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KOSOVO, OR THE FUTURE OF WAR

By

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INTRODUCTION

Since 1946 about 200 armed conflicts of varying intensity have been fought around the world, ranging from the appalling slaughter of the Iran/Iraq War between 1980 and 1988 (a struggle which received little attention in the West but which approximated the carnage of trench warfare in World War I) to the terror campaign currently being conducted by anti-independence forces in East Timor. The international community's willingness to try to resolve political disputes by resort to violence is not diminishing, with some thirty-seven wars having been fought in the current decade.¹

The point of mentioning those statistics is to restate the ineluctable connection between the management of international affairs and the application of military force. It is instructive to note that, prior to attaining high public office, NATO's political leaders in the recent war against the Former Republic of Yugoslavia, President Bill Clinton and Prime Minister Tony Blair, had both actively opposed the concept of using armed force as the means to a political end, being a draft dodger and campaigner for nuclear disarmament respectively. That is not said to denigrate their leadership in Kosovo - on the contrary, Blair in particular was admirable – but simply to spell out the manifest relationship between international affairs and military force. Responsibility and reality are unyielding taskmasters.

This paper examines a number of military and political aspects of Operation Allied Force, the air campaign conducted by NATO against the FRY between 24 March and 10 June 1999. The objective is to try to identify a number of key issues, as they might relate to future conflicts, which decision-making and decision-influencing elites need to understand. It might be inferred from that objective that many from within those groups do not understand modern warfare, despite its central place in international affairs.

Observations are grouped under five main headings:

- a. the mindset of Western elites,
- b. the revolution in military affairs,
- c. key issues from Kosovo,
- d. the dilemma of American air power, and
- e. concepts of operations.

¹ Armed conflicts (excluding humanitarian operations and natural disasters) have occurred in the 1990s in the following areas: Afghanistan, Algeria, Angola, Azerbaijan, the Balkans, Burundi, Cambodia, Chad, Chechnya, Colombia, Congo, East Timor, El Salvador, Eritrea, Georgia, Ghana, Guatemala, Haiti, Iraq, Kashmir, Liberia, Mexico, Moldova, Nigeria, Peru, Rwanda, Sierra Leone, Sindh, Somalia, South Africa, Sudan, Tajikistan, Tamil, Turkey, Uganda, Yemen, and Zaire. From Lieutenant Colonel D. Snodgrass (USAF), unpublished lecture, Australian Defence Force Headquarters, Canberra, 1 April 1998.

THE MINDSET OF WESTERN ELITES

In 1925 the great British strategist Basil Liddell Hart published a small book titled *Paris or the Future of War*, in which he speculated on the consequences of the then-largely untested practice of aerial bombing.² Like a number of his contemporaries, Liddell Hart overstated his conclusions, predicting a future in which armies and civilian populations would be terrorised by fleets of marauding aircraft, against which defence would be futile.

It was those kinds of precipitate judgments which in turn contributed to ill-conceived assessments, even prejudice, when the so-called 'strategic' bombing campaign against Germany in World War II did not bring about the collapse of the axis powers by itself. Some of the myths associated with those assessments persist today.

Thus, within a week of the start of Operation Allied Force, a number of otherwise thoughtful institutions had contacted the Air Power Studies Centre requesting presentations on the campaign, with the suggested working titles invariably being along the lines of 'The Limits of Air Power'. Now, as a former airman and as someone who is currently employed by the Royal Australian Air Force, I bring a particular background to this discussion. Nevertheless, at a time when NATO was waging war against Yugoslavia only with air power, and the campaign had just started, the title did strike me as curious. Of course air power has limits, but so does every other mechanism used by states to try to achieve their aims.

Not that those institutions were alone. In the early days of Allied Force, media comment generally could be characterised as a chorus of misinformation regarding the alleged limits of air power, with the choir being led by such international luminaries as John Keegan, Gwynne Dyer, Lawrence Freedman and Martin van Creveld, soon to be joined locally by the voices of, among others, Greg Wilesmith from ABC Television, and Paul Kelly, Greg Sheridan and Michael O'Connor, all from *The Australian* newspaper.³

We are entitled to expect better, I would suggest, from professional commentators on international affairs, whose opinions influence non-professionals. I can only admit to a feeling of frustration when calls from those kinds of sources for a ground invasion of Kosovo only days after the war started were promptly echoed by prominent citizens, with no demonstrated competence in strategic studies whatsoever, but whose pronouncements are listened to, such as former prime minister Malcolm Fraser and, more curiously, Federal Court judge Marcus Einfeld.⁴ Like all of us, those people are

² Liddell Hart, B.H., *Paris or the Future of War*, Garland Publishing, New York, 1972.

³ Keegan, John, 'Air the Air Strikes Working?' and 'Mistakes of the Blitz are being repeated', in *The Daily Telegraph*, 31 March 1999, 11 May 1999; Dyer, Gwynne, 'Future of just wars is not up in the air', in *The Canberra Times*, 1 July 1999, p 11; Freedman, Lawrence, 'Air power has yet to win a war', in *The Times*, 5 June 1999, p 17; van Creveld, Martin, 'The Impotence of Air Power', in the *Bangkok Post*, 25 April 1999; O'Connor, Michael, 'Political airheads are way off target', in *The Australian*, 13 May 1999, p 13. See also Novak, Robert D., 'Pyrrhic Peace', in the *Washington Post*, June 7, 1999, p 19; Prados, John, 'The Mess Made by Bombing Belgrade', in the *Washington Post*, April 4, 1999, p B01.

⁴ See Henderson, Gerard, 'The False Prophets of Warfare', in *The Sydney Morning Herald*, 8 June 1999, p 19. Henderson's piece is an excellent summary of the failure of many well-known commentators to understand the profound changes recent technologies have brought to warfare.

entitled to their opinions; but again like all of us, if they choose to make those opinions public, it would be nice if they knew what they were talking about. John Keegan at least was sufficiently gracious to acknowledge a week before Milosevic capitulated that perhaps, 'rather as a Creationist Christian ... being shown his first dinosaur bone', he might have been wrong for the past forty years.⁵

There are two military strategic issues involved here which many contemporary commentators apparently either have not studied adequately, or do not wish to understand. The first arises from the history of the Second World War, the second from recent developments in the conduct of war which have been characterised as a 'revolution in military affairs'.

First, the history. Much of the difficulty some commentators seem to have with air power as a tool of the state stems from the combined bomber offensive conducted by the allies against Germany in World War II, a campaign which still stirs controversy more than half a century after it ended. Central to the negative legacy of that offensive has been the extraordinary conclusion drawn by the American economist, academic, diplomat, social reformer and public figure, John Kenneth Galbraith, that the bombing somehow accelerated German war production. A director of the United States Strategic Bombing Survey at the end of World War II, Galbraith claimed, for example, that the horrific, sustained raids against Hamburg from 24 July to 3 August 1943 'increased Germany's output of war material and thus her military effectiveness'.⁶ Galbraith also asserted that, in general, the campaign stiffened rather than undermined German morale. Notwithstanding compelling evidence to the contrary, it has been Galbraith's findings which many historians and commentators have chosen to believe, presumably preferring the comfort of personal prejudice to the trials of academic rigour.

Given the emotion often attached to aerial bombardment, it is essential to appraise the bombing of Germany objectively, to assess only its military effect (as opposed to its moral dimension) on the German war economy and people. Three highly authoritative but distinctly different sources lead to a common conclusion. First, the Germans themselves. According to the Nazis' minister of war production, Albert Speer, following the Hamburg raids he 'reported for the first time to the Fuehrer that if these serial attacks continued, a rapid end of the war might be the consequence'.⁷ Second, the United States Strategic Bombing Survey - the organisation of which Galbraith was a senior member - concluded in September 1945 that allied bombing had been

⁵ Keegan, John, 'Modern Weapons Hit War Wisdom', in *The Sydney Morning Herald*, June 5, 1999, p 17; see also his 'Please Mr Blair, never take such a risk again', in *The Electronic Telegraph*, Issue 1472, 6 June, 1999 (<http://www.telegraph.co.uk>)

⁶ Galbraith, John Kenneth, *The Affluent Society*, Hamish Hamilton, London, 1958, pp 16-18; and *A Life in Our Times: Memoirs*, London, 1981, pp 219, 239-240. Galbraith's post-war analysis of the raids against Hamburg showed that while the centre of the city had been devastated, war industries on the perimeter of the city were not greatly damaged. Before the attacks there had been a shortage of skilled labour in Hamburg. Now, with the loss of thousands of jobs in banks, garages, stores and so on, labour sought employment in the war industries. According to Galbraith the raids thus 'forced a wholesale conversion of Germany's scarcest resource, that of manpower, to war production'.

⁷ Speer to Survey Interrogators, *The United States Strategic Bombing Surveys*, Air University Press, Maxwell Air Force Base, 1987, p 11; see also Speer, Albert, *Inside the Third Reich*, London, Weidenfeld and Nicolson, 1970, p 284.

‘decisive in the war in Western Europe ... It brought the [German] economy ... to virtual collapse’.⁸

Finally, the most authoritative scholar of the Anglo-American offensive, Richard Overy, has presented a powerful and grim picture of the physical and mental devastation the bombing caused. It is important to appreciate that that devastation did not really start until mid-1944, with over 70 per cent of the bombs dropped on Europe falling in the last year of the war. There is no doubt that prior to then the campaign experienced problems which on occasions reached major proportions. But after mid-1944 its effect was profound.

That effect was both direct and indirect. For example, as a direct result of the allied bombing, during 1944 the Nazis’ production schedules for tanks, aircraft and trucks were reduced by 35 per cent, 31 per cent and 42 per cent respectively.⁹ Additionally, an enormous amount of resources which might have been used to equip front-line troops had to be diverted to air defence. By 1944 the anti-aircraft system was absorbing 20 per cent of all ammunition produced and between half to two-thirds of all radar and signals equipment. Those figures are merely representative of the far broader impact the bomber offensive had on the German war economy.

Physical destruction and the massive diversion of resources were accompanied by psychological demoralisation. Contrary to the conventional wisdom that the bombing boosted morale, the sustained campaign had a crushing effect on people’s mental state. Post-war surveys found that workers became tired, highly-strung and listless, and were disinclined to take risks. Absenteeism because of bombing reached 25 per cent in some factories in the Ruhr for the whole of 1944, a rate which drastically reduced output and undermined production schedules. When asked to identify the single most difficult thing they had to cope with during the war, 91 per cent of German civilians nominated bombing. As Richard Overy has concluded, in the context of the outcome of the war, it ‘is difficult not to regard [those kinds of consequences] as decisive’.¹⁰

The grotesque suggestion which resurfaced during the war in Kosovo that being bombed is somehow good for people is worse than a myth, it is one of the great post-World War II lies.

THE REVOLUTION IN MILITARY AFFAIRS

For about a decade now many defence strategists have been talking about a ‘revolution in military affairs’ which, they argue, has fundamentally changed the nature of warfare. In the first instance that so-called ‘RMA’ has been technologically driven, in particular by the emergence of precision weapons, enormous advances in

⁸ MacIsaac, David, *The United States Strategic Bombing Survey*, Volume I, New York, Garland Publishing, 1976, pp 15-16. Other notable members of the Survey were George Ball and Paul Nitze.

⁹ Overy, Richard, *Why the Allies Won*, Jonathan Cape, London, 1995, pp 131-133. See also Overy, Richard, ‘World War II: The Bombing of Germany’, in Alan Stephens (ed.), *The War in the Air 1914-1994*, Air Power Studies Centre, Canberra, 1994, pp 113-140; and Overy, R.J., *The Air War 1939-1945*, Papermac, London, 1987, p 120.

¹⁰ Overy, *Why the Allies Won*, pp 131-132.

information technology, and low-observable (that is, stealthy) platforms. Because those technologies have in essence redefined the meaning of terms like 'mass', 'lethality', 'speed', 'manoeuvre' and 'knowledge', the RMA has found its most potent expression in aerospace forces. As an illustration of this, during all of 1943 allied bombers attacked a total of only fifty targets in Germany, often with extreme inaccuracy. By contrast, on the first day of the 1991 Gulf War, Coalition forces struck 150 key Iraqi targets, almost invariably causing direct damage. In terms of hitting targets, a single strike aircraft today is the equivalent of about 3000 bombers from World War II.¹¹

Because of the RMA, defence forces have been divided into two groups – those who have advanced air power, and those who do not. The consequences of that division have been apparent to anyone who has wanted to look for ten years, through the extraordinary dominance of the battlespace (that is, land, sea and air) demonstrated by American-led aerospace forces in Iraq during Operation Desert Storm in 1991, in Bosnia during Operation Deliberate Force in September 1995, in Kosovo during Operation Allied Force in 1999, and in the on-going enforcement of no-fly zones in the Middle East and central Europe. Indeed, it was ironic that the element of panic evident in much of the media when Allied Force did not bring about a Serbian capitulation inside the first few days was indicative of the high expectations now attached to the use of advanced air power.

Another crucial consequence of the RMA as applied through advanced aerospace power has been casualty minimisation. For advanced nations confronting defence contingencies short of national survival, political realities demand the application of combat power in a form which can meet national objectives without stalemate, attrition and unnecessary casualties. Thus, NATO was reluctant to consider armed intervention in Kosovo other than through air power for fear of sustaining unacceptable levels of ground-force casualties. The same logic and the same fears were apparent during the Gulf War and previous fighting in the Balkans; and have in recent years prompted the immediate withdrawal of American land forces from the Lebanon and Somalia following casualties which, while tragic in themselves, were minute in comparison to the shocking events taking place in Kosovo.

During eleven weeks of fighting in Kosovo, NATO did not sustain a single combat casualty. During some 35,000 sorties only two aircraft were lost in combat and both crews were rescued. Similar exceptionally low loss rates in previous American-led air campaigns in the Middle East and the Balkans in the past ten years are sufficient for us to conclude that this can now be regarded not merely as a trend, but as an expectation.

It is a war-fighting development of the first order.

The air campaigns for Operations Desert Storm, Deliberate Force and Allied Force were also, in historical terms, remarkable for their brevity, lasting forty, twenty-two, and seventy-eight days respectively. By contrast, history is littered with scores of instances where 'boots on the ground' provided no quick or morally convenient

¹¹ Hallion, Richard P., 'Precision Guided Munitions and the New Era of Warfare', *Air Power Studies Centre Paper Number 53*, Air Power Studies Centre, Fairbairn, April 1997.

panacea for profoundly-held hatreds, contributing instead only to the most appalling slaughter, lasting in some cases hundreds of years. Examples continue to abound, including Northern Ireland, Cambodia, Indonesia, the Sudan, Somalia, Rwanda, Lebanon and, of course, the former Yugoslavia. It is noteworthy that United Nations ground forces had been in place in Yugoslavia for four years prior to Deliberate Force, and had suffered 1690 casualties while singularly failing to achieve a peaceful settlement.¹²

Against that background, there was something deeply disturbing about the thinking of those commentators who wanted NATO to commit ground forces in Kosovo *'now'*. This atavistic, seemingly pathological urge to put as many young men as possible within range of enemy guns as quickly as possible serves no-one's interests, least of all the troops concerned. Half a million American soldiers could not 'win' in Vietnam, although 60,000 did die. The armies of many less-developed countries fight very well up close: the point is to deny them that opportunity.

In short, the role model for modern strategists should be Norman Schwarzkopf, not Douglas Haig.

KEY ISSUES FROM KOSOVO

Until reliable information is available from Belgrade itself, assessments of Operation Allied Force as a template for future conflicts must be carefully qualified. Notwithstanding that uncertainty, some facts are clear. Three stand out.

The first is that NATO used only air power to force the Serbs to a satisfactory (to NATO) military resolution. Further, despite the agitation of those commentators who demanded an invasion when Milosevic did not yield in the first few days, the campaign quickly achieved two of NATO's five pre-war demands, namely, a verifiable withdrawal of all Serb forces from Kosovo, and the deployment of an international military force. And it is well on the way to completing a third, the return of all refugees. It is too early to comment confidently on the fourth demand for the establishment of an interim political solution, although there do seem grounds for cautious optimism.

Implementation of the fifth demand for an 'immediate and verifiable end to violence and repression in Kosovo' remains problematic, and leads to the second critical fact, which is that the air campaign did not stop the Serbs from 'ethnically cleansing' the Kosovar Albanians. Here, there was a serious disconnect between NATO's grand strategy, which was to stop the ethnic cleansing, and its military strategy, which was to degrade Serbian military power in Kosovo. While the military action was an unqualified success – by the end of June there were no Serbian regular forces left in Kosovo – the immediate political objective was not achieved. Worse than that, it seems that Serbian army, police and paramilitary troops may have murdered as many as 10,000 Kosovar Albanians during the period of Allied Force.

¹² Hallion, Richard P., 'The USAF and Nato: From the Berlin Airlift to the Balkans', Address to DFI International, Washington, 15 April 1999, p 8.

Whether or not a land invasion coincident with the air campaign would have prevented or at least reduced that massacre is, however, by no means certain. Some NATO soldiers were startled by the strength of Serbian fortifications they saw for the first time when they entered Kosovo unopposed, and reportedly were greatly relieved they did not have to fight their way in. No-one can know what the civilian and military casualties might have been had NATO's ground forces been opposed.

What we do know, though, is that not a single NATO soldier, sailor or airman died in combat during the 2½ month war, which is the third critical fact. That fact has already been stated above but it bears repetition, as by any measure it is extraordinary. While it leaves unanswered the dreadful moral question of the relative weighting placed on Kosovar and NATO lives, it is a number politicians will not forget. Nor should they.

In addition to those three pivotal political/military facts, several technological developments warrant mention. The most important is the accuracy of modern air weapons. Seventy per cent of the bombs dropped during Allied Force were precision-guided (compared to nine per cent in the Gulf War), and NATO has claimed an astonishing target hit rate of 99.6 per cent. A fair proportion of those weapons apparently hit decoys and thus did not physically damage the Serbian Army. But in the context of future warfare, the proven accuracy of precision-guided weapons should be considered more significant than NATO's targeting difficulties. It is now extremely dangerous to be out in the open on a surface battlefield, and it will become even more so in the near-future as targeting capabilities are enhanced by emerging aircraft- and space-based information systems.

The results achieved by the GPS/inertially-guided Joint Direct Attack Munition (JDAM) against relatively static targets were particularly noteworthy. Because it can be used in any weather or terrain, 24 hours a day, the relatively cheap JDAM has gone a long way towards answering the accusation that air forces can 'do' deserts but not jungles and mountains.¹³ The technological challenge now is to make it and other weapons equally as effective against mobile targets. There is also an imperative to make the effect of weapons as precise as their accuracy; that is, to precisely control the damage they inflict on targets. Although the collateral damage caused by the high explosives which are most commonly used in warheads has been reduced enormously by precision guidance, more must be done. Mechanisms for setting a variety of blast effects on bombs and missiles to match their effect to a specific target immediately before they are dropped may be one answer; the development of narrow, directed-energy 'beam' weapons another; and so-called 'non-lethal' weapons another again.¹⁴

Turning to platforms, the United States Air Force's B-1 and B-2 bombers have in the past been much maligned, the B-1 for its previously inadequate performance, and the B-2 for its spectacular up-front price tag. But in Allied Force both were military,

¹³ JDAM costs A\$20,000 per copy compared to about A\$1,500,000 for a ship-launched cruise missile. House Armed Services Committee, Military Procurement Subcommittee, 'The B-2 Bomber in the Kosovo Air Campaign', 30 June 1999. See also 'Bad Weather No Deterrent For New Long-Range Weapons', in *Aviation Week & Space Technology*, May 3, 1999, pp 66-67; and John A. Tirpak, 'Brilliant Weapons', in *Air Force Magazine*, February 1998, pp 48-53.

¹⁴ See Scott, William B., "'Beam Weapons' Edging into Arsenal', in *Aviation Week & Space Technology*, July 5, 1999, pp 53-5; and Casagrande, Wing Commander E.E., 'Non-lethal Weapons: Implications for the RAAF', *Air Power Studies Centre Paper Number 38*, Fairbairn, 1995.

technological and procurement success stories. B-1s flying out of the UK dropped as many as eighty-four unguided 230-kilogram bombs on single missions; and B-2s flying 30-hour sorties from the continental USA, with four in-flight refuelling hookups, delivered sixteen precision-guided 900-kilogram bombs, each to within twelve metres of its target, on single passes. B-1 and B-2 strikes were precise and, in the context of system life-cycle, results achieved, and overall loss rates, cost-effective.¹⁵ Expect renewed calls from within the American defence establishment for a new bomber to supplement and eventually replace the existing fleet of B-52s, B-1s and B-2s.

By contrast, the much-heralded Apache attack helicopters were a major disappointment. Like other army capabilities the aircraft took too long to arrive and needed too much support when they did. Even the incoming chief of staff of the US Army, General Eric Shinseki, has expressed 'concerns' with the excessive delays which characterised his service's deployments.¹⁶ It was also reported that the Apache pilots were inadequately trained for combat. Further, the Americans' reluctance to commit the Apaches to battle indicates that, as the Russians learnt to their cost in Afghanistan, helicopters are at serious risk in anything less than an air supremacy environment.

The continuing success of precision-guided stand-off munitions, air- and space-based information systems, unmanned vehicles, and advanced electronic warfare systems – that is, of capabilities which facilitate fighting precisely and from a distance – can only generate greater interest and investment in those kinds of weapons. For example, in an early apparent response to the nature of the warfighting in Kosovo, US Defence Secretary William Cohen has already demanded from his senior officials a 'strong, renewed commitment' to developing 'various UAVs' to meet 21st century surveillance and reconnaissance needs.¹⁷ Cohen's directive vigorously drew attention to the 'compelling benefits' offered by unmanned vehicles for 'information superiority and risk reduction'.

His implicit message? Advanced aerospace technology works. In the right circumstances it saves lives on both sides and, when available in sufficient quality and quantity, wins wars.

¹⁵ See House Armed Services Committee, Military Procurement Subcommittee, 'The B-2 Bomber in the Kosovo Air Campaign', 30 June 1999; Atkinson, David, 'B-2s Demonstrated Combat Efficiency over Kosovo', in *Defense Daily*, July 1, 1999, p 1; Chandler, Robert W., 'Open Skies Over Kosovo', in *Armed Forces Journal International*, May 1999, p 14; Richter, Paul, 'B-2 Drops its Bad PR in Air War', in the *Los Angeles Times*, July 8, 1999, p 1.

¹⁶ Quoted in Scarborough, Rowan, 'Cost in Dollars and Kosovar Lives in Gradual, Exclusive Use of Air Strikes', in *The Washington Times*, June 13, 1999, p C1. See also deputy secretary of defense John J. Hamre and director of the joint staff Vice-Admiral Vernon Clark, Department of Defense News Briefing, July 1999 (<http://www.usia.gov/regional/eur/balkans/kosovo/99070801.htm>); and 'Memo Says Apaches, Pilots Were Not Ready', in *European Stars and Stripes*, June 20, 1999, p 1.

¹⁷ Bill Cohen, Memorandum for secretaries of the Military Departments, chairman of the Joint Chiefs of Staff, under secretaries of Defense, assistant secretary of Defense (Command, Control, Communications and Intelligence), in *Inside the Air Force*, July 6, 1999.

THE DILEMMA OF AMERICAN AIR POWER¹⁸

The fact that this paper thus far has dealt almost exclusively with American capabilities is revealing, and points to one of the more complex planning challenges to emerge from NATO's war in the Balkans. And that is, Allied Force was to all intents and purposes an American operation; further, only the Americans can fight like that.¹⁹

Of the participating European nations, only the UK and Italy made worthwhile combat contributions, Britain through the high-quality Royal Air Force; and Italy by providing access to air bases. Because most of the other air forces lacked precision weapons and/or suitable information and all-weather targeting systems, they were as much hindrance as help, although they did at least add political legitimacy.²⁰ Prominent American officials such as Deputy Defense Secretary John Hamre have already vigorously criticised their European allies for the antiquity of their weapons systems and their reluctance to invest the necessary resources to modernise their forces.²¹ What this highlights is that the gap which previously existed between American aerospace capabilities and everyone else's has become a chasm.

Many factors contribute to American aerospace power supremacy but none is more important than knowledge dominance, for it is that dominance which empowers other qualities such as precision, speed and lethality. Only the US has the constellations of satellites, the fleets of data collection aircraft, the global data integration system, the libraries of targeting information, the banks of computers, the ranks of analysts, and so on.

The imminent migration of some of those capabilities into space will give the US an even more pronounced advantage. Under current plans the USAF's Research Laboratory will reorient its advanced technology work much more aggressively towards space and less towards aircraft, with the intention of building 'a new foundation for USAF space operations early in the 21st century'. Funding for space research is to double, rising to more than 50 per cent of the USAF's total research budget. This represents a change of near-revolutionary proportions as far as the future of aerospace power is concerned, because it is the Air Force's research laboratories which lay the technological groundwork for future systems and, therefore, operations.²²

The challenge that change presents in keeping up with the Americans has at least been recognised in Europe, where major aerospace companies are cautiously examining the

¹⁸ This section is taken from Alan Stephens, 'High Noon of Air Power', *Air Power Studies Centre Paper Number 71*, Air Power Studies Centre, Fairbairn, February 1999. It is repeated here because its basic argument seems to have been emphasised by the events of Allied Force.

¹⁹ In addition to 'High Noon of Air Power', see also Drozdiak, William, 'War Showed US – Allied Inequality', in the *Washington Post*, June 28, 1999, p A01; and Sanger, David E., 'America Finds it's Lonely at the Top', in the *New York Times*, 18 July 1999.

²⁰ Hamre and Clark, Department of Defense News Briefing, 8 July 1999.

²¹ 'Hamre: Europe Still Unwilling to Carry its Load', in *Defense Week*, 19 July 1999, p 1.

²² Covault, Craig, 'USAF Shifts Technology for New Future in Space', in *Aviation Week & Space Technology*, August 17, 1998, p 40; Timothy R. Gaffrey, 'US Air Force to Boost Research on Space Systems', in *Defense News*, 27 July – 2 August 1998, p 10; and Craig Covault and Joseph C. Anselmo, 'Technology Leaps Signal Dawn of New Space Era', in *Aviation Week & Space Technology*, 7 September 1998, pp 132-160.

prospects for increased cooperation, perhaps even mergers, as they seek greater economies of scale generally and more return from their research and development dollars specifically.

For smaller countries which wish to remain relevant to American-led coalitions but which cannot hope to keep up across the board, the concept of the 'niche force' might become increasingly attractive. At the surface level the niche concept is straightforward. Because it simply is no longer possible for anyone else to build a balanced air force to 'first-tier', American standards, a single niche capability is selected, developed and maintained to those standards. Defined in terms of weapons systems, that might mean something like a fifth-generation fighter, or a leading-edge airlift, air-to-air refuelling or airborne early warning and control capability. Other worthwhile areas of investment might include innovative software or a regionally-based, ready-to-go, command and control system. It is axiomatic that any niche system will be incomplete unless it is operated by quality people and backed up by a quality infrastructure which includes excellent training, advanced information systems and a capable research and development organisation.

Beneath the surface level the niche concept is complex. It allows no room for half-measures. 'First-tier' means exactly that – a silver bullet capability which could confidently be used in the opening volley on the opening day of any campaign. There seems to be a tendency for allies to let the United States take the brunt; for example, in the fight to control the air which is likely to be the first objective of most campaigns, to let the USAF and the United States Navy do the hard work on the first few days and then join in. Allies who subscribe to the niche concept will be signalling their willingness to do their fair share; that if, say, they have chosen to specialise in air superiority, they will be good enough to fight alongside F-22s when the first shots are exchanged.

And platforms are merely the visible component of the equation. Because the concept very clearly defines 'interoperability' as meaning 'capable of operating with the USAF, on their terms, on day one', any platform which is going to qualify as 'first-tier' must be fitted with all of the leading-edge systems applicable to its role/s. The expense and difficulty involved should not be underestimated.

As far as organisational arrangements are concerned, a niche force is by definition intended to operate within a coalition. Here, it is noteworthy that the USAF has recently been reorganised into a number of Aerospace Expeditionary Forces which can be deployed rapidly to trouble spots around the world.²³ Consequently the USAF will be ideally structured to accept 'niche' contributions, which should simply be able to 'plug in' to the parent organisation.

Because investment in a niche capability would represent in part a response to budgets which can no longer support a full complement of advanced systems, other force elements would either have to function at a reduced standard or be cut from the order

²³ Ryan, General Michael, Interview, *Jane's Defence Weekly*, 4 November 1998, p 32; see also 'Air Force Chief Emphasizes Expeditionary Force for Post-Cold War Contingencies', *excite news*, 14 September 1998, <http://nt.excite.com/news/pr/908914/va-air-force-chief>. Reflecting that fundamental shift, in recent years the USAF has deployed in one form or another to 177 of the world's 188 countries.

of battle altogether. This is an issue which is guaranteed to raise inter-service temperatures to white-heat, particularly if, say, the most rational way of paying for a required niche aerospace capability was by retiring tanks and/or destroyers. If the question does become one of foregoing second- and third-tier capabilities, which can only continue to degrade relatively and absolutely, in favour of a first-tier niche capability, decision-makers should bear in mind Sir John Allison's astute observation that it is advanced technology which 'confer[s] a seat at the coalition table'.²⁴

CONCEPTS OF OPERATIONS

NATO's identification of aerospace power as their weapon of first choice in Kosovo was correct, but the way in which they applied it was, according to current theory, incorrect. Under the model developed by Colonel John Warden for the 1991 Gulf War, an air campaign should be fast, furious and intensive.²⁵ Key words are 'parallel attack' (attacking all target sets simultaneously rather than sequentially) and 'strategic paralysis' (caused by the rapidity, intensity and shock effect of parallel attack); which in combination induce 'strategic collapse' (the implosion of the enemy regime). That was the method applied in Desert Storm, when about 1250 strike sorties were flown each day; and also in Deliberate Force which, while far less comprehensive, still averaged 175 sorties daily.

Yet the opening phases of Allied Force were marked by an almost desultory nightly effort of about fifty sorties. And nor did those few missions appear especially systematic, as aircraft struck at what seemed like an almost random selection of targets. Indeed, the campaign initially had more in common with the apparently discredited concept of 'gradual escalation' - of 'sending messages' - than it did with the notion of 'strategic paralysis'.

The concept of 'gradual escalation' was first raised in the 1960s by the American academic Thomas Schelling, and was applied controversially and, many would argue, unsuccessfully, during Operation Rolling Thunder, the air war waged against North Vietnam from 1965 to 1968.²⁶ John Warden's subsequent focus on strategic paralysis in no small measure reflected the USAF's vehement institutional rejection of gradual escalation as a credible strategy.

Despite that, the way in which Allied Force unfolded has prompted the USAF's leading academic, Colonel Phillip Meilinger, to suggest that there might yet be a place for gradual escalation in air campaign doctrine.²⁷

²⁴ Allison, Air Chief Marshal Sir John, 'Future of Air Power – A European Perspective', in Shaun Clarke (ed.) *Testing the Limits*, Air Power Studies Centre, Fairbairn, 1998, p 105. At the time Allison was commander of the (British) RAF's Strike Command.

²⁵ Warden III, John A., *The Air Campaign*, Brassey's, Washington, 1989; see also Warden III, John A., 'Employing Air Power in the Twenty-first Century', in Schultz, Richard H. and Pfaltzgraff, Robert L., *The Future of Air Power in the Aftermath of the Gulf War*, Air University Press, Maxwell Air Force Base, 1992, pp 57-82; and Warden, John, 'Planning to Win', in Clarke, *Testing the Limits*, pp 77-97.

²⁶ For an interesting contemporary reprise of Schelling's strategy, see Pape, Robert A., *Bombing to Win: Air Power and Coercion in War*, Cornell University Press, Ithica, 1996, pp 66-68, 178-182. Pape describes gradual escalation as the 'manipulation of risk'.

²⁷ Meilinger, Phillip S., 'Gradual Escalation: A Return to the Future?', in *Armed Forces Journal International* (forthcoming, September 1999). See also Graham, Bradley, 'Air Force, Army Already

According to Meilinger, airmen are probably right to maintain that a rapid and massive application of force is preferable to gradual escalation. But no military action can be separated from the prevailing political and tactical climate and, as Meilinger properly notes, NATO's resolve to do what was necessary in Kosovo might well have unravelled in the early weeks had extreme force been used and extreme reactions generated. As it was, world opinion was gradually conditioned to a 'measured and steadily increasing use of air power' which minimised NATO casualties and gave the enemy time to assess his situation.

Meilinger's proposition has (unsurprisingly) been rejected by Warden, who has expressed concern that the success of Allied Force, in spite of what was, in his opinion, a flawed campaign, may tempt American politicians to use incremental air power as a substitute for a clearly defined strategy, an approach he believes will 'fail disastrously' at some future point.²⁸

That is a valid concern. On the other hand, it may be the case that, by gradually conditioning public awareness and understanding, an incremental air campaign will facilitate the eventual targeting of public utilities such as electric power systems, water supplies, petroleum production and communications services, which, in addition to their obvious civic purpose, represent a clear wartime military and psychological value.²⁹ The line between military necessity and humanitarian considerations can be a fine one, and, in these kinds of situations, the way in which the protagonists use the media will be crucial.

On a smaller stage, the concept of gradual escalation may be of particular interest to defence planners in countries which cannot expect to acquire the full range of capabilities needed to mount a 'fast, furious and intensive' air campaign, but which are still able to support a small, advanced aerospace force on strike operations for extended periods. A number of developmental weapons are relevant to this setting.

For example, the Sensor Fused Weapon is an air-dropped dispenser containing forty armour penetrating, target-sensing warheads, a number sufficient to dominate or deny an area of six hectares to all land-combat vehicles.³⁰ The most simple arithmetic makes obvious the potential of that kind of capability. Small air forces might also profitably pursue the emerging option of so-called non-lethal weapons such as infrasound, liquid metal embrittlement, supercaustics, superlubricants, superadhesives, and electric power disruption munitions. And 'miniature' weapons which will permit existing platforms to increase their bomb load by a factor of about four, with a concomitant increase in system lethality, will offer an enormous capability enhancement at relatively low cost.

Battling for Lead Roles in Future Wars', in the *Washington Post*, June 22, 1999, p 1; 'Officers Criticize Air-War Strategy', in the *Washington Times*, May 10, 1999, p 1; and William M. Arkin, 'Inside the Air Force, officers are frustrated about the air war', in the *Washington Post*, 25 April 1999, p B01.

²⁸ Quoted in 'Kosovo War Tactics Compensated for Strategy Void, Expert Says', in *Inside the Pentagon*, 1 July 1999, p 1.

²⁹ For background on the law of armed conflict as it applies in particular to air power, see RAAF, AAP 1003, *Operations Law for RAAF Commanders*, Air Power Studies Centre, Canberra, 1994.

³⁰ 'Stop Invasions Before they Start', *Defense News*, 8 March 1999, p 14.

Four other aspects of the air campaign merit comment. First, and most unusually, Allied Force was a war of one-sided material attrition.³¹ Wars of material attrition, almost by definition, previously have been two-sided, even in the air (World War I; the Battle of Britain; the combined bomber offensive against Germany; Korea; Vietnam). In Kosovo, because of NATO's skilful use of an asymmetric strategy (the exploitation of absolutely dominant air power), the Serbs were unable to inflict reciprocal punishment. Milosevic did, however, seem to enjoy some success initially in inflicting psychological attrition on NATO through media manipulation, at least until the full extent of the depravity of his forces in Kosovo became known.

The second aspect concerns asymmetric strategy. It is fashionable to argue that the enormous advantage enjoyed by developed nations in conventional warfighting capabilities, especially through advanced aerospace power, will drive rogue nations and organisations to become even more disposed than they already are towards 'asymmetric' aggression like terrorism, suicide attacks, computer hacking and so on. That may well be the case. But the argument represents only one side of the coin.

The other side is that, in turn, incontestable aerospace power is the developed world's single greatest asymmetric military advantage; and it is an advantage which places suffocating boundaries around any potential aggressor's options. As the Israelis and American-led coalitions have demonstrated for thirty and ten years respectively, that asymmetric domination enables them to strike when, where and how they choose; and, perhaps even more importantly, to watch, listen and know what potential enemies might do. It also forces their enemies to invest hugely in camouflage, concealment, dispersion, defensive systems, hardened shelters, and so on, all of which diverts resources away from offensive capabilities. 'Asymmetric strategy' is a two-way street.

Third – and this relates to the second aspect - the air campaign model which has been so successful for the past ten years has become highly predictable. It follows a well-understood pattern: establish bases near the theatre of operations; initially fly only at night; suppress enemy air defences; stop any movement of ground forces; attack vital points as hard and as fast as the political situation allows, hoping to cause strategic collapse; and then, if an invasion becomes necessary, support the advance of friendly ground forces. Given the supremacy of American-led air power it is unlikely that an aggressor could prevent that cycle from ultimately unfolding, notwithstanding the tactical advantage conferred by knowing the model in advance. Nevertheless, predictability is inherently dangerous, and airmen must remain flexible in their approach to campaign planning.

The final point of interest for decision-makers was the absence from the field of battle of NATO's armies. Politics, the need to preserve alliance cohesion, and fear of large numbers of casualties were all factors in NATO's decision to avoid a ground engagement. No-one can argue with that: we can only take the world as we find it. Armies nevertheless should be concerned by their exclusion from the fighting.

Given the extraordinary range of advanced capabilities resident in NATO's land forces, it is hard – indeed, almost impossible - to believe that a constructive role could not have been found for them within the broader framework of a predominantly air

³¹ See Meilinger, 'Gradual Escalation: A Return to the Future?'

campaign. If that is agreed, then perhaps it is time for armies to become intellectually more flexible, and to revisit their concepts of operations.

There is not the slightest doubt that the armies of advanced nations still need to be capable of closing with and killing large numbers of the enemy; and, if necessary, of sustaining heavy casualties themselves. But those are actions which should, and almost certainly will, be countenanced only when national survival is at risk; and in turn, threats based on armed force to the sovereignty of the great majority of countries are so remote as to be almost incredible.

In short, it is no longer acceptable for soldiers simply to chant the mantra 'seize and hold ground' as the justification for their existence and as the basis of their thinking. Armies need to demonstrate far more flexibility in developing their concepts of operations. That imperative seems clearly understood by General Shinseki who, in an implicit criticism of his predecessors, has publicly endorsed the widely-held belief that armies need to become more agile, lethal and flexible, and lighter, if they are to be relevant to future battlefields. 'Achieving this paradigm will require innovative thinking about structure, modernisation efforts and spending', he recently stated.³²

Eliot Cohen identified one useful start-point for that process more than five years ago when he noted that: 'In the future, the struggle for information may take the place that the contest for geographic position took in the past'.³³ The passing of time has reinforced that interpretation of military affairs.

Seizing and holding ground might still be a primary *objective* of most military actions, but it is no longer necessarily the primary *means* for achieving that objective. Among other things, armies should be vigorously pursuing better technologies and strategies for fighting at a distance, and better strategies for complementing aerospace power capabilities. One obvious project would be to examine the role played by the Kosovo Liberation Army during the last two weeks of the war, when it drew Serbian forces out of their bunkers and made them vulnerable to punishing attacks by NATO air power.

CONCLUSION

Aerospace power is not the weapon of only choice, nor is it necessarily always the weapon of best choice. Nor has any military campaign ever represented the only model for future wars. Nevertheless, the war in Kosovo provided another compelling example of why, for developed nations, advanced air power has become today's weapon of first choice. In that respect, Operation Allied Force was characteristic of the developed world's decade-long trend towards maximising its greatest military comparative advantage and asymmetric strength; namely, the incontestable superiority of American-led air power. Because of the Americans' near-monopoly of the

³² Lawson, Christopher, 'Shinseki Wants Larger, More Flexible U.S. Army', in *Defense News*, July 19, 1999, p 18; in the same issue see also Zakheim, Dov, '20 Years Later, Commanders Still Seek Lighter U.S. Army', p 15.

³³ Cohen, Eliot A., 'The Mystique of U.S. Air Power', in *Foreign Affairs*, Volume 73, Number 1, Jan/Feb 1994, p 113.

necessary technologies and operational systems, they will retain that superiority for at least the next twenty, more likely the next forty, years.

Kosovo also demonstrated that modern war is concerned more with acceptable political outcomes than with seizing and holding ground. Notwithstanding the media and academic clamour which accompanied much of the campaign, that reality fortunately seems to be understood by the handful of politicians who make the life or death decisions which in turn determine what happens to the men and women who actually do the fighting.