

WHY TANKS? WHY ABRAMS?

The application of argument mapping to a
contentious public policy debate

ABRIDGED EDITION



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THE COMPLETE REPORT

The complete report is three times the length of the abridged version. It provides:

- a more detailed introduction to the methods used in the inquiry;
- a deeper historical background to the debate about heavy armour in Australia;
- a summation of the Canadian debate about tanks;
- an analysis of the Vietnam War combat study, which is so widely cited in support of the tanks decision;
- a detailed introduction to the assumptions in the 2000 White Paper which have led to ambiguity and consequent confusion about the role of tanks in the Australian Army; and
- a series of intermediate exercises which show how the “macro” of the case—the key point of reference in the report—was developed.

The complete report can be downloaded from the Austhink website—www.austhink.com/consulting_home – and a hard copy is available from Austhink for \$100 plus postage.

Why bother doing all this, given that the decision has been taken already?

THE PROBLEM: WHY THIS INQUIRY WAS NEEDED

Ideally, when a significant public policy decision is announced, the grounds for it will be sufficiently clear that **any interested party will quickly be able to grasp the case** that has been made. Indeed, if the case can be made clear well before the decision has been taken, constructive debate is possible; errors or oversights can more easily be identified than otherwise and, having been identified, can more readily be corrected. Where a decision has been openly subjected to this kind of review, everyone can be more confident that the case is sound and a broad consensus can form in support of it.

Notoriously, **this does not generally happen**. Decisions are taken for reasons that are often not made explicit, are not thought through carefully or are known to be questionable and are for that reason camouflaged in rhetoric or protected by the classification of position papers and sources of information. As a consequence, debate on such matters is either insufficient or ineffective; errors or oversights are prone to occur and be discovered only after the fact, at which point there is a tendency to go into ‘damage control’ and try to cover them up or rationalise them away; and consensus is much harder to build, because both **confusion and mistrust** bedevil efforts to do this on the basis of poorly thought through decisions.

Few thoughtful observers of the public scene will question these observations. By common agreement, the decision-making with regard to

the war in Iraq, for example, has been plagued by these problems at the highest levels of the most democratic countries in the world. Yet the Iraq war is only a more dramatic example of what happens all the time, with **a corrosive effect on the confidence of citizens in the effectiveness and even the probity of our decision-making machinery**. Confusion, frustration and cynicism abound and, ironically, they often lead to public scepticism about decisions that were, in fact, quite sound—because, in general, there is mistrust of how decisions are made and because, in particular, the grounds for even sound decisions are often unclear.

This was the case with the **decision to replace the aging fleet of Leopard 1 tanks in the Australian Army with refurbished Abrams M1A1 AIM tanks**, taken in 2003 and announced in March 2004. The decision was announced and a number of considerations provided for it, but no systematic account was provided as to the case for and against the decision and how the decision was arrived at. Questions began to be asked at once and the debate went unresolved over the following three years. **Those who had always been opposed to the tank capability being maintained were unreconciled to the decision and continued to criticise it**, or even ridicule it publicly. This led to various press reports which contributed to widespread public misunderstanding of the decision.

In consequence, **a public perception developed that the tanks decision had, in fact, clearly been a bad one**. Launching Paul Dibb’s *Essays on Australian Defence* at the Australian National University, on 10 July 2006, former Secretary of the Department of Defence Allan Hawke commented that what he called the “ridiculous decision on Abrams tanks” had had “disastrous repercussive effects.” A cover story in *The Bulletin* on October 3 2006, featured a picture of the Minister for Defence, Brendan Nelson, standing next to an Abrams tank, with a caption reading ‘DUD’S ARMY: How we are spending \$100bn building the wrong defence force.’ Drawing extensively on remarks by former Deputy Secretary for Strategy, Hugh White, this article presented a systematically confused and misleading account of the case for the tanks decision. Such a view of the matter seems, also, to have been behind the assertion by former Secretary of Foreign Affairs and Trade, Michael Costello’s dismissal of the decision as “ludicrous” in *The Australian*, on 16 February 2007.

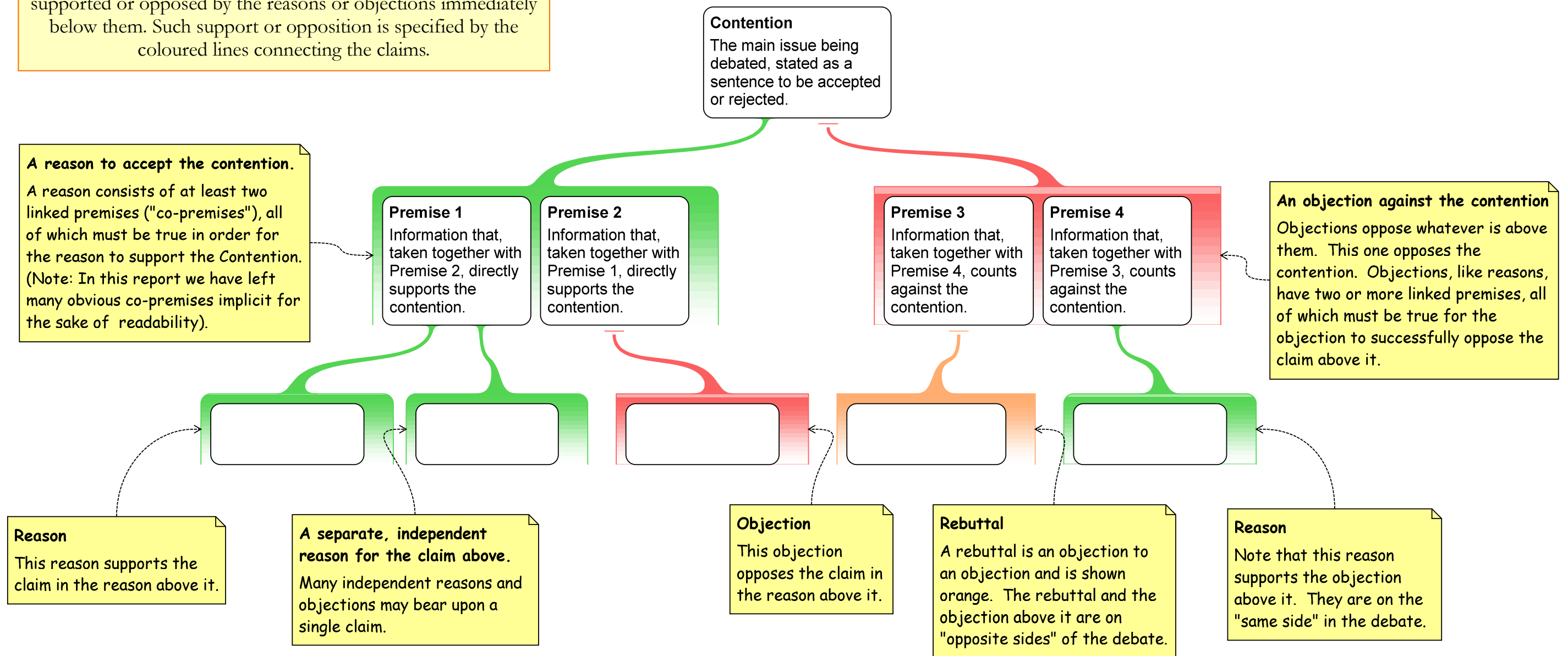
Claims as sweeping as this by such formerly senior and supposedly well informed individuals called for a response, not in rhetorical kind but in the form of **a systematic account of the case** which would show any reasonable observer what the grounds were for the decision, where the objections arose from and why those objections are unsound. This inquiry was commissioned and conceived to fill that need.

The conventions of argument mapping—utilizing space, line and colour—are designed to be intuitively easy for the visual brain to follow and to relieve it of the considerable burden of having to extract the reasoning going on in a piece of prose and think about the soundness of that reasoning at the same time.

How to read an argument map

An argument map consists of a set of claims (contentions or premises), hierarchically organized to display their logical relationships. Those relationships follow a simple rule: claims are supported or opposed by the reasons or objections immediately below them. Such support or opposition is specified by the coloured lines connecting the claims.

Figure 1. The Method: Conventions of Argument Mapping



THE FINDINGS

Finding 1. The decision to buy new (fully refurbished and upgraded) Abrams M1A1 AIM tanks for the Army was sound. It was sound because the old Leopard 1 tanks, that had been in service since the late 1970s, being worn out and obsolete, needed to be replaced, if the tank capability was to be maintained; and that capability *did* need to be maintained. In maintaining the capability, the decision to buy the Abrams M1A1 AIM was sound, because no other tank would better meet the combat needs of the Army and the actual deal offered by the Americans for it was far better than was available for either of the other two candidates—the Leopard 2 and the Challenger 2.

Finding 2. There was one central reason why the tank capability, needed to be maintained, although there were many considerations involved. That reason was that having the tank capability will, in the judgment of the specialists, be a necessary part of the Army's capacity to ensure that it has the combat weight, across the full spectrum of its future missions, to achieve those missions without undue risk. That it should be able to do this is the prescription of the 2000 White Paper and is, in itself, uncontroversial. That the tank will be necessary to that end is what has been disputed.

Finding 3. The tank *is* necessary to ensure the Army has the combat weight to achieve its missions without undue risk, because across the full spectrum of its foreseeable future missions—humanitarian, stabilisation or peace-keeping, counter-insurgency or conventional war—there is now a clear risk that benign situations can turn, suddenly and unpredictably, into open conflict, which would force upon our land forces the necessity to engage in close combat in complex (very often urban) terrain. Prevailing in close combat under these conditions is difficult and can be very costly in casualties without the availability of the mobile force

protection and highly discriminating direct fire support that tanks provide.

Finding 4. The public case made for buying the new tanks gave undue prominence to the claim that a study of combat operations in Vietnam had demonstrated that tanks there saved Australian lives by a factor of six. The study did not show this. It did, however, make a credible case that tanks conferred decisive advantage on Australian forces in attacks on heavily fortified enemy bunkers. In particular, it showed that they substantially improved the success rate of such attacks. That this much touted study has been misunderstood so widely is notable and a cautionary lesson for capability analysis more generally.

Finding 5. The most systematic case for tanks is actually embedded in Army studies that have not received wide circulation. The key document is *Adaptive Campaigning*, published in November 2006, which builds on a decade of experimentation and learning. The 1997-98 Restructuring the Army Trials; combat simulations done by the Defence Science and Technology Organization (DSTO); and the sustained examination by the Army of complex war fighting all underpinned the judgment that across the full spectrum of future missions, the tank will provide an irreplaceable capacity for small combined arms teams to prevail in close combat in what are generally called “lower-intensity operations”. This is where the decision intersects with the precepts of the 2000 White Paper, as the Chief of Army was fully aware when he briefed the press on the subject in August 2004.

Finding 6. Many objections have been advanced against the decision to maintain the tank capability. When closely examined, they come down to five fundamental ones; but none of these is as strong as

it seems at first glance. The five objections and our finding in regard to them are as follows:

Objection 1: The opportunity cost of buying (expensive Abrams) tanks was too high.

Rebuttal: The cost is modest, was thought through carefully and opted for ahead of a more expensive upgrade to the ground-based air defence system.

Objection 2: We could never *use* the Abrams tanks, because they are too heavy to deploy and are unsuited to the soft terrain of our region.

Rebuttal: The Abrams tanks can certainly be used in the region, just as Matilda and Centurion tanks have been in the past. Ground pressure, not weight is the key, and the ground pressure of the Abrams is far lower than that of the wheeled vehicles we routinely deploy.

Objection 3: Tanks, in general, are now an obsolete weapons platform, built for the Cold War, but unsuited to the 21st century battlefield.

Rebuttal: Tanks are *not* obsolete, but remain a potent and important part of combined arms teams in contemporary warfare.

Objection 4: We would never *choose* to use tanks.

Rebuttal: We would not lightly use tanks, but have in the past and would again at need. We were prepared to do so in East Timor in 1999, had circumstances become more serious.

Objection 5: Tanks will not be required in our immediate region and this is the only region in which we should deploy our land forces.

Rebuttal: There is now bipartisan consensus that our security interests are not confined to our immediate region. Whether we will need to use tanks in our immediate region is not a question to which a hard and fast answer can be provided, but it is one to which careful thought should be given in pondering the tank decision. This is probably the most sensitive and uncertain consideration in the case.

Finding 7. All these objections persist because the evidence can *seem* to support them and because the *assumptions* which shape the intuitive interpretation of that evidence are quite compelling, e.g. that being so heavy the tanks must be hard to deploy or use in soft terrain. Therefore, whenever the case for tanks is being made, some care should be taken to address these objections both clearly and concisely.

Finding 8. The **fifth objection** is of a different kind to the other four. It pertains not to the general case for buying Abrams tanks or to the nature of tanks themselves, but to the strategic policy guidance which, ostensibly, shapes our force structure development. This objection is based on Chapter 6, para 24 of the 2000 White Paper and it consists of two claims, working together: that our Army will not require tanks to achieve its missions *in our immediate region* and that it is *only* for missions within our immediate region that our Army should be structured and equipped.

Finding 9. This objection is actually a kind of **land mine beneath the case** made for tanks by the Army, since that case rests, to a large extent, on the utility of tanks in complex war fighting in a *general* sense,

without the case having been made as clearly as it perhaps might have been for their utility in our immediate region. If this fifth objection was to be sustained—and critics of the decision fairly clearly believe it is robust—then the case for tanks might be fatally undermined. The conclusion of this inquiry was that the utility of tanks in MOLE (Manoeuvre Operations in the Littoral Environment) was demonstrated in the past and is likely to be demonstrated again in the future, either by the use of tanks or the lack of them, in realistic contingencies. It should be underscored, however, that much hinges on this two-fold objection and that it needs to be addressed clearly and convincingly, if a common understanding of the need for tanks is to be lodged in the public (and policy-making) mind.

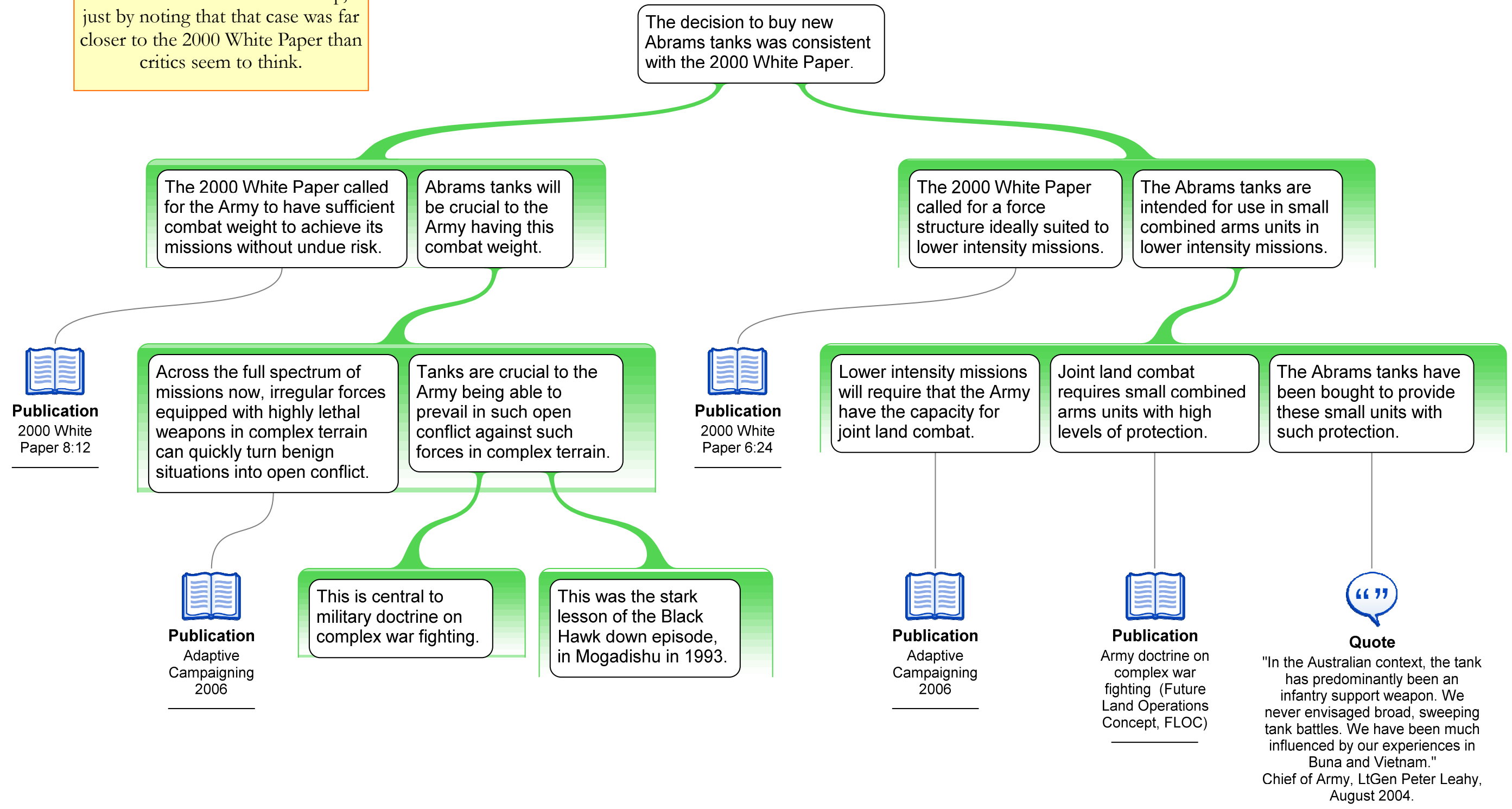
Finding 10. That said, the two-fold nature of the objection is something to which critics of the decision to buy the tanks themselves seem to pay insufficient attention. The objection, if it is to be sound, requires *both* that tanks lack utility in our immediate region *and* that our Army should *only* be structured and equipped for missions within this region. **If either of these premises is unfounded, the objection as a whole carries**

no weight. Just to the extent that MOLE is a serious doctrinal approach to future regional contingencies, the case for tanks would seem to be sound. Even if this was not so, however, provided it was clear that tanks were needed in close combat elsewhere, the fifth objection could be sustained if and only if it was accepted that the Army should not be structured or equipped for any missions outside our region. That has plainly not been the view of the National Security Committee of Cabinet under the Coalition government. As of early August 2007, it is no longer the official view of the Labor Party, either.

This is a much abbreviated version of a report, prepared for the Director General, Future Land Warfare, which made extensive use of **argument maps**, exploring the logical structure of the case less in detail. Fundamental to its purpose was that it facilitate the emergence of a “rational consensus” within the strategic policy and force structure community on this matter. A very simple argument map (Map 1, p. 4), sums up a minimalist and conservative version of such a consensus, based on the implications of the old 2000 White Paper. A fresh White Paper might be expected to make the case explicitly.

This is a very simple argument map, not complicated by objections or rebuttals. It shows how much of the misunderstanding about the case for tanks can be cleared up, just by noting that that case was far closer to the 2000 White Paper than critics seem to think.

Map 1: A Basis for Rational Consensus



The Army has given a lot of thought to the need for tanks and the nature of close combat, especially since the 1997 RTA trials.

BACKGROUND TO THE ARMY'S THINKING, 1997-2003

The Leopard tanks were purchased in the 1970s when, for once, the relevance of heavy armour to the Australian Army's capacity for close combat was not in question. Neither the **1972** nor the **1976 Defence White Papers** challenged the need to replace the ageing Centurions, which had done good work in Vietnam, with new and better tanks. The German Leopard was chosen over the American M60A1/3 and the British Chieftain, because it performed better in Australian trials as an all-rounder, including in jungle terrain. However, there was a struggle for the Army to obtain *enough* Leopards to be able to maintain a basic capability. There was certainly **never any consideration given to developing a large scale, conventional war fighting tank capability.**

When the Cold War ended, in **1990**, however, the idea began to gain ground that tanks were anachronistic in the strategic environment that would emerge following the capitulation of the Soviet Union. Many, even in the Army, began to consider the **possibility that tanks would not be needed in future**, least of all by a middle power such as Australia. It was with some difficulty, in the early 1990s, that then Chief of the General Staff, Lieutenant General **John Coates**, was able to persuade the civilians in Defence that the Leopards should be kept in the Army's inventory. Even so, some of the most forward thinking tacticians in the Army began to think of the possibility that **air strike and intelligence advances** could soon render the use of tanks in close combat

unnecessary; particularly in the role assigned to the Army in the 1990s, of small scale operations, in northern Australia against notional intruders, or in the island littoral, against irregulars.

This opinion began to change from **1997**, when Lieutenant General **John Sanderson** oversaw the **Restructuring the Army (RTA) trials**, in northern Australia. The final report on the RTA trials, submitted in 1999, argued that the realities of future warfare would involve having to fight enemies equipped with increasingly lethal small arms and anti-armour weapons, concealed in complex terrain (scrubland, jungle or urban areas), requiring both that the Army fight for, rather than with intelligence; and that it have a highly discriminating close fire support capability that was heavily armoured, able to take the first hit and then return fire and able to work with infantry to dislodge enemies from defended positions. In short, there would be **a need for a tank—and one better armoured than the old Leopards.**

The insights gleaned from the RTA trials were tested over the following four years in a **series of inquiries**, both historical and simulated, **to gather data on this unexpected finding** that tanks would be an enduring post-Cold War requirement. The 2000 White Paper was written in the immediate aftermath of the RTA trials and does not appear to have taken cognisance of their findings. The subsequent inquiries generated new data strongly suggesting that tanks would be a potent force multiplier and

would continue to provide that protection to infantry in close combat for which they had originally been invented. The case for replacing the Leopards was thus developed over a number of years and came to fruition in **2003**, coincident with, but not determined by, the outbreak of the war in Iraq, in March of that year.

One of the key inquiries was an extensive analysis of **combat data from Australia's experience in Vietnam**. The case was first publicly presented in Working Paper #122 published by the Land Warfare Studies Centre, Duntroon in July 2003, under the title *From Breitenfeld to Baghdad: Perspectives on Combined Arms Warfare*, edited by Michael Evans and Alan Ryan, with a Foreword by Dr. Michael Brennan, Scientific Adviser to the Army. The paper included an analysis of the Vietnam data by Dr. Robert Hall and Dr. Andrew Ross, which has since been widely cited as having demonstrated that, in attacks on defended enemy positions (heavy bunkers) in Vietnam, tanks saved Australian infantry lives by a factor of six, compared with similar operations in which tanks were not used. This is not actually what the data shows. It shows, in fact, that the ratio of Australian to enemy casualties increased by a factor of just under six; but the actual rate of Australian casualties did not decrease appreciably, according to the data used in the study. The working paper did make a **credible case for the use of tanks in "low intensity" operations**. That case was that tanks made a decisive difference to the success rate of missions while containing casualties.

We need to step back from the details to see what the most general claims are, so that we can see where the details belong and where they matter.

THE MACRO: SEEING THE CASE CLEARLY

Fundamentally, evaluating the decision to replace the Leopard 1s with Abrams tanks entails judging whether or not this was a sound decision in all the circumstances. The problem is that most of those who get involved in the debate make a leap of logic from some salient consideration or other to the final judgment without actually exploring “all the circumstances”.

When asked, “Why tanks?”, for example, we found that **Army** officers were very likely to respond by saying, “Tanks save lives”. But how many lives? Under what circumstances? Compared with what other platforms? Asked why we should *not* buy new tanks, **critics** are likely to respond with a claim or assertion such as “You can’t use tanks in our region”, or “We don’t need to fight high intensity wars”, or “We only got Abrams because we wanted to fight big armoured battles alongside the Americans.”

There are, in fact, many considerations that have a place in the debate. Seeing precisely where they bear on how we might evaluate the judgment that buying the new Abrams tanks was the right decision is a non-trivial exercise. It begins, however, by seeing, that there is a natural **hierarchy of claims** and a specifiable place in that hierarchy for all objections; and that the complete set of these things must be seen clearly and evaluated properly, if we are to judge whether or not the decision was sound.

To establish what the hierarchy of claims is requires stepping back from the welter of detailed considerations to consider what, at the most general or abstract level, is actually being asserted. To identify what the objections are and at what specific places they impinge on the case also requires a certain amount of abstraction. In **Map 2**, opposite, we can see the results of both exercises. This is what we call a “**macro**” - **the top levels of an argument**—off which all other details hang. Once the macro is clear and agreed, the argument can be developed and evaluated carefully and systematically.

Claim **3A-b**, circled in red, is the **pivotal claim** in the case made for purchasing the new tanks. The ground beneath it are the most general form of the support for that claim. These claims, together with the more detailed considerations that underpin them, constitute the central line of argument for the decision. Note that all claims that are supporting the claim above them are coloured green and all those objecting to that above them are coloured red. This is one of the features of argument mapping, which makes it easy for the eye to quickly scan and comprehend what is going on in an argument.

Having laid out the macro, we are well placed to consider, one at a time and without losing sight of the big picture, the three structural features of the argument that the map makes clear: the **peripheral claims** (**2A-a**: that the

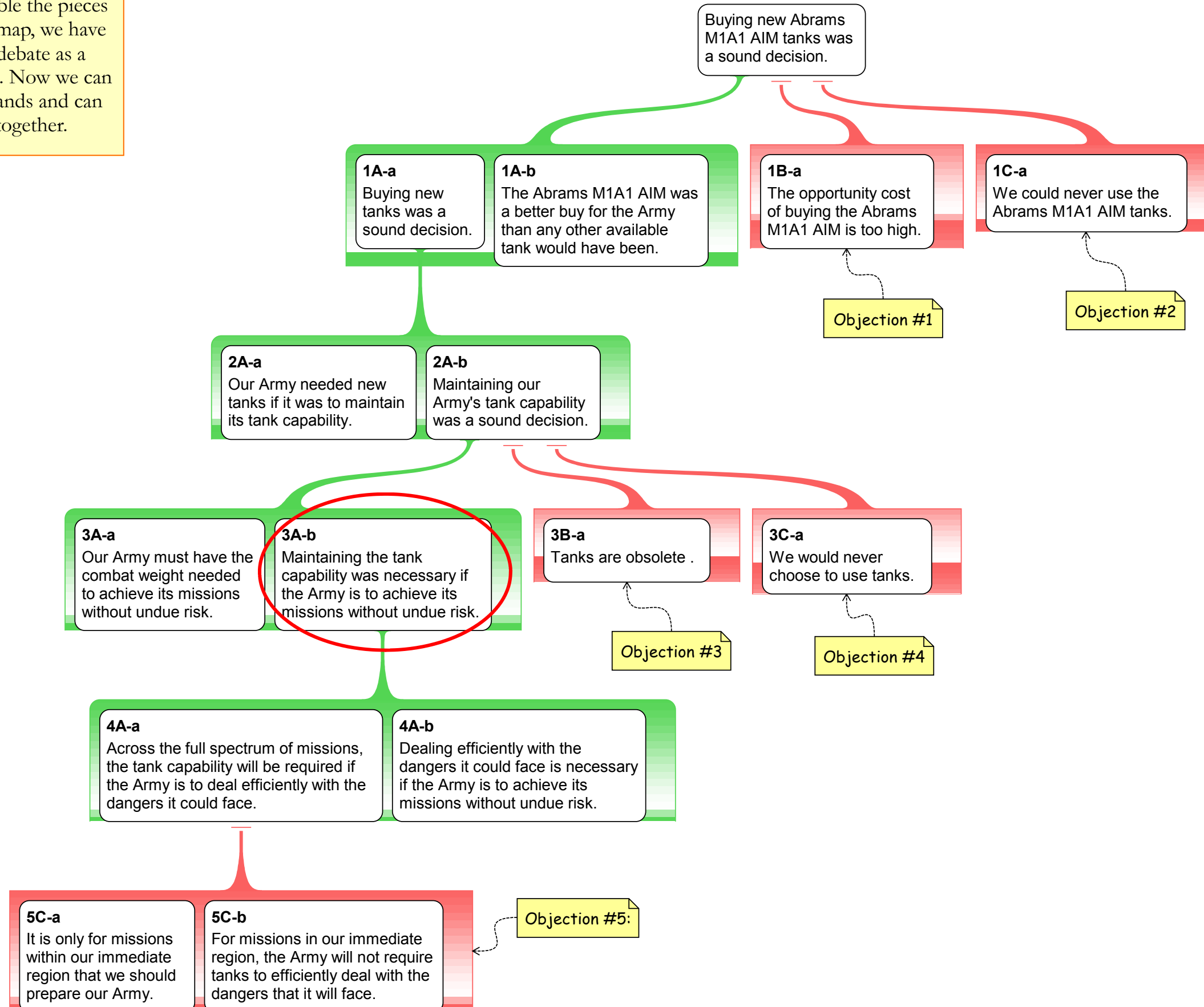
old tanks needed to be replaced if the capability was to be maintained; and **1A-b**: that the Abrams tanks were the best replacement available); the **objections** to the case at this fundamental level; and the **central line of argument** for the decision. While there may be disagreement about points of detail as we explore each of these structural features, the advantage of the map is that we have a common point of reference for where and why any such disagreement actually matters.

The peripheral claims must both be true for the case to stand up. As it happens, they are not, in themselves, seriously in dispute. The old Leopards were both worn out and obsolete. The Abrams M1A1 tanks, a fully refurbished version of the state of the art U.S. main battle tank, are as good as any tank in the world. The decisive consideration in their purchase, however, was their availability and excellent price compared with the other tanks on the market.

In this abbreviated version of the report, we concentrate on addressing the objections and then laying out the central line of argument. At a minimum, this should enable any reader to form a clear view of what the important considerations in the case actually are and to form a rational judgment about the case as a whole—a judgment that will be readily open to refinement or correction because it will be based on a clear understanding of evidence and reasoning.

Map 2: The 'Macro' - Seeing the Debate

When we assemble the pieces in an argument map, we have access to the debate as a coherent process. Now we can see how it all stands and can work on it together.



OBJECTION #1: OPPORTUNITY COST

Opportunity cost sounds like a plausible objection to spending hundreds of millions of dollars. But what is the argument, exactly?

The concept of opportunity cost is one of the most elementary working tools of economic analysis. It means that by buying one item, we forego the opportunity to buy another or others. There is, of course, *always* some kind of opportunity cost whenever we allocate resources. The question is only, when or why is it so *high* that we should rationally change our preferences? In an article written a year or two before the Abrams decision John Bruni pointed out that, in the 1970s, the proposed purchases of an aircraft carrier and the F-111s were controversial, because of the amount of money involved, but that the **tanks** were not, because they were **relatively inexpensive** and were not considered to be potentially destabilising in the region. This may provide a useful benchmark in the present context.

In the case of the Abrams tanks, the question is, *to what extent* does the commitment of around \$555 million for buying the Abrams tanks* entail an opportunity cost *which is too high* for the decision to have been right? There are two considerations here. **First**, what *could* have been bought with the \$555 million, had we not bought the new tanks? **Second**, why

would that something else have been more valuable to us, or the Army, than new tanks? The Army *did*, as it happens, forego something else in order to cover the cost of the new tanks: an upgrade to the RBS-70 air defence system. This upgrade would have cost in the vicinity of \$1 billion—about twice what the tanks are costing. The decision to choose tanks instead was based on the assumption that the Army (and its tanks) would have RAAF or USAF air cover on any mission in which there was a risk of enemy air attack on the land force.

Former Deputy Secretary for Strategy, Hugh White, has claimed that the Howard Government recklessly increased Defence spending, by committing upwards of an extra \$30bn. He implied, based on this data, that the *tank* purchase as such represents too high an opportunity cost. He was in error both in the basic claim and in the implication. The big ticket items that have been highlighted in the press involve far larger expenditures than do the tanks and foregoing the new tanks would not solve the problems these other purchases have been alleged to raise. The tanks constitute less than 2% of the extra defence spending that is alleged to have

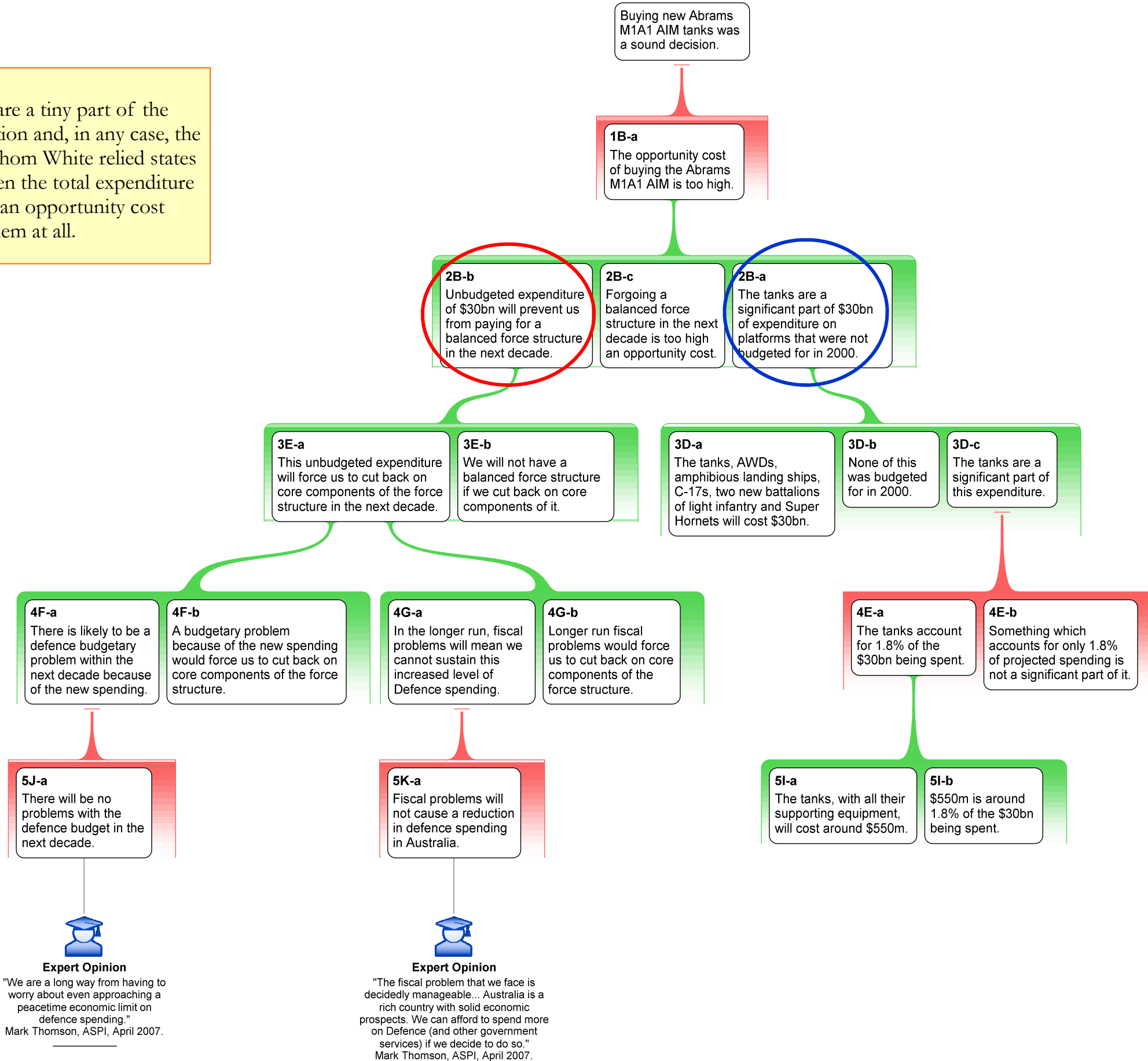
thrown the Defence Capability Plan out of balance. In addition, the best available evidence, supplied by a specialist who is a professed sceptic concerning the utility of tanks and on whom White himself professed to rely, is that the economic data simply do not support the claim that we face a looming budgetary or fiscal problem because of the increased Defence spending. This was implicitly accepted by the Labor Party, in early August 2007, when the Leader of the Opposition committed himself to maintain the Government's Defence spending should he win office at the end of the year.

The opportunity cost argument is thus flawed both in its central claim (red circle) and in the minor premise (blue circle) that there is a problem with tanks. This is an instructive study of the way in which conflating various claims and being impressed by background assumptions without articulating them can sway our judgement.

* *Acquisition of the Abrams Main Battle Tank*. Performance Audit Report No. 1, 2007-08. Australian National Audit Office, 17 July 2007, p. 11.

Map 3: The Opportunity Cost is Too High

In reality, tanks are a tiny part of the expenditure in question and, in any case, the very authority on whom White relied states forthrightly that even the total expenditure does not create an opportunity cost problem at all.



There may not be a cost problem; but can the Abrams tanks actually be used? Or are they lumbering behemoths that won't be going anywhere?

OBJECTION #2: IS THE ABRAMS TANK UNUSABLE?

As we have seen, tanks have for decades been mistakenly regarded as too heavy to move around Australia or to transport overseas or to use in jungle terrain. They *have* been used in exercises in Australia for decades, transported overseas and used with decisive effect in jungle terrain in the 1940s and 1960s.

Is there any reason why the Abrams will be more difficult to transport or less effective when used than its predecessors? The simple answer is no. There may be reasons why buying new Abrams tanks was not a sound decision, but this set of claims about them being unusable is not among them.

It is important, however, to set out the case for this, because **the idea that they are lumbering behemoths is intuitively powerful** and, as it turns out, the key evidence against it is technical and not widely understood. That evidence has to do with the relationship between **weight and ground pressure** in a vehicle and the realities are counter-intuitive.

Map 4 shows the simplest case for the Abrams tanks being useable in the terrain of the Asia Pacific: we have used tanks there in the past and the ground pressure of the Abrams compares favourably with that of those tanks. What this map does not show, but which is almost equally telling in the case, is that **the ground pressure of the lighter armoured vehicles** (ASLAVs and

Bushmasters) that we routinely deploy in the region **is three or four times as great as that of the Abrams M1A1**. That is because they are wheeled not tracked vehicles.

One of the odd features of the debate over tanks is that the objection from weight advanced against the purchase of tanks is not advanced against the purchase or deployment of heavy mining equipment, whether tracked. Deploying heavy equipment of any kind is a challenge, but manifestly it can be done. Tanks have been moved around the world and across diverse landscapes ever since they were invented. This has sometimes been difficult. The Americans were sceptical, in 1942-43, that tanks could be deployed into the South West Pacific. It was Australian logisticians who found a way to get light and medium tanks into PNG (in 1943) and then the other islands (in 1944-45). Once there, they made a major difference to our infantry operations, despite the inevitable challenges of the terrain.

We have seen that the soft terrain claim is not persuasive. The same is true for the deployment claim. Even were Australia not upgrading its logistical capabilities, the Abrams could be deployed at need by ship. As it is, the **new amphibious landing ships**, assuming they are purchased, will make deployment of the Abrams tanks straightforward. There has been some question about whether the new heavy transport planes, the **C-17 Globemasters**,

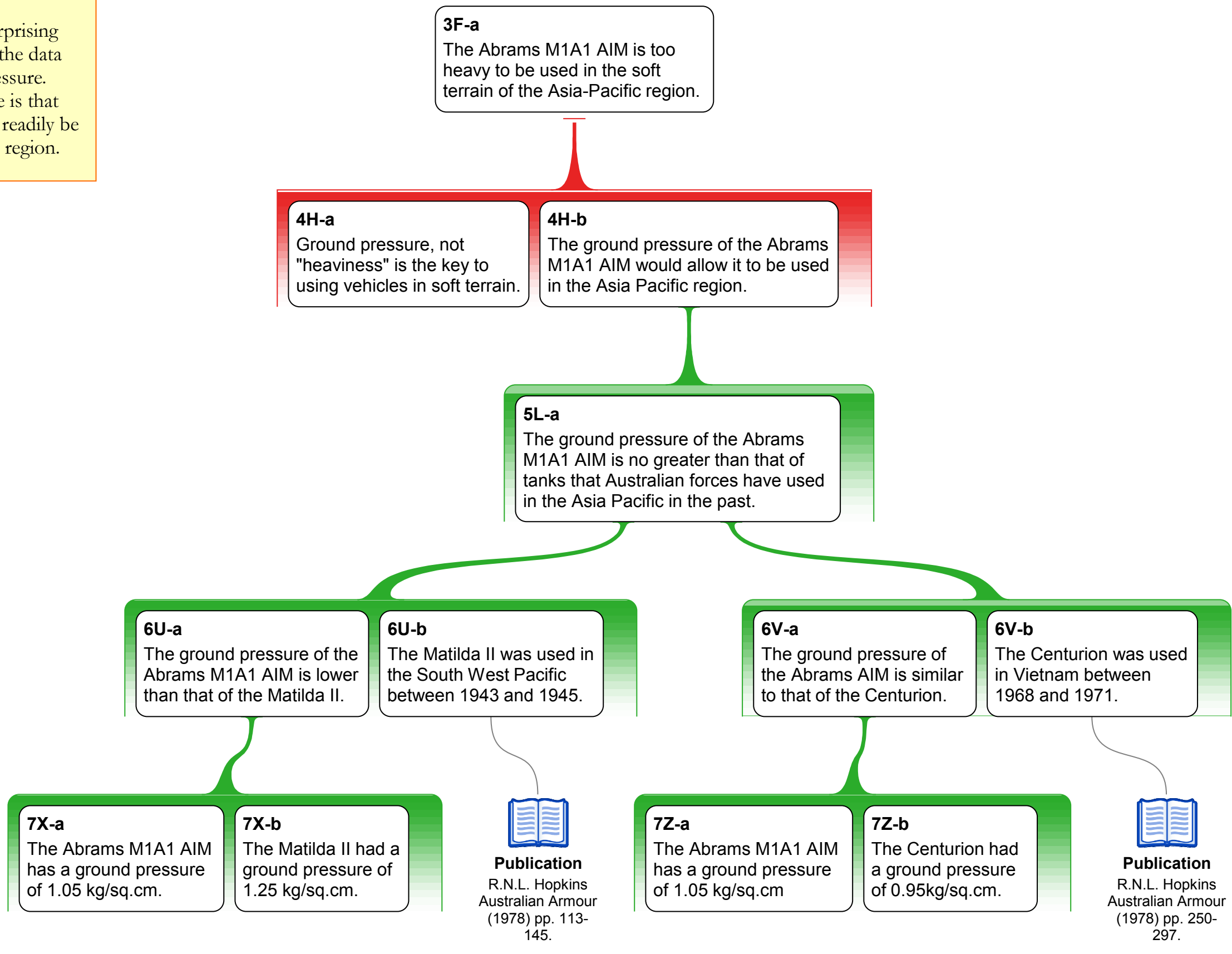
will be suitable for deploying the tanks, but they would not be the primary vehicle for doing so. In any case, a C-17 can carry an Abrams tank and, contrary to what appears to be a widespread perception, the C-17 can land on many air strips both in Australia and throughout the Asia Pacific.

As regards deployment of the tanks around Australia, it is important to note only that **there have always been difficulties in deploying tanks by road and rail, but not insuperable ones**, and they are becoming less, not more of a problem, as our own infrastructure improves. Most of the new Abrams tanks, having arrived in Melbourne, have since been moved to Darwin without a hitch.

Infrastructure around the Asia Pacific is a more complex matter. Here again, though, it is not a matter of either/or. Some infrastructure is too flimsy for tanks, but some is, equally, too flimsy for wheeled vehicles. Bridges are often mentioned as a problem, but tanks have always used their own bridging equipment and engineering support to compensate for such challenges. There is a question mark against this consideration, because bridging tanks have not been bought as part of the Abrams package, for some reason. This is a minor objection to the *consistency* of the purchase, however, rather than an objection to the purchase as such. It can, presumably, be remedied..

MAP 4: The Abrams, Soft Terrain and Ground Pressure

Here are the surprising implications of the data on ground pressure. The bottom line is that the Abrams could readily be used in the near region.



Are tanks relics of the Cold War? They may seem so, if you do not understand the realities of close combat in complex terrain, but things look quite otherwise if you do.

OBJECTION #3: ARE TANKS NOW OBSOLETE?

Weapons or weapons platforms become obsolete when they **cannot survive in the battlefield** against the latest technology arrayed against them, or when **some new technology can do better** what they were designed to do. The pressure on them can also become extreme when their unit cost becomes very high, as is the case with manned combat aircraft, although they are not yet obsolete. Indeed, the **F-22 Raptor** has been greeted, after recent trials, as likely to rule the skies for many years, even decades to come. Of course, the F-22 is so **enormously expensive** that the United States government has decided it will buy only 128 of the aircraft and will not export any of them. These considerations may well force any strategic competitor, most notably China, to try to develop unmanned vehicles that can compete with the Raptor and that can be both built and sacrificed in large numbers—since out-competing the Raptor with a new manned combat aircraft may prove impossibly difficult and prohibitively expensive.

The tank (preceded by the machine gun) made horsed cavalry obsolete as a means for breaking through enemy lines and sweeping into the enemy's rear. As we saw at the beginning of the report, this was not immediately apparent to many senior military officers or political leaders, even in Britain, after World War I. It was the defeated powers, Germany and Russia, that took most note of the new possibilities presented by mobile armoured platforms and it was those countries which, between the two World Wars, developed the new doctrine of breakthrough offensives utilising masses of tanks. The harsh lesson of what tanks could do, when well used, was driven home in World War II. Tanks were, however,

vulnerable to anti-tank fire from the outset. At the battle of Cambrai, in which tanks were first used, a great many of them were destroyed by German fire, but they achieved notable success nonetheless. **Improving tank armour** has been an ongoing challenge ever since. It accounts for much of the weight and mass of tanks up to the present.

The main thrust of objection #3, however, has been that tanks were built up for the Cold War and are **obsolete in an age of asymmetric and non-conventional conflicts**, which (allegedly) place a premium on mobility, intelligence and careful reassurance. Lighter armoured vehicles, attack helicopters and advanced infantry weapons are, on this view of the matter, seen as replacing tanks in the contemporary strategic environment. This is the most technical and complex of the objections and needs to be examined with care. Once again, the objection is intuitively plausible and not self-evidently erroneous.

There are many considerations bearing on the claim that tanks are now obsolete—even more than we saw in the case of objection #2, that the Abrams tanks will be unusable for Australia. However, they consist of **two basic claims** with supporting evidence: that tanks have become highly vulnerable and that they are no longer the best means for doing what tanks used to do. As is often the case, there is a good deal of factual **data** apparently supporting these two claims—a lot of intuitively plausible evidence—but the **inferences** from this data to the main claim are far weaker than they appear at first or even second glance. **Map 5 (p. 19)** shows the key claims that are in play (circled in red). What we see is that the

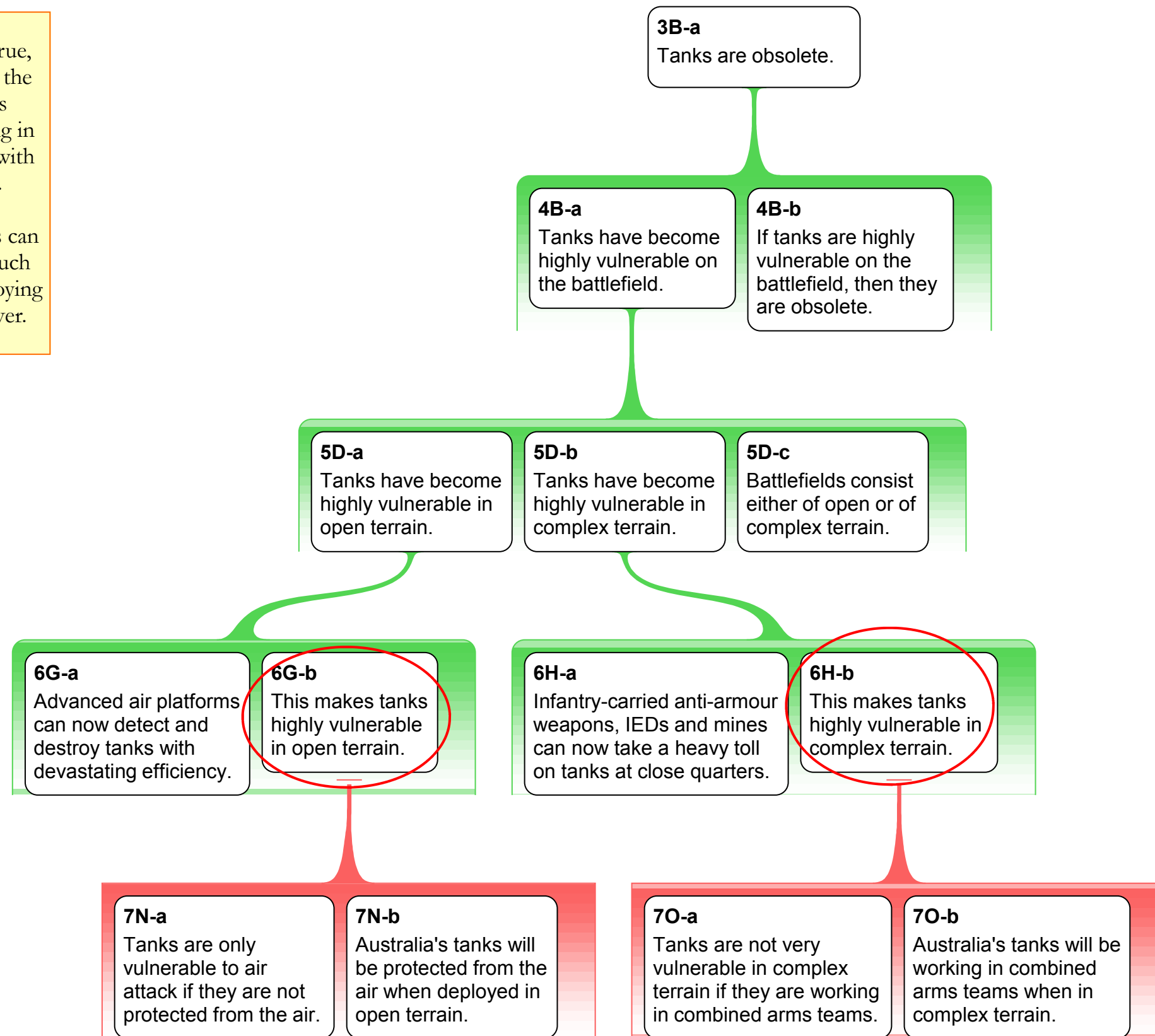
premises that are weakest are, as is often the case, assumptions which are not examined with sufficient rigour, given that basic factual data seems so suggestive. The key to using tanks is ensuring that they are adequately protected, so that they can do their job. There is **no such thing as vulnerability in the abstract**. If the Australian Army was to try using tanks against an enemy who commanded the skies, or if we were fighting in complex terrain, and did not use combined arms teams to protect our tanks, they would, indeed, be too vulnerable. But we would not choose to do these things, unless there was no other option and the mission was vital.

Military technology keeps developing and it is not difficult to see why critics of the tank imagine (**Map 6, p. 20**) that it is now outdated and is not needed for the tasks it was invented to undertake. However, the argument is flawed. What seems intuitively plausible turns out not to be so on closer examination. **Tanks** may seem to be old technology and cumbersome compared with attack helicopters, ground attack aircraft or even sophisticated infantry weapons. However, they **have a combination of strengths for which none of these alternatives, singly or in combination, can yet substitute**. They can probe deep, drawing enemy fire and, better than unprotected infantry, light armoured vehicles or helicopters, withstand such fire; they provide mobile, highly protected communications and sensors; but above all they remain unrivalled at being able to get in close and deliver highly discriminating, timely and decisive direct fire support against enemies dug in and concealed in complex terrain.

Map 5: The Vulnerability of Tanks

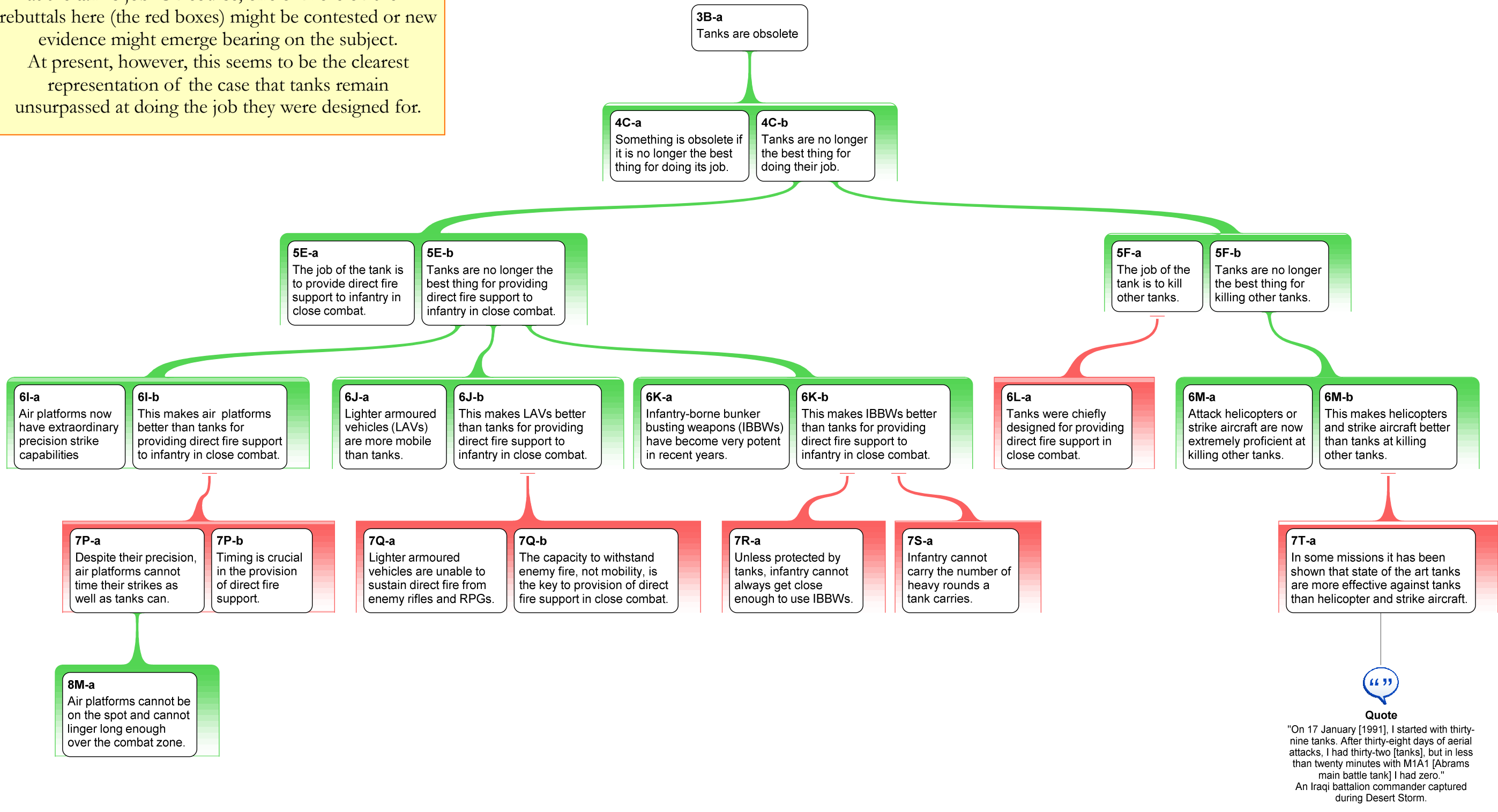
Some of the claims are true, but key ones are not and the crucial consideration is whether tanks are working in combined arms teams—with infantry and air cover.

Crucially, Australia's tanks can be expected to work in such combined arms team, enjoying both infantry and air cover.



Here is how the proponents of tanks respond to the argument that other things are now better than the tank at the tank's job. Of course, one or more of their rebuttals here (the red boxes) might be contested or new evidence might emerge bearing on the subject. At present, however, this seems to be the clearest representation of the case that tanks remain unsurpassed at doing the job they were designed for.

Map 6: Other Things are Now Better than Tanks



It is sometimes suggested that we would not want to offend our neighbours by using tanks. Let's think that through.

OBJECTION #4: WOULD WE EVER USE TANKS?

The idea that we would never use tanks, even if they had military utility (and we have just seen that, in general, they do), is grounded, as **Map 7** shows (p. 22), on two claims working together: that our immediate region is the area in which the Australian Army is most likely to be involved in operations and that we would not use tanks in this region (South East Asia and the South West Pacific). The first of these claims is dubious, because almost all Australia's military missions, throughout its history, have been outside our immediate region. World War II and the Vietnam War bulk large in popular memory, but the first was hardly confined to our immediate region and both involved the use of tanks; so they do not serve the purposes of those who advance this contention.

It is the co-premise in this claim, however, that is most open to question. It is, itself, based on two claims working together as a single reason. Why would we think that tanks send an unacceptable political message? The intuitive plausibility here, surely, lies in the perception that tanks are simply instruments of aggression and we would not want our neighbours to think that we are aggressive, or would use such fearsome weapons against them. It is far from clear, however, that this perception is well grounded. The available evidence suggests that, throughout our region,

neither the media nor the public are able to discriminate between different kinds of armoured vehicle with any reliability; and there is no evidence that they regard the use of lighter armoured vehicles as sending the wrong message. In any case, we do use such vehicles, as in East Timor.

It seems rather odd, also, to claim that tanks send an unacceptable political message, yet purchase the most advanced air and naval platforms with the long established and explicit intention of maintaining a military technological edge precisely over our neighbours. What message does that send? John Bruni remarked, in 2002, that the **Leopards**, unlike the F-111s, were *not seen*, in the 1970s, as likely to be '**regionally destabilising**'. Why should we now see Abrams as problematic and not Joint Strike Fighters, or the F-22 Raptors, which the Labor Party has declared it would prefer to the JSFs? In short, it is difficult to see that this claim about tanks carries any weight, even as rhetoric, once it is given a moment's thought.

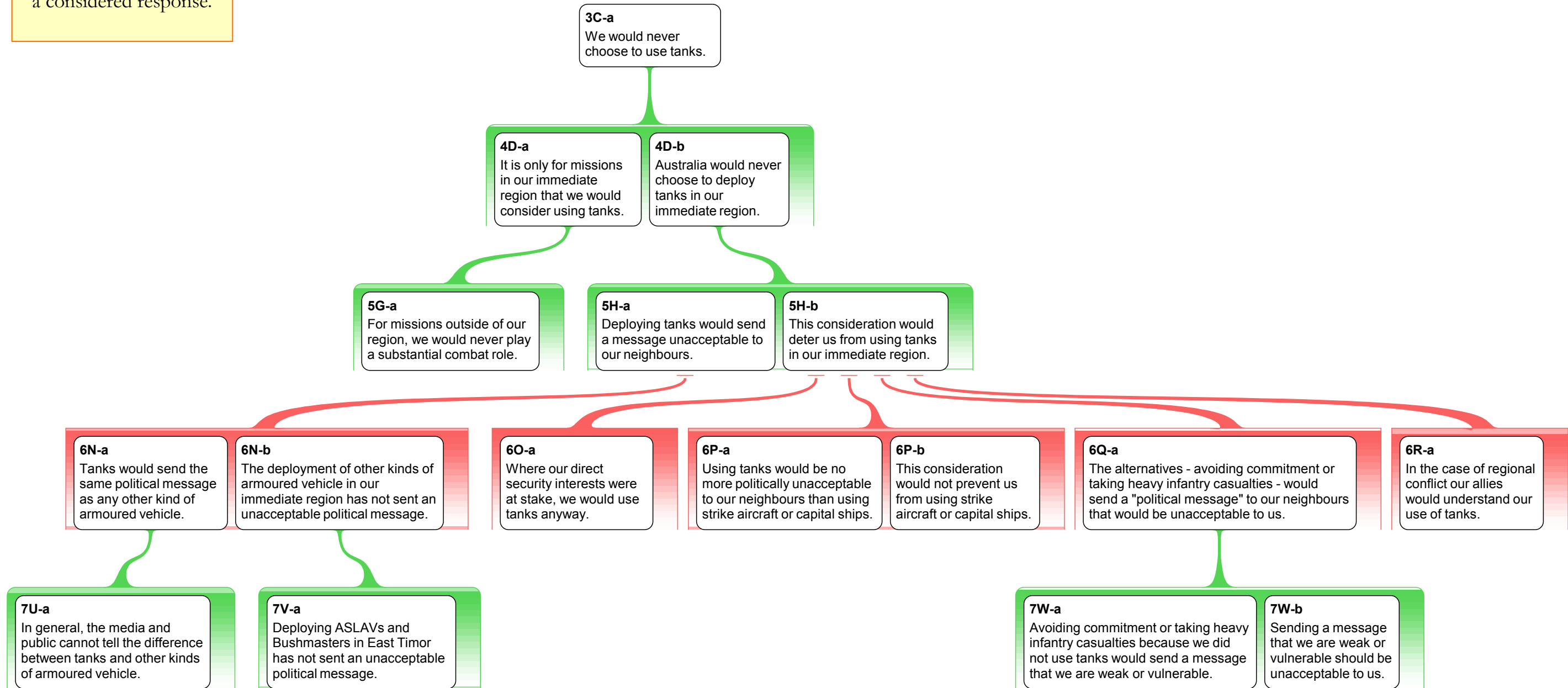
But that said, under what circumstances would we actually *use* the tanks in our region, even if they did offend our neighbours? We have deployed tanks in our immediate region in the past. We used them in Papua New Guinea and

elsewhere in the island littoral during World War II and we used them in Vietnam, in the last phase of our long involvement in the counter-insurgency war there. Clearly, therefore, we can *imagine* circumstances in which we might use tanks in the region. Without drawing up specific scenarios, it is not difficult to see that we might well choose to use the tank option (provided we had it) by *agreement with allies* in the region, or in the unfortunate event of *conflict* on the ground with some party in the region.

It is also worth considering that, as a general principle, being *unable* to exercise this option could face us—where hostile forces cross the blurred line between a benign situation and open conflict—with the invidious choice of either not engaging in land combat or running a distinct risk of taking serious casualties and even being defeated. This is the **Black Hawk down scenario**, which, given its nature and scale, and the current situation in East Timor, is perfectly realistic one for Australian forces within our region and within the immediate future. *This*, surely, would send a message to our neighbours that we are weak or vulnerable; which is more likely to prejudice our interests in the region than a perception that we have tanks and, with them, the option of conducting close combat at need—albeit on a small scale.

Map 7: Australia Would Never Deploy Tanks in its Own Region

Here is the basic argument and, beneath it, a considered response.



OBJECTION #5: THE ‘6:24 PROBLEM’

The fifth objection is grounded in a particular, quite common and intuitively plausible interpretation of a key passage in the 2000 White Paper. There are two components to the objection. Both must be true if the objection is to be sustained. It is not clear that either is true, but there is genuine uncertainty on both counts and scope for further careful thought.

We have seen that the case for tanks, far from being at odds with the 2000 White Paper, is anchored to its key premises. There remains, however, a final hurdle for the case and it is the phrasing used in the White Paper, Chapter 6, Para 24 (6:24):

*“Our land forces would be ideally suited to provide contributions to lower intensity operations including peace-enforcement, peacekeeping and many types of humanitarian operations. Such operations are much more likely than high intensity operations and would emphasize mobility and the levels of protection and firepower **appropriate for our own environment**, rather than the kinds of heavy armoured capabilities needed for high intensity continental warfare.”*

The words in bold print here are seen as a sticking point by critics, who maintain that **we do not need tanks in our immediate region**. We have seen that the common objections that we could not use tanks in the region, or that we could not or would not deploy them are unsound. But it might still be objected that the necessity would not arise, because in the region around us we would not face the kinds of

hostile force or robust defensive structures that would call for tanks rather than light infantry and light armour. This consideration impinges directly on the grounds underpinning the pivotal claim in the case and that is why it has been so prominent in public and policy debates on the subject.

As can be seen in **Map 8**, however, there are reasons to believe that close combat and with it the possible requirement for tanks, *is* conceivable within our immediate region. **Army planning, based on the concept of MOLE** (Manoeuvre Operations in the Littoral Environment) calls for tanks to be available in future contingencies. We almost needed tanks in East Timor, in 1999, under relatively benign circumstances and it is, therefore, perfectly conceivable that we may need them under comparable circumstances in future. Indeed, the very conditions which are making asymmetric war and rising **operational uncertainty** more rife around the world have been **emerging in our own region** in recent years, most notably across South East Asia, so that we cannot be confident we will not have to deal

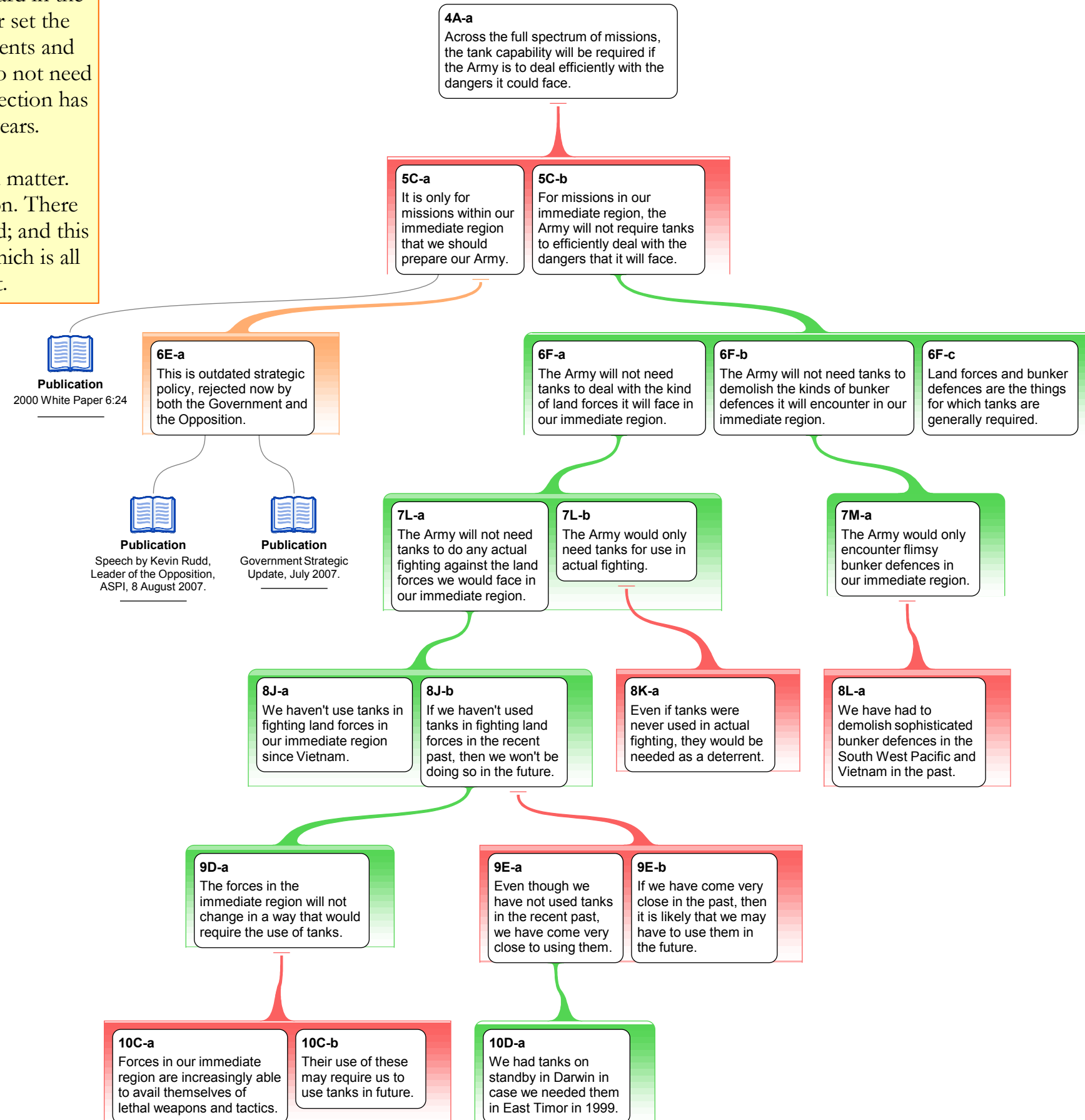
with them in the next decade.

Critics of the decision to maintain the tank capability have often given the impression that they believe the 6:24 problem is a decisive objection to the decision and that it shows the Army has a fixation on anachronistic weapons suited only to large wars outside our immediate region, which we are not expected to have to fight using land forces. If they are to uphold this claim, however, they have to demonstrate that Army planning did not consider **plausible contingencies** in our immediate region and that tanks will not be required in such contingencies in the foreseeable future. They cannot show this, because Army planning for MOLE and the clear precedent of tanks being used in our immediate region make maintaining the capability reasonable, even if it is only a hedge against the possibility of close combat in future operations. Moreover, our **strategic policy** allows that that possibility cannot now be excluded across the spectrum of missions on which the Army will be sent, whether in our immediate region or in the further reaches of the world.

Map 8: The '6:24 problem'

Objection #5 is widely seen as the trump card in the hands of the critics: the 2000 White Paper set the boundaries around our strategic commitments and interests and, within those boundaries, we do not need tanks. However, the key premise of this objection has become weaker and weaker in recent years.

The minor premise is a more complicated matter. Plainly, we may not need tanks in our region. There are, however, some indications that we could; and this justifies maintaining a modest capability, which is all that the 59 Abrams tanks represent.




Map 9: The '6:24 Problem' Evaluated

The fifth objection is interesting because so many of the considerations that bear upon its minor premise are of uncertain weight—hence the pale colour of the claims in *evaluated* form, as shown here and the question marks against so many claims.

This is why the debate remains contentious: it is not *obvious* when, where or why we would need tanks in our immediate region. As long as there was not bipartisan consensus on Australia needing an expeditionary capability, this fragility in the minor premise kept open the possibility that the 6:24 problem could fatally undermine the case for tanks.


Publication
2000 White Paper 6:24

6E-a
This is outdated strategic policy, rejected now by both the Government and the Opposition.


Publication
Speech by Kevin Rudd, Leader of the Opposition, ASPI, 8 August 2007.


Publication
Government Strategic Update, July 2007.

4A-a
Across the full spectrum of missions, the tank capability will be required if the Army is to deal efficiently with the dangers it could face.

5C-a
It is only for missions within our immediate region that we should prepare our Army.

5C-b
For missions in our immediate region, the Army will not require tanks to efficiently deal with the dangers that it will face.

6F-a
The Army will not need tanks to deal with the kind of land forces it will face in our immediate region.

6F-b
The Army will not need tanks to demolish the kinds of bunker defences it will encounter in our immediate region.

6F-c
Land forces and bunker defences are the things for which tanks are generally required.

7L-a
The Army will not need tanks to do any actual fighting against the land forces we would face in our immediate region.

7L-b
The Army would only need tanks for use in actual fighting.

7M-a
The Army would only encounter flimsy bunker defences in our immediate region.

8J-a
We haven't use tanks in fighting land forces in our immediate region since Vietnam.

8J-b
If we haven't used tanks in fighting land forces in the recent past, then we won't be doing so in the future.

8K-a
Even if tanks were never used in actual fighting, they would be needed as a deterrent.

8L-a
We have had to demolish sophisticated bunker defences in the South West Pacific and Vietnam in the past.

9D-a
The forces in the immediate region will not change in a way that would require the use of tanks.

9E-a
Even though we have not used tanks in the recent past, we have come very close to using them.

9E-b
If we have come very close in the past, then it is likely that we may have to use them in the future.

10C-a
Forces in our immediate region are increasingly able to avail themselves of lethal weapons and tactics.

10C-b
Their use of these may require us to use tanks in future.

10D-a
We had tanks on standby in Darwin in case we needed them in East Timor in 1999.

There is much less to the four basic objections than meets the eye. This is interesting and tells us a good deal about how intuitive, political and popular judgments are very often made.

NET WEIGHT OF THE OBJECTIONS

Opportunity cost is, on the face of it, the most plausible objection to the acquisition of any weapons platform. It is the most sensible-sounding objection to buying new tanks. But as we have seen, the evidence simply does not support this objection. The Army bought a highly economical package deal and postponed an upgrade to its air defence system as a trade-off, to get the tanks sooner. The claim that the tanks are part of a general budget blow out is unsound, both in its major premise and in its inference: there is no budgetary or fiscal problem looming and the tanks are, in any case, a tiny percentage of the sums that are in question.

The claim that the tanks **could not be used** in Australia or in the region, because they could not be deployed by air or sea and would be too heavy to be mobile in the terrain of the region, appears to be widely believed, but is not supported by either historical evidence or physical reality. Tanks are, of course, big, heavy machines, but they can be moved and can be used in the jungle terrain of the region, should they be required. The key consideration, as regards mobility in such terrain, is ground

pressure, not weight, and the Abrams has a **lower ground pressure** than the medium tanks we used in the South West Pacific in World War II, and a ground pressure only a quarter that of the wheeled, light armoured vehicles that critics seem to believe should be used in place of tanks on mobility grounds—and which we currently use in the region.

Similarly, the claim that tanks are an increasingly **obsolete** component of 21st century armies is based on a number of misperceptions about the role of tanks in close combat, the relative capabilities of other platforms or weapons and the vulnerability of tanks when used in combined arms units. The fundamental error here is the idea that tanks are only needed for large-scale warfare and that there is no need for them in stabilisation or counter-insurgency operations. There is a clear need for them whenever infantry will be required to engage in close combat with enemies concealed in complex terrain.

The fourth objection, that we **would never use** the tanks anyway, because doing so would send a political message that would be unacceptable

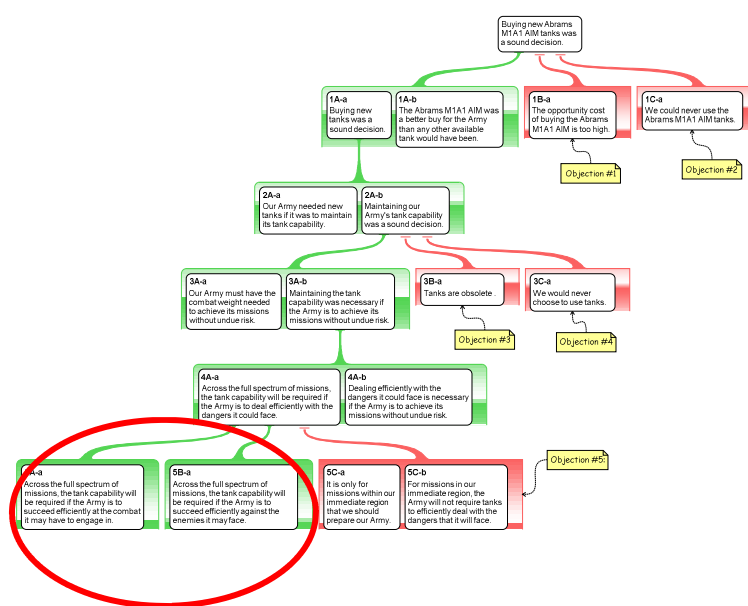
to our neighbours is belied both by historical evidence, that we have used tanks at need, and by strategic logic, which suggests that we would do so again, should the need be serious. Indeed, we may do so at the request of our neighbours under foreseeable circumstances.

The fifth objection, commonly treated as decisive, that **we should only structure our land force for our immediate region and that tanks are not required there**, is undermined by the bipartisan commitment now to an expeditionary capability and by the clear evidence that such a capability within our immediate region (MOLE) calls for having a tank capability, though it is uncertain when or where tanks would actually be used in MOLE.

In sum, the mass of objections turns out to have far less weight than the conventional wisdom suggests. It remains only to determine whether there is a flaw in the central line of reasoning advanced by the Army for maintaining the tank capability. It is to that, final component of the debate that we now turn.

To lay out the central line of argument, it will help to get our bearings again— with reference to the macro, the language of the 2000 White Paper and the tasks the Army is expected to undertake in the foreseeable future.

The claims which now need to be examined are 5A-a and 5B-a in the macro (circled below). In Maps 17 and 18, we shall look at each in turn.



LAYING OUT THE CENTRAL LINE OF ARGUMENT

We have seen that the peripheral claims are justified (that is, the premises are true and the inferences from them to the claims are valid) and that the four basic objections to the case, as they are widely propagated, are based on misconceptions. This does not yet mean, however, that the *case* for buying new tanks is sound. To test that case, we need to cross-examine the central line of argument, shown in **Maps 17 and 18 (pp. 84-85)**, on which the case rests. This is that tanks are a necessary part of the combat weight required by the Army to ensure that it will be able to achieve its missions without undue risk.

As we have seen, the 2000 White Paper spelled out a strategic judgment (1:11), that the Australian Defence Force faced **“a complex and diverse range of tasks” that will be of an increasingly non-conventional nature** (2:6), which could often require deployment of Australian forces into any number of **“dangerous and uncertain”** foreign

environments, in which **“the boundary between a benign situation and open conflict, either against local irregulars or more capable armed forces, can become blurred.”** (2:10).

The Army’s doctrine increasingly reflects these stipulations. In order to be capable of undertaking this diverse range of tasks, it has sought to develop enhanced logistical integration with the other armed services and the creation of a capacity for what it calls “joint land combat” - the ability to move swiftly and seamlessly between humanitarian, peace-keeping or enforcement, counter-insurgency and conventional warfighting modes of operation in close coordination with the other armed services and with other agencies, on a whole of government basis.

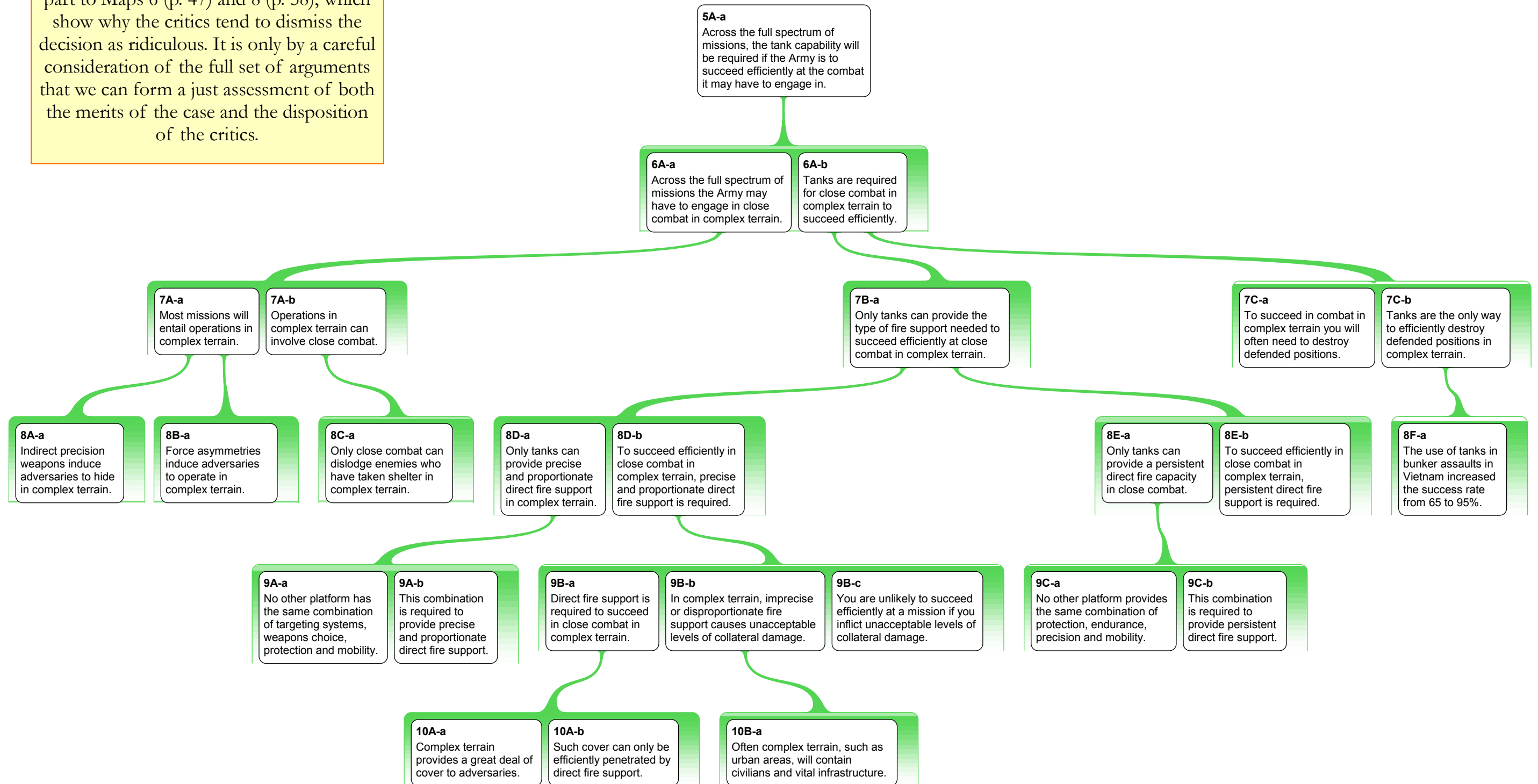
In particular, the concept of close combat in complex terrain needs to be clearly understood, before the claim that tanks are vital to a capacity

to conduct the full spectrum of missions can be rationally assessed. The need for a capability to prevail in such combat is spelled out in recent Army documents, such as *Complex War-fighting* and in *Adaptive Campaigning*. These documents, while acknowledging the need for the land force to be able to work seamlessly with the other armed services and with other agencies of Government, point out that a capability to prevail in close combat is the land force’s unique and irreplaceable contribution to joint operations.

Close combat is only one of the possible challenges of joint land combat and the use of tanks only one, variable aspect of close combat. But meeting the challenge of close combat can be critical to mission success, when and if a situation erupts into open conflict; and tanks are crucial to meeting the challenge of close combat without undue risk. That, in the final analysis, is the central argument as to why the tank capability needed to be maintained.

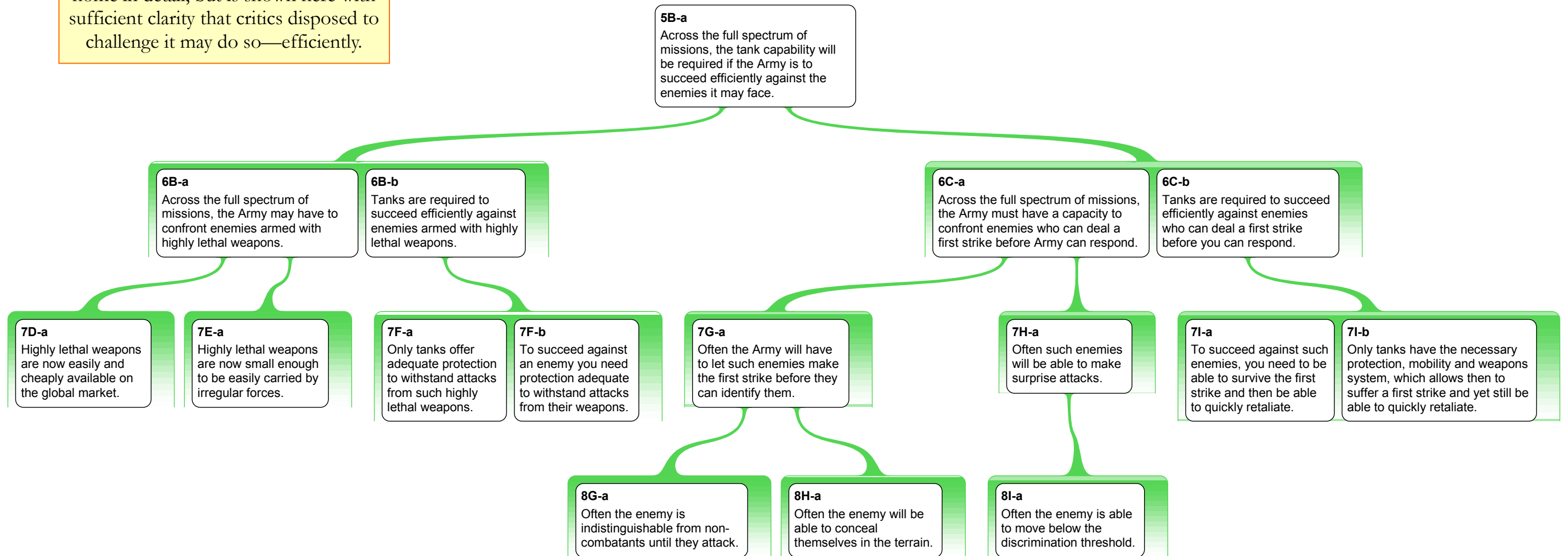
Here we see, in a simple and accessible form, the reasoning behind Army's case for maintaining a minimal tank capability. This set of reasons shows why proponents of the capability regard critics of the decision as ignorant or anti-Army. It is the counterpart to Maps 6 (p. 47) and 8 (p. 58), which show why the critics tend to dismiss the decision as ridiculous. It is only by a careful consideration of the full set of arguments that we can form a just assessment of both the merits of the case and the disposition of the critics.

Map 10: The Central Line of Argument (A)



Here we see the basic reasoning behind the need for tanks to succeed “efficiently”, i.e. without undue risk, in close combat, against the kinds of enemies the Army or a joint force may now encounter across the full spectrum of missions. The case is not sheeted home in detail, but is shown here with sufficient clarity that critics disposed to challenge it may do so—efficiently.

Map 11: The Central Line of Argument (B)



CONCLUDING OBSERVATIONS

We have stepped through a complex and contentious debate. We have seen that the **complexity itself is what has generated much of the contention**. We have seen that by structuring the debate in a hierarchical manner, we can discern what is actually going on within the complex and shifting mass of contending considerations. Having done that, we have been able literally to see nine things:

- What the core claims in the case are,
- Where they sit in relation to one another
- What the basic objections are
- Where they impinge on the case
- What their weaknesses are
- How claims and objections balance up
- Which claims are most important;
- Where the greatest sensitivities are

All this enables us to understand the debate better, to see why it has been so difficult to generate rational consensus on the case and to pinpoint exactly where new evidence or a reconsideration of this judgment or that might alter the balance of the case and, just possibly, compel a different overall judgment.

Those who were or are strongly opposed to the decision to buy the Abrams tanks ought very easily be able, on the basis of this report, to do either of two things—change their minds, because they now see the case differently; or **specify exactly where** they believe the report misses key evidence that would make such a significant difference to the case that it would lead to a revision of

the judgment that the case for tanks is sound.

It should now be clear where such key evidence would impinge on the case. It would almost certainly consist of evidence that the specific opportunity cost of the tanks decision was far higher than it seems; or that the difficulties in actually deploying the Abrams tanks will be insuperable; that new weapons platforms really have made, or very soon will make tanks obsolete in the battlefields of the coming decade or two; or that there are, indeed, compelling reasons to believe that no Australian government would ever use Abrams tanks in the region around us and that the call for them further afield would be marginal at best. But these have been the standard, basic objections to the case and it is difficult to see new evidence arising in the immediate future that would alter the key judgments made in this report.

The single greatest area of sensitivity is what, in this report, has been dubbed “the 6:24 problem”. While critics too often appear to overlook both the specific claims made by the Chief of Army regarding the reasons for maintaining the tank capability and the history of Australian use of tanks in the island littoral and Vietnam since 1943, there is still a need for the role of tanks in future MOLE missions to be more clearly spelled out. Unless it becomes politically and publicly understood that tanks have a key role to play in realistically conceivable MOLE missions over the next two decades, critics will continue to snipe at the decision

to buy Abrams tanks. This would have been all the more so had the 2000 White Paper remained the genuine basis of strategic policy. It now seems certain that a bipartisan agreement has been reached to replace that document with a revised strategic policy. That revised policy includes the development of a significant expeditionary capability. In such a policy context, the case for tanks is certainly stronger than it was before.

Three kinds of judgment enter into the picture in the policy debate. The first has to do with war fighting doctrine; the second with estimates of probability and contingency planning; the third with strategic policy itself. The **first** judgment has to do with whether mobile, highly protected direct fire support platforms (which everyone has called “tanks” since 1916) are needed in expeditionary operations, including MOLE. The **second** has to do with how likely it is that operations requiring the actual use of tanks will occur in the next decade or two. The **third** judgment has to do with the inclination of Australian governments to undertake such operations, when all their implications are weighed up. For some time now, it has been clear that Coalition governments are, by disposition, more inclined than Labor governments to contemplate such operations and some of the most influential voices in the strategic policy and force structure debate of the past generation have been and remain deeply sceptical about the use of the Australian Army overseas in any role other than a “constabulary” one.

The experiences of the East Timor operation, since 1999, and the more recent RAMSI mission in the Solomons have done something to reconcile the sceptics to the need for a better equipped and more deployable Army. They appear to have done little, if anything, however, to reconcile them to the idea that the Army needs tanks for such missions. This is the 6:24 problem as it impacts on practical reality. The fact that the aging Leopard tanks were held on a leash in 1999, in Darwin, in case things got out of hand in East Timor, is a strong indicator of **how finely balanced the matter is** in this regard.

What it comes down to is the question: Do we want an Army which, in the unpleasant event that close combat becomes necessary on a mission of any kind, has the capacity to achieve that mission without undue risk—that is, to prevail in such close combat reliably, without incurring heavy casualties and while remaining proportionate and discriminating in its use of firepower? If we do, then military doctrine suggests we are well-advised to have a few tanks. **If, conversely,** we were to make the judgment either that such a contingency is so remote as to render the risk negligible; or that, in such a contingency, we would be prepared to take casualties and run the risk of failure; or, finally, that when confronted with determined enemies on land ready to fight, we should simply shoulder arms and

withdraw from the scene, **then we might conclude** that tanks are not required by the Army.

However, few responsible policy makers think like this with regard to major categories of risk. If we took a strictly comparable approach to our air and naval power, we would not have or insist on maintaining a first rate air combat capability or world class conventional submarines. If we took a strictly comparable approach to our personal affairs, few of us would take out life, car accident or income insurance. We do so, however, because it is prudent to do so; just in case. If one does have such insurance, it may never be necessary to call on it. Indeed, we hope that it will not. If, on the other hand, one does not have it and a crisis occurs, the consequences can be very serious indeed.

The Australian Army is very small and its tank capability, even with the powerful Abrams M1A1 tanks in its inventory, will still be very modest. The role of those tanks has been spelled out very plainly by the Chief of Army. It is to work in close co-ordination with small combined arms teams, in an infantry support role, to carry out joint land combat. It is *not* intended as some kind of **overweening capability for sweeping, continental-scale heavy armoured warfare.** This has never been the way in which Australian forces have used tanks,

although they have benefited from tanks being used in this manner by more powerful allies on the Western front in World War I; in the North African and Western European fronts during World War II; and in the Korean War. The Australian tank is now and has traditionally been a vital support to infantry when the going gets tough. Whether in MOLE operations or in complex war fighting outside our immediate region, that is its anticipated role throughout the service lives of the newly purchased Abrams M1A1 tanks.

It is the nature of decisions such as that to buy the new tanks that they do not lend themselves to straight-forward proof once and for all, in black and white terms. There is, in all complex practical judgments of this kind, **an irreducible margin of uncertainty.** What this report has done, therefore, is not to prove beyond any cavil that tanks are and will be vital to whatever missions the Australian Army is sent on for the next 20 years; but rather to enhance a common understanding of what the considerations are that bear upon this question and how they can be seen in a clearer perspective than is generally the case. **The report will have served its purpose just to the extent that it eases the bewilderment and frustration of those engaged on either side of the debate** and facilitates a deeper grasp of where they can most fruitfully focus their energies in resolving their differences of opinion.