy of a Tiny State*, World Scientific Publishing, Singapore, 2nd ed., 1995, p. 248.
- ⁸⁰ Lau, 'National Threat Perceptions of Singapore', p. 122; Leifer, *Singapore's Foreign Policy: Coping with Vulnerability*, p. 2.
- ⁸¹ Kin Wah Chin, 'Reflections on the Shaping of Strategic Cultures in Southeast Asia' in *Southeast Asian Perspectives on Security*, ed Derek da Cunha, Institute of Southeast Asian Studies, Singapore, 2000, p. 7. See also Singh, 'Singapore's Management of its Security Problems', p. 85.
- ⁸² Haacke, *ASEAN's Diplomatic and Security Culture: Origins, development and prospects*, p. 39.
- ⁸³ Alan Collins, *The Security Dilemmas of Southeast Asia*, St. Martin's Press, New York, NY, 2000, p. 208.
- ⁸⁴ Leifer, *Singapore's Foreign Policy: Coping with Vulnerability*, p. 53.
- ⁸⁵ Alom Peled, *Soldiers Apart: A Study of Ethnic Military Manpower Policies in Singapore, Israel and South Africa*, (unpublished PhD thesis), University Microfilms International, Ann Arbor, MI, 1994, pp. 60-1.
- ⁸⁶ Peled, *Soldiers Apart*, p. 62.
- ⁸⁷ Singapore used pamphlets rather than mass media to recruit soldiers 'in order not to attract Malaysian attention'. In the same way, Themistocles delayed his

- meetings with the Spartans so that the Athenians could consolidate their defence. See Peled, *Soldiers Apart*, p. 63; Robert Strassler, ed., *The Landmark Thucydides: A Comprehensive Guide to The Peloponnesian War*, Touchstone, New York, NY, 1998, pp. 49–50.
- ⁸⁸ Kuan Yew Lee, *From Third World to First, The Singapore Story: 1965–2000*, p. 24.
- ⁸⁹ Peled, *Soldiers Apart*, pp. 63–5.
- ⁹⁰ Chong Guan Kwa, 'Introduction' in *Beyond Vulnerability? Water in Singapore-Malaysia Relations*, ed Chong Guan Kwa, Institute of Defence and Strategic Studies, Singapore, 2002, p. 4.
- ⁹¹ Anthony Head, 'Confidential Telegram No. 154: from The Secretary of State for Commonwealth Relations to The British High Commission, Canberra' in *Malaysia-Singapore-British and Australian Policy in Malaysian Region – Post August 1965*, National Archives of Australia, Canberra, 9 August 1965, series accession number: A1838/280, control symbol: 3006/10/4/1 at <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=586493>, [accessed 1 January 2004].
- ⁹² Haacke, *ASEAN's Diplomatic and Security Culture: Origins, development and prospects*, p. 48.
- ⁹³ Heng Chee Chan, *Singapore: The Politics of Survival 1965–1967*, Oxford University Press, Singapore, 1971, p. 48.
- ⁹⁴ Elizabeth Nair, 'Conscription and Nation-Building in Singapore: A Psychological Analysis', *Journal of Human Values*, vol. 1, no. 1, 1995, p. 94.
- ⁹⁵ Charles Morrison and Astri Suhrke, *Strategies of Survival: the Foreign Policy Dilemmas of Smaller Asian States*, University of Queensland Press, Qld, Australia, 1978, p. 175.
- ⁹⁶ Choon Cheong Leong, *Youth in the Army*, Federal Publications, Singapore, 1978, p. 264.
- ⁹⁷ Tai Yong Tan, 'Singapore: Civil-Military Fusion' in *Coercion and Governance: The Declining Political Role of the Military in Asia*, ed Muthiah Alagappa, Stanford University Press, Stanford, CA, 2001, p. 280.
- ⁹⁸ Leifer, *Singapore's Foreign Policy: Coping with Vulnerability*, p. 63.
- ⁹⁹ Bilveer Singh, *Singapore's Defence Industries*, Canberra Papers on Strategy and Defence No. 70, Strategic and Defence Studies Centre, The Australian National University, Canberra, Australia, 1990, p. 42.
- ¹⁰⁰ Morrison and Suhrke, *Strategies of Survival: the Foreign Policy Dilemmas of Smaller Asian States*, p. 175.
- ¹⁰¹ Narayanan Ganesan, 'Singapore: Realist cum Trading State' in *Asian Security Practice: Material and Ideational Influences*, ed Muthiah Alagappa, Stanford University Press, Stanford, CA, 1998, pp. 595–6.
- ¹⁰² Chok Tong Goh, 'Peacetime Defence Spending Purchases Peace', in Speech at the closing of the 12th Command and Staff Course, 6 March 1982.
- ¹⁰³ Morrison and Suhrke, *Strategies of Survival: the Foreign Policy Dilemmas of Smaller Asian States*, p. 176.

- ¹⁰⁴ Morrison and Suhrke, *Strategies of Survival: the Foreign Policy Dilemmas of Smaller Asian States*, p. 176.
- ¹⁰⁵ John Keegan, 'Singapore', *World Armies*, Gale Research Company, Detroit, MI, 2nd ed., 1983, p. 520.
- ¹⁰⁶ John Kingdon, *Agendas, Alternatives, and Public Policies*, HarperCollins, New York, NY, 2nd ed., 1995, pp. 165–95.
- ¹⁰⁷ To Lui, 1968 was the defining moment of Singapore's defence policy, because the buildup of the SAF after the withdrawal of British forces reflected a change in the focus and goals of Singapore defence planning to one of self-reliant and maximum deterrence that would be achieved by offensive, pre-emptive capabilities. See Interview with Pao Chuen Lui, Singapore Ministry of Defence Headquarters, Singapore, 17 December 2003.
- ¹⁰⁸ Chan, 'Singapore', p. 142.
- ¹⁰⁹ Wu, 'Planning Security for a Small Nation: Lessons from Singapore', pp. 664–5.
- ¹¹⁰ Sukhumbhand Paribatra and Chai-Anan Samudavanija, 'Internal Dimensions of Regional Security in Southeast Asia' in *Regional Security in the Third World: Case Studies from Southeast Asia and the Middle East*, ed Mohammed Ayoob, Croom Helm, London, UK, 1986, p. 79.
- ¹¹¹ These benefits include the 'inculcation of nationalistic values in the youth of a multiracial community and creating a pool of specialised skills', and also the inspiration of a 'sense of confidence among local entrepreneurs and foreign investors' from the provision of adequate security forces in Singapore. See Obaid Ul Haq, 'Singapore's Search for Security: A Selective Analysis' in *Leadership and Security in Southeast Asia: Institutional Aspects*, ed Stephen Chee, Institute of Southeast Asian Studies, Singapore, 1991, p. 129.
- ¹¹² Chan, 'Singapore', pp. 143–4.
- ¹¹³ Pak Shun Ng, "'Why Not A Volunteer Army?'" Reexamining the Impact of Military Conscript on Economic Growth for Singapore', *Singapore Economic Review*, vol. 50, no. 1, 2005, p. 62.
- ¹¹⁴ Elizabeth Nair, 'Nation Building through Conscript Service in Singapore' in *The Military in the Service of Society and Democracy: The Challenge of the Dual-Role Military*, ed Daniella Ashkenazy, Greenwood Press, Westport, CT, 1994, p. 106.
- ¹¹⁵ Nair, 'Nation Building through Conscript Service in Singapore', p. 183.
- ¹¹⁶ Huxley, *Defending the Lion City*, p. 27.
- ¹¹⁷ Morrison and Suhrke, *Strategies of Survival: the Foreign Policy Dilemmas of Smaller Asian States*, pp. 183–4.
- ¹¹⁸ Paribatra and Samudavanija, 'Internal Dimensions of Regional Security in Southeast Asia', p. 79.
- ¹¹⁹ For the 1980–1981 financial year, Singapore's actual defence spending was S\$1267 million. The exchange rate was US\$1 to S\$2.0478 at the end of 1981. See Huxley, *Defending the Lion City*, p. 28; Statistics Singapore, 'Selected Historical Data—Exchange Rate', in *KeyStats*, available at <http://www.singstat.gov.sg/keystats/hist/exchange.html>, [accessed 12 November 2003].

- ¹²⁰ Kin Wah Chin, 'Singapore: Threat Perception and Defence Spending in a City-State' in *Defence Spending in Southeast Asia*, ed Kin Wah Chin, Institute of Southeast Asian Studies, Singapore, 1987, p. 203.
- ¹²¹ Shuhud Saaid, 'The Singapore Armed Forces, Pt. I: Girding up for 'Total Attack' Through TOTAL DEFENCE', *Asian Defence Journal*, February 1987, p. 19.
- ¹²² Keegan, 'Singapore', p. 520.
- ¹²³ Shuhud Saaid, 'The Singapore Army: A Flaming Sword in the Righteous Cause of National Survival', *Asian Defence Journal*, June 1987, p. 14.
- ¹²⁴ 'Growth of the Armed Forces', in *Country Study & City Guide—Singapore*, available at <http://reference.allrefer.com/country-guide-study/singapore/singapore141.html>, [accessed 13 November 2003].
- ¹²⁵ Bilveer Singh, 'A Small State's Quest for Security', p. 120.
- ¹²⁶ U.S. Department of State, various years, 'Memorandum of understanding for the exchange of individual personnel between the United States Army Western Command and the Republic of Singapore Armed Forces' (1981); 'Agreement concerning the provision of training related to defence articles under the United States International Military Education and Training (IMET) Program' (1981); 'Memorandum of understanding concerning exchange of service personnel between the United States Navy and Republic of Singapore Air Force' (1982); 'Agreement concerning general security of military information' (1983), in *United States Treaties and other International Agreements*, Department of State, Washington, D.C., TIAS 10166, 10482, 10819.
- ¹²⁷ 'Memorandum of understanding concerning exchange of service personnel between the United States Navy and Republic of Singapore Air Force' (1982).
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- ¹²⁹ Robert Jervis, *Systems Effects: Complexity in Political and Social Life*, Princeton University Press, Princeton, NJ, 1997, p. 285.
- ¹³⁰ Allison and Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, pp. 294–6.
- ¹³¹ Bendor and Hammond, 'Rethinking Allison's Models', p. 314.
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- ¹³⁴ Heng Chee Chan, *The Dynamics of One Party Dominance: the PAP at the Grass-Roots*, Singapore University Press, Singapore, 1976, pp. 223–9.
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- ¹³⁶ Beng-Huat Chua, *Communitarian Ideology and Democracy in Singapore*, Routledge, New York, NY, 1995, p. 4.
- ¹³⁷ Peng Er Lam and Kevin Tan, 'Introduction' in *Lee's Lieutenants: Singapore's Old Guard*, eds Peng Er Lam and Kevin Tan, Allen & Unwin, NSW, Australia, 1999, p. xiv.

- ¹³⁸ Lam and Tan, 'Introduction', p. xvi.
- ¹³⁹ Melanie Chew and Bernard Tan, 'Interview with Winston Choo' in *Creating the Technology Edge*, DSO National Lab, Singapore, 2002, p. 26.
- ¹⁴⁰ Personal Communication with Pao Chuen Lui.
- ¹⁴¹ Chan, *The Dynamics of One Party Dominance*, p. 9.
- ¹⁴² Interview with Bernard Loo, Assistant Professor at the Institute of Defence and Strategic Studies, Singapore, 5 December 2003.
- ¹⁴³ Tim Huxley, *The Political Role of the Singapore Armed Forces' Officer Corps: Towards a Military-Administrative State?*, Working Paper No. 279, Strategic and Defence Studies Centre, The Australian National University, Canberra, Australia, 1993. Major parts of this paper were later reproduced in Huxley, *Defending the Lion City*, chapters 4 and 10.
- ¹⁴⁴ See Ross Worthington, *Governance in Singapore*, RoutledgeCurzon, London, 2003.
- ¹⁴⁵ Huxley, *The Political Role of the Singapore Armed Forces' Officer Corps*, p. 4.
- ¹⁴⁶ Huxley, *The Political Role of the Singapore Armed Forces' Officer Corps*, p. 6.
- ¹⁴⁷ Other senior military officers subsequently followed Brigadier General Chin Tiong Tan and Brigadier General Lee Hsien Loong by making career changes to the political arena as PAP MPs and ministers. See Huxley, *Defending the Lion City*, pp. 233–5.
- ¹⁴⁸ Huxley, *Defending the Lion City*, p. 240.
- ¹⁴⁹ Huxley, *Defending the Lion City*, pp. 240–1.
- ¹⁵⁰ Huxley, *Defending the Lion City*, pp. 243–4.
- ¹⁵¹ Patrick Dunleavy and Rod Rhodes, 'Core Executive Studies in Britain', *Public Administration*, vol. 68, issue 1, 1990, p. 4.
- ¹⁵² Worthington, *Governance in Singapore*, p. 18.
- ¹⁵³ Worthington, *Governance in Singapore*, p. 22.
- ¹⁵⁴ Worthington, *Governance in Singapore*, p. 23.
- ¹⁵⁵ Cherian George, *Singapore: the Air-Conditioned Nation*, Landmark Books, Singapore, 2002, p. 116. According to George, the PAP has co-opted the Singapore intelligentsia since the 1950s so that individuals have to either 'join the [ruling] party or subscribe fully to its political beliefs in order to be given access or influence'. See pp. 114–9 for further elaboration.
- ¹⁵⁶ Worthington, *Governance in Singapore*, p. 20.
- ¹⁵⁷ Elizabeth Kier, *Imagining War: French and British Military Doctrines between the Wars*, Princeton University Press, Princeton, NJ, 1999, p. 140, (original emphasis).
- ¹⁵⁸ Barry Rosen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*, Cornell University Press, Ithaca, NY, 1984, pp. 47–8.
- ¹⁵⁹ Worthington argues that the appointment of senior public servants to boards of government-linked companies (GLCs) represents a form of *amakudari* (天下り), a kind of personnel movement in Japan in which government officials are employed

- in private business after retirement. See Worthington, *Governance in Singapore*, p. 25. However, *yokosuberi* (横滑り) would be more appropriate in describing the movement of Singapore's senior civil servants to the GLCs, because the GLCs are not privately owned, but publicly funded. By extending Worthington's analogy of the Singapore civil service to Japanese bureaucrats and their post-retirement careers, *chiiryō* (地位利用) is the most appropriate term to describe how the Singapore senior military leadership could have benefited from the SAF's co-opting efforts, because their positions could be utilised (*chiiryō*) to launch a political career with the PAP. See Chalmers Johnson, 'The Reemployment of Retired Government Bureaucrats in Japanese Big Business', *Asian Survey*, vol. 14, no. 11, 1974, pp. 953-4.
- ¹⁶⁰ Huxley argues that the PAP might have played on the emotional attachment of the senior military officers to the SAF so as to persuade the senior military leadership to 'join [the PAP] at the centre [of national decision-making]'. See Huxley, *Defending the Lion City*, pp. 240, 244.
- ¹⁶¹ Chan, 'Singapore', p. 136.
- ¹⁶² For example, George Bogaars, the permanent Secretary of Defence at the SAF's inception, was a 'British-trained professional civil servant', while Teck Kim Tan, Kirpa Ram Vij, and T. J. D. Campbell had been a senior assistant to the police commissioner, a senior civil servant with the Administrative Service, and a teacher respectively prior to their secondments as the first three directors of the General Staff in the SAF. See Tan, 'Singapore: Civil-Military Fusion', pp. 281-2; Lee Hsien Loong, Speech at the SAF Overseas Scholarship 30th Anniversary Dinner', 2000, available at http://www.mti.gov.sg/public/NWS/frm_NWS_Default.asp?sid=39&cid=320, [accessed 31 January 2004].
- ¹⁶³ Tan, 'Singapore: Civil-Military Fusion', p. 519; Interview with Chong Guan Kwa, Head of External Programs at the Institute of Defence and Strategic Studies, Singapore, 16 December 2003; 'East Asian Forum' in *Participants* (2003), available at http://www.eastasiaforum.org/eaf2003/eaf2003_04.asp, [accessed 31 January 2004].
- ¹⁶⁴ Huxley, *Defending the Lion City*, p. 78. In 2003, RADM (Rtd) Chee Hean Teo became Singapore's first Minister of Defence with a military title.
- ¹⁶⁵ I thank an unnamed senior military officer from the SAF for this information.
- ¹⁶⁶ Interview with Lieutenant General (Retired) Winston Choo.
- ¹⁶⁷ Zakaria Ahmad, 'The Military and Development in Malaysia, Brunei, and Singapore' in *Soldiers and Stability in Southeast Asia*, eds Soedjati Djwandono and Mun Cheong Yong, Institute of Southeast Asian Studies, Singapore, 1988, p. 245.
- ¹⁶⁸ The SAF Scholarship was not the only scheme that was created to attract talent into the military. The SAF Fellowship (later renamed the SAF Postgraduate Award) was also started in 1971. See Chew and Tan, Interview with Lui Pao Chuen, p. 167.

- ¹⁶⁹ Quoted Prime Minister Kuan Yew Lee's correspondence to the Minister of Defence on 5 March 1971, from Lee Hsien Loong, 2000, (emphasis added).
- ¹⁷⁰ Quoted Prime Minister Kuan Yew Lee's correspondence to the Minister of Defence (emphasis added).
- ¹⁷¹ Tan, 'Singapore: Civil-Military Fusion', p. 291.
- ¹⁷² Harold Sprout and Margaret Sprout, 'Environmental Factors in the Study of International Politics', *The Journal of Conflict Resolution*, vol. 1, no. 4, 1957, pp. 327-8.
- ¹⁷³ Robert Jervis, *The Logic of Images in International Relations*, Princeton University Press, Princeton, NJ, 1970, p. 6.
- ¹⁷⁴ Jervis, *The Logic of Images in International Relations*, p. 6.
- ¹⁷⁵ Jervis, *The Logic of Images in International Relations*, p. 7.
- ¹⁷⁶ *The Invasion of Norway 1940*, History of Learning, available at http://www.historylearningsite.co.uk/invasion_of_norway.htm, [accessed 1 May 2004].
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- ¹⁷⁸ Joseph Farrell and Robert Gibbons, 'Cheap Talk with Two Audiences', *The American Economic Review*, vol. 79, no. 5, 1989, p. 1214.
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- ¹⁸⁰ See Farrell, 1987, pp. 34-9; Russell Cooper, Douglas DeJong, Robert Forsythe and Thomas Ross, 'Communication in the Battle of the Sexes Game: Some Experimental Results', *The RAND Journal of Economics*, vol. 20, no. 4, 1989, pp. 568-87.
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- ¹⁸² John Patty and Roberto Weber, *Agreeing to Fight: An Explanation of the Democratic Peace*, Center for Computational Analysis of Social and Organizational Systems, Carnegie Mellon University, Pittsburgh, PA, 2001, Working Paper available at http://www.casos.cs.cmu.edu/publications/working_papers/demonew6_abstract.html, [accessed 3 January 2004].
- ¹⁸³ Thomas Schelling, *The Strategy of Conflict*, Harvard University Press, Cambridge, MA, 1960, pp. 92-3.
- ¹⁸⁴ An event or a condition is 'common knowledge' between two parties (1 and 2) 'if both know it, 1 knows that 2 knows it, 2 knows that 1 knows it, 1 knows that 2 knows that 1 knows it, and so on'. See Robert Aumann, 'Agreeing to Disagree', *The Annals of Statistics*, Institute of Mathematical Statistics, Beechwood, OH, 1976, p. 1236.
- ¹⁸⁵ John Geanakoplos, 'Common Knowledge', *The Journal of Economic Perspectives*, vol. 6, no. 4, 1992, pp. 66-73.
- ¹⁸⁶ James Fearon, 'Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs', *The Journal of Conflict Resolution*, vol. 41, no. 1, 1997, p. 69, (original emphasis).

- ¹⁸⁷ Lui, 'A Historical Perspective of Defence Management Systems in MINDEF', p. 4.
- ¹⁸⁸ Lui, 'A Historical Perspective of Defence Management Systems in MINDEF', p. 5.
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- ¹⁹⁴ Lui, 'A Historical Perspective of Defence Management Systems in MINDEF', p. 7.
- ¹⁹⁵ Personal Communication with Pao Chuen Lui.
- ¹⁹⁶ Interview with David Boey, defence correspondent with the *Straits Times* newspapers, Straits Times Press Holdings, Main Office, Singapore, 11 December 2003; Interview with Bilveer Singh, Associate Professor in the Department of Political Science at the National University of Singapore, Singapore, 11 December 2003.

APPENDIX A

Military Expenditure as a Percentage of Government Expenditure, Selected Countries (Local Currencies)¹

	Small Power	ASEAN Bigger Powers		
Year	Singapore	Indonesia	Malaysia	Thailand
1975	20.3	17.9	15.3	17.2
1976	22.7	15.3	13.8	17.6
1977	25.5	16.1	15.4	19.3
1978	23.0	15.0	12.6	21.4
1979	21.1	13.7	14.4	23.6
1980	20.8	12.7	13.1	20.9
1981	17.6	12.1	13.7	20.4
1982	17.9	13.4	12.0	19.3
1983	13.8	11.1	11.8	19.2
1984	20.9	12.4	10.3	19.8

1 U.S. Arms Control and Disarmament Agency (ACDA), *World Military Expenditures and Arms Transfers 1987*, U.S. Arms Control and Disarmament Agency, Washington D.C., 1987, pp. 62, 68, 76, 79.

APPENDIX B

Armed Forces Inventory, Singapore, Malaysia and Indonesia, 1980–1981²

	Singapore	Malaysia	Indonesia
Army	350 light tanks 750 APC60 155 mm how 50 mortars 90 106mm RCL	200 armored vehicles 200 APC 12 5.5-in guns 92 sub-105mm how 35 AA guns	525 light tanks 130 armored vehicles 1190 APC 90 sub-105mm how 200 mortars 200 AA guns
Navy	2 large patrol craft 12 FAC 2 coastal minesweepers 5 LST 6 Landing craft	2 frigates 22 large patrol craft 8 FAC 5 coastal minesweepers 3 LST	4 submarines 7 frigates 3 corvettes 22 large patrol craft 8 FAC 8 coastal patrol craft 5 coastal minesweepers 9 LST 41 Landing craft
Air Force	125 combat aircraft 72 FGA 21 AD 32 COIN 12 tpt 28 Hel 20 Train 38 SAM	31 combat aircraft 14 FGA 15 COIN 42 tpt 72 Hel 15 Train 2 MR	60 combat aircraft 32 FGA 16 COIN 103 tpt 61 Hel 60 Train 12 MR

Legend:

Army: APC=Armored Personnel Carrier, how=howitzer, RCL=recoilless launcher, AA=anti-aircraft

Navy: FAC=fast attack craft, LST=landing ship, tank

Air Force: FGA=fighter, ground-attack, AD=air defense, COIN=counter-insurgency, tpt=transport, Hel=helicopter, Train=Trainer aircraft, MR=maritime reconnaissance, SAM=Surface-to-Air Missile

2 International Institute for Strategic Studies, 'Indonesia; Malaysia; Singapore' in *Military Balance 1980–1981*, International Institute for Strategic Studies, London, UK, 1980, pp. 69–75. Weapon systems that exist in quantity of one are excluded from the above compilation.

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