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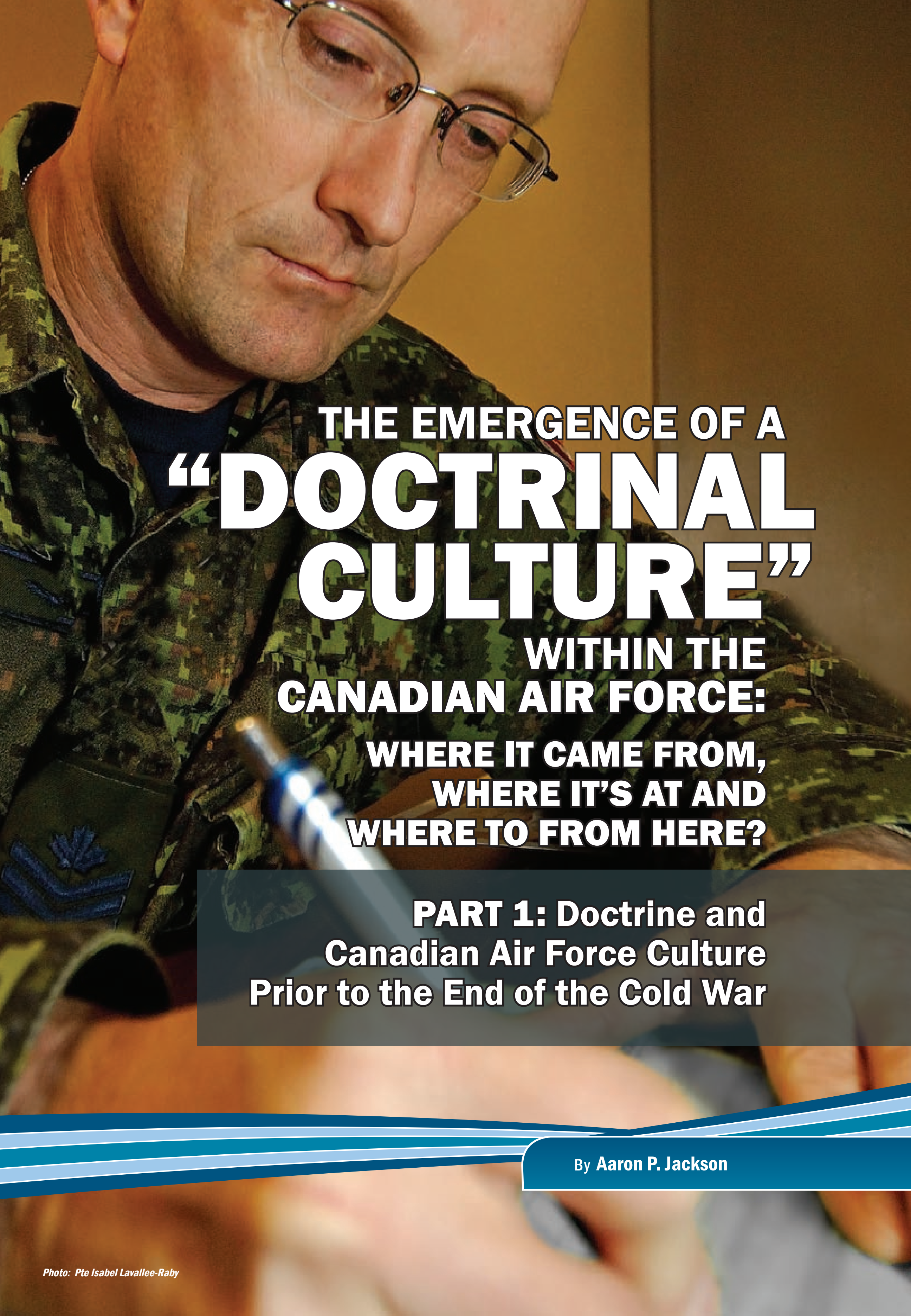

THE EMERGENCE OF A "DOCTRINAL CULTURE" WITHIN THE CANADIAN AIR FORCE: WHERE IT CAME FROM, WHERE IT'S AT AND WHERE TO FROM HERE?

PART 1: Doctrine and Canadian Air Force Culture Prior to the End of the Cold War

By **Aaron P. Jackson**

Photo: Pte Isabel Lavallee-Raby

Introduction

In a paper published in 2002, Canadian Air Force officer Paul Johnston asserted that "[i]t has been widely observed that air forces are usually not as keen on doctrine as armies tend to be, and the Canadian Forces are certainly no exception to this rule."[1] In the same year, *Aerospace Doctrine Study: Final Report* reached a similar conclusion: "Historically the Canadian air force has been weak in doctrinal development; very little original, independent air force…doctrine has been written."[2]

As discussion herein will postulate, the culture of the Canadian Air Force, like most other Western air forces, has not been traditionally characterised by a tendency towards theoretical or doctrinal development. Instead, an oral (rather than written) culture of passing lessons from senior to junior officers evolved early in the history of the Canadian Air Force and subsequently became entrenched. This was accompanied by a tendency to pragmatically focus on contemporary issues, to the detriment of broader theoretical and doctrinal development.

Among the small number of studies that have hitherto been undertaken in an effort to explain why such a culture has developed within other air forces, Robert Futrell's study of United States Air Force (USAF) culture is probably the best known. Futrell suggested that from the outset, the nature of air forces tended to attract people with an "active" rather than a "literary" focus. During the early years of their existence, when air force culture was still emerging, the heavy criticism early air power theorists attracted (especially from within armies and navies) greatly exacerbated the existing propensity of most airmen to eschew written theories and doctrines.[3]

Recently, however, there have been some indications that the Canadian Air Force is beginning to shift away from this traditional cultural paradigm and that a tentative culture of doctrinal development is emerging to take its place. By 2007—a mere five years after Johnston and the *Aerospace Doctrine Study* made the assertions quoted above—the Canadian Air Force had established an organisation responsible for doctrine development[4] and released an innovative new doctrine manual.[5]

This is the first of two articles that examine the origin, evolution and future potential of this cultural shift. It begins by briefly examining the nature of air power theory and doctrine as well as the relationship between them. It then offers an overview of the role theory and doctrine have traditionally played within the culture of Western air forces generally and then examines the dissonance between doctrine and Canadian Air Force culture during the cold war. Drawing on this background, the second article will examine the Canadian Air Force's attempts to develop doctrine in the period after 1975, concentrating particularly on the nature, significance and future potential of events of the past five years.

The Nature of Air Power Theory and Doctrine

From the outset, it must be made clear that "military thought and doctrine are not synonymous."[6] Although military theory (and several prominent theorists) have influenced military conduct for centuries, theory is not doctrine because "[t]he first is personal, the latter institutional."[7] Despite this difference, both theory and doctrine play important roles in the intellectual development of military organisations, and both warrant brief discussion at this juncture.

Theory is important because it plays a vital role in developing an understanding of why events occur, promoting deeper perceptions than simple historical or contemporary observations can offer. In the words of Prussian military theorist Carl von Clausewitz, theory "can give the mind insight into the great mass of phenomena and of their relationships, then leave it free to rise into the higher realms of action."[8] This sentiment was perhaps more clearly explained by Samuel P. Huntington:

> **Understanding requires theory; theory requires abstraction; and abstraction requires the simplification and ordering of reality... Obviously, the real world is one of blends, irrationalities, and incongruities: actual personalities, institutions, and beliefs do not fit into neat logical categories. Yet neat logical categories are necessary if man is to think profitably about the real world in which he lives and to derive from it lessons for broader application and use.[9]**

For air forces, the development of theory has provided a mechanism to allow them to reach a deeper level of understanding about what they do as well as how and why they do it. From this deeper understanding, guidance can then be derived to enable air forces to operate more effectively.

Doctrine, on the other hand, acts as an institutional mechanism that militaries have traditionally used to express the acceptance of selected theories and concepts. In the words of one United States Army Air Force staff officer, doctrine is important because:

> In any field of endeavour, private or public, the first essential is a body of working principles and the next is a clear concept of the manner of following those principles with the means at hand. Without such principles and concepts being clearly expressed, at least in the minds of the users, it is not at all possible to attain coordination and efficiency, and it is not reasonable to expect, as is desirable, that all workers to the common end will have in mind the same possibilities and objectives. In military matters…where mistakes and inconsistencies cost thousands of lives and millions of man-hours, it is all the more important that there be clearly expressed guiding principles which are clearly understood by all planners, as well as by all who are charged with the handling of forces in the field.[10]

For air forces, doctrine has an important role to play in ensuring unity of purpose is achieved. It does this by formally establishing a set of principles that provide guidance for the conduct of operations.

The ideal relationship between theory and doctrine is thus a symbiotic one. As Markus Mader observed in his study of post-cold war British military doctrine development:

> Doctrine is more than the formal publication of military concepts. It stands for an institutional culture of conceptual thinking on the nature of conflict and the best conduct of warfare. It is the military's instrument for analysing past experience, guiding current operations and exploring future challenges.[11]

To ensure doctrine is a meaningful instrument in this regard, the principles espoused within it must be based upon a sound theoretical framework. This allows for a synthesis between the unity of purpose established by doctrine and the deeper understanding established by theory. In other words, the incorporation of theoretical perspectives allows doctrine to have a deeper significance than merely enabling those within a military force to "sing from the same song sheet."

As will be discussed in the second part of this article, the strength (or weakness) of the link between theory and doctrine has been a vital determinant of the success or failure of the keystone doctrine manuals produced by the Canadian Air Force since 1975.[12] In a broader sense, the story of the early development of air power theory is closely related to the cultural aversion to written doctrine that has traditionally characterised most Western air forces, including the Canadian Air Force. Given the historic roots of this aspect of air force culture, it is prudent to provide a brief overview of the early history of the theoretical development of air power.[13]

Theory, Doctrine and the Emergence of Western Air Force Culture

During the First World War, aeroplanes were initially used by navies and especially armies to conduct reconnaissance and, in the case of armies, to locate artillery targets. Counter-reconnaissance efforts soon led to the addition of interception missions to the role of aircrews and the development of technology (such as forward-mounted machine guns) soon made aeroplanes much more effective at conducting air-to-air combat.[14] Another important role soon added to the growing list of missions was aerial bombardment of ground forces, which led to the development of the concept of "strategic bombardment," something that was to have a great impact on the development of air power theory in the decade following the end of the war. During the war itself, however, air power played a comparatively minor role, as it was overshadowed by the vast land and naval campaigns that were the war's principal characteristics.[15]

Nevertheless, the development of air power during the war fuelled the early theories that gained traction in its aftermath. One of the key early proponents of air power was Italian General Giulio Douhet. His most influential work, *The Command of the Air*, was first published in 1921. "To have command of the air," wrote Douhet, "means to be in a position to prevent the enemy from flying while retaining the ability to fly oneself."[16] More importantly than establishing this definition, Douhet asserted his belief that "[t]o conquer the command of the air means victory; to be beaten in the air means defeat and acceptance of whatever terms the enemy may be pleased to impose."[17] Subsequently, he postulated that:

> From this axiom we come immediately to this first corollary: *In order to assure an adequate national defense, it is necessary – and sufficient – to be in a position in case of war to conquer the command of the air*. And from that we arrive at this second corollary: *All that a nation does to assure her own defense should have as its aim procuring for herself those means which, in case of war, are most effective for the conquest of the command of the air* [emphasis in original].[18]

Furthermore, Douhet envisaged a key role for strategic bombardment in future warfare, reasoning that bombardment of targets within enemy territory would "cut off the enemy's army and navy from their bases of operation, spread terror and havoc in the interior of his country, and break down the moral and physical resistance of his people."[19]

Writing during the same period, other air power theorists made similar arguments, particularly regarding the potential effects of strategic bombardment. In the United States (US), Brigadier General William "Billy" Mitchell demonstrated the potential of air power at sea in 1921 by using aerial bombardment to sink a captured German warship. In his writings, Mitchell advocated strategic bombardment as a means to win wars. Where he differed from Douhet, however, was that he did not advocate the use of air power to "spread terror and havoc" among a civilian population. Instead, he emphasised the strategic effect

http://en.wikipedia.org/wiki/File:Giulio_Douhet.jpg

Italian General Giulio Douhet
One of the key early proponents of air power.

bombardment would have on the enemy's industrial and economic infrastructure and thus on his ability to sustain a war effort.[20] In England, Lord Trenchard, inaugural Chief of the Air Staff of the Royal Air Force (RAF), argued that air power could be used to substitute for land power in maintaining control over the colonies. The idea was tested with mixed success during the 1920s.[21]

At the time these theories were advanced, the strategic environment facing air forces was one of fiscal constraint and strong opposition to their existence by armies and navies. In England, the newly-established RAF had to frequently fight attempts by army and naval officers to reabsorb it back into their own services.[22] In the US, the air force remained a part of the Army throughout the interwar years.[23] In Canada, the Royal Canadian Air Force (RCAF) was inaugurated on April 1, 1924, but remained a semi-autonomous branch within Militia Headquarters until 1938. A mixture of funding and political constraints prevented its independent development during the intervening period.[24]

The emergence during the 1920s and 1930s of the theoretical debate about command of the air and the potential of strategic bombardment proved to be a "double-edged sword" for fledgling air forces. On one hand, the idea that air power could prove the decisive factor in future wars provided a potent argument for its advocates to justify its funding and, more importantly, the ongoing independence of air forces. On the other hand, the theories were often overstated and the concepts they developed were still, in some cases, decades ahead of what contemporary technology could achieve.[25] As a result, the theories remained largely untested.[26]

The Second World War provided a testing ground for several of the theories developed in the early 1920s, initially yielding many disappointing results for the advocates of strategic bombardment. Instead of having the effect of spreading "terror and havoc," the bombing of London during the Blitz (1940-41) and of Germany from 1941 to 1943 had the overall effect of strengthening the resolve of civilian populations. "During the early years of World War II," wrote Alan Stephens, "the apparent failure of strategic bombing to meet its supporters' claims damaged the credibility of air power generally."[27]

The Second World War promoted the development of air power in a different way, however. The course of the war saw the development, application and refinement of most of air power's contemporary roles. These included recognition of the importance of air supremacy,[28] the development of close air support (CAS) to land forces, the role of aeroplanes in the protection of sea lines of communication and the development of tactics for air-to-air combat.[29] Finally, the atomic bombs dropped on Japan at the close of the war reinvigorated the debate about the potential of strategic bombardment and whether or not the theory had gained a renewed applicability in the atomic age. As Mader asserted: "In sum, the Second World War witnessed the emergence of modern air power and laid the foundation for the broad spectrum of roles evolving in its aftermath."[30]

Despite the many lessons the proponents of air power learned during the Second World War, the experience of the interwar period and the early stages of the war itself provoked widespread scepticism regarding the utility of written theory. The intense criticism that early air power theorists had attracted, the failure of strategic bombardment during the early part of the war and the ongoing gap between technology and theory (which, despite narrowing, persisted to the war's end) all combined to make most air force personnel reluctant to commit their thoughts to paper.[31] Ongoing concerns about being absorbed back into armies and navies appear to have reinforced this aversion, and the prospect of attracting unnecessary criticism from army and naval officers dissuaded many within air forces from recording theoretical developments. The result was that within Western air forces, including the RCAF, a strong oral (rather than written) tradition of passing lessons from senior to junior officers developed.[32]

Doctrine and Canadian Air Force Culture during the Cold War

Prior to the Second World War, the RCAF based much of its organisational culture on that of the RAF, something that was reflected in its doctrine.[33] Although a uniquely Canadian culture began to emerge during the Second World War, after the war this was quickly subsumed into a cultural realignment wherein RCAF culture came to mirror that of the USAF. The reasons for this cultural shift were summarised by Allan English:

> Before the Second World War, the RCAF imitated its British counterpart in doctrine, ranks, and uniforms. By the Second World War, the "Canadianization" of overseas squadrons demanded by the public resulted in a gradual shift toward a more Canadian character in the RCAF overseas. At home, the British Commonwealth Air Training Plan not only perpetuated a Canadian way of doing things among the majority of the RCAF [personnel] who remained on this side of the Atlantic, but it also exposed many British aircrew trainees to a Canadian culture very different from the culture they had come from in the United Kingdom. With the advent of the Cold War [sic] and its close association with the US Air Force in both NORAD and NATO, the RCAF (and later Canadian air force) came under the strong cultural influence of its neighbour to the south.[34]

..."the apparent failure of strategic bombing to meet its supporters' claims damaged the credibility of air power generally."[27]

Despite this cultural shift, the strong oral tradition that had already developed within the RCAF by the close of the Second World War was perpetuated by several trends that occurred during the cold war.

The first of these trends was the RCAF's continued adoption of RAF and USAF tactical and operational doctrine (subject to its existence). In addition to constituting a disincentive to the development of an independent body of theory and doctrine within the Canadian Air Force, this practice arguably served to narrow the focus of many officers to operational and tactical issues, to the detriment of strategic thinking. As a result, the development of Canadian Air Force institutional strategy during the cold war was not driven by, or related to, a strong theoretical framework. Instead, it appears that the primary strategic focus of the Air Force was achieving operational and tactical interoperability with the USAF in the context of the North American Aerospace Defense Command (NORAD) and with European allies in the context of the North Atlantic Treaty Organization (NATO).[35] The lack of development of a theoretical framework to guide Canadian Air Force strategy was further compounded by the nature of the few RAF and USAF strategic publications available, almost all of which were not applicable to the Canadian Air Force since they related to the deployment of nuclear weapons that the Canadian Air Force did not possess.

Perhaps more detrimental, however, was the effect of the unification of the Canadian Forces (CF) in 1968. As discussed above, Western air forces had long been concerned about the possibility of being reabsorbed into armies and navies. For the RCAF, unification effectively had the same result; the fact that the RCAF was divided among the unified CF's newly established "commands," rather than between the army and navy, was merely a detail.[36]

Initially, the post-unification structure of the CF did not include an organisation exclusively responsible for applying air power because the former RCAF units were divided, in accordance with their primary function, among the CF's six new "commands." Maritime Command, for example, was assigned the former RCAF anti-submarine and other maritime-based assets, Mobile Command the CAS assets and Air Transport Command the strategic and some tactical lift assets.[37] Although the period of such stark division was short-lived (the amalgamation of Air Defence and Air Transport Commands into Air Command in 1975, accompanied by the subsequent amalgamation of all other Canadian air assets into this new command, regardless of their primary function, provided a common foundation upon which an air force culture could be rebuilt),[38] it nonetheless had ongoing ramifications for doctrine development. One of these ramifications was the exacerbation of the existing focus on operational and (especially) tactical issues. Another was to heighten the prominence of capability-based "communities" within the Canadian Air Force.

In this context, the term "communities" refers to the different capability components that constitute an air force, or more accurately, to the attitudes of the individuals within their communities. Just as armies have corps and regiments and navies have different classes of ships to perform different roles, so too are air forces comprised of different components, each charged with performing a different primary role. Examples of air force communities based on these components include the personnel primarily involved with the flight and maintenance of "fast-jets" (mostly fighter aircraft), surveillance aircraft, helicopters, tactical (or battlefield) and strategic transport aircraft and so on. Furthermore, other communities exist that overlap these component-based groupings. These additional communities may be based on occupation (such as maintenance personnel, logisticians and pilots) or on the type of service an individual renders (such as Reserve or Regular service).[39] Although these divisions exist in most air forces, in Canada unification had the effect of increasing the significance of the division between the air force's capability-based communities.

As will be discussed in more detail in the second part of this article, the heightened division between the Canadian Air Force's communities proved to be an additional impediment to the production of sound doctrine by the Canadian Air Force. This was for two reasons, the first being the natural inclination of each community to focus on the pragmatic and tactical elements of its role, to the detriment of broader strategic and theoretical thinking. The second was that the prominence of the Air Force's communities generated and perpetuated a culture of "stovepiping." (In general, stovepiping is defined as "the condition that exists when staff or support personnel forget that they are subordinate to a line commander," instead following instructions from higher up within the staff or support branch hierarchy.[40] In the case of the Canadian Air Force, its stovepipes were divided along similar lines to its various capability-based community groups, with loyalties being directed upwards within each community.)[41]

Conclusion

By the end of the cold war, Canadian Air Force culture had long been characterised by a strong oral tradition, wherein ideas were verbally disseminated between officers. In addition to inhibiting professional writing by air force personnel (with the possible exception of those attending staff college), this aspect of Canadian Air Force culture was accompanied by a tendency to pragmatically focus on contemporary issues rather than the development of broader theories and doctrines.

The roots of this aspect of Canadian Air Force culture lay in the early history of the theoretical development of air power. In particular, the intense criticism early air power theorists had attracted during the interwar period, and the early years of the Second World War served as a deterrent to many air force personnel, who became strongly reluctant to commit their thoughts to paper. Furthermore, the existing propensity of Canadian Air Force personnel to eschew written theory and doctrine was compounded by several trends during the cold war. These included the Canadian Air Force's adoption of RAF and USAF doctrine manuals in lieu of domestic doctrine development as well as the ramifications of the CF's unification in 1968.

Despite this aspect of its culture, there was still a minority within the Canadian Air Force who were willing to experiment with doctrine development. Following the formation of Air Command in 1975, momentum behind doctrine development gradually grew within the Air Force. The history of this development, and how it has interacted with the Air Force's doctrinally adverse culture, will be the subject of the second part of this article. ■

Editor's Note: In editing this article, the author's Australian spelling conventions have been maintained.

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List of Abbreviations

CAS	close air support	RAF	Royal Air Force
CF	Canadian Forces	RCAF	Royal Canadian Air Force
NATO	North Atlantic Treaty Organization	USAF	United States Air Force
NORAD	North American Aerospace Defense Command	US	United States

Notes

1. Paul Johnston, "Canopy Glint: Reflections on *Out of the Sun: Aerospace Doctrine for the Canadian Forces*," in *Air Force Command and Control*, ed. Douglas L. Erlandson and Allan English (Winnipeg, MB: Canadian Forces Training Material Production Centre, 2002), 83.

2. John Westrop (Chair), *Aerospace Doctrine Study: Final Report* (Ottawa: Canadian Air Force, 30 April 2002), iv.

3. Robert Futrell, *Ideas, Concepts, Doctrine, Volume 1: Basic Thinking in the United States Air Force, 1907–1960* (Maxwell Air Force Base: Air University, 1989), 2–3.

4. *Canadian Forces Aerospace Warfare Centre Concept of Operations (Final)* (n.p., Canadian Air Force, 7 June 2005).

5. Canada, Air Force, *B-GA-400-000/FP-000 Canadian Forces Aerospace Doctrine* (Trenton, ON: Canadian Forces Aerospace Warfare Centre, 2007). Available online at http://www.airforce.forces.gc.ca/cfawc/cdd/Publications/B-GA-400-000-FP-000_e.asp (accessed May 8, 2009).

6. Brian Holden-Reid, *A Doctrinal Perspective 1988–98*, The Occasional No. 33 (United Kingdom: Strategic and Combat Studies Institute, May 1998), 13.

7. Ibid.

8. Carl von Clausewitz, *On War*, ed. and trans. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 578. Originally published in 1832.

9. Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge MA: Harvard University Press, 1957), vii.

10. Colonel Charles G. Williamson (writing in 1943). Quoted in Futrell, *Ideas, Concepts, Doctrine, Volume 1*, 1–2.

11. Markus Mader, *In Pursuit of Conceptual Excellence: The Evolution of British Military-Strategic Doctrine in the Post-Cold War Era, 1989–2002*, Studies in Contemporary History and Security Policy No. 13 (Bern: Peter Lang, 2004), 22.

12. "Keystone" is the term used to denote the highest (or sometimes the first) doctrine manual in a series or hierarchy. Usually, the keystone manual contains overarching principles designed to provide philosophical guidance for the conduct of operations. Discussion within other doctrine manuals within the hierarchy, which may be narrower in focus, is usually required to align with discussion within the keystone manual.

13. Discussion of this history begins with the First World War. Although there were several experiments and incidents of the use of the air for military purposes prior to this war, these were limited in scope, effect and vision, and the evolution of air warfare and of air power theory cannot be considered to have taken on its "modern" form until after the outbreak of the First World War. For a history of pre-First World War air power, see Basil Collier, *A History of Air Power* (London: Weidenfeld & Nicolson, 1974), 1–82.

14. Tami Biddle, "Learning in Real Time: The Development and Implementation of Air Power in the First World War," in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds. Sebastian Cox and Peter Gray (London: Frank Cass, 2002), 6.

15. Ibid., 4.

16. Giulio Douhet, *The Command of the Air* (Arno Press: New York, 1972), 24. Originally published 1921.

17. Ibid., 28.

18. Ibid.

19. Ibid., 35.

20. David McIsaac, "Voices from the Central Blue: The Air Power Theorists," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton: Princeton University Press, 1986), 630–1.

21. David E. Omissi, *Air Power and Colonial Control: The Royal Air Force 1919–1939* (Manchester: Manchester University Press, 1990); and Timothy Garden, "Air Power: Theory and Practice," in *Strategy in the Contemporary World: An Introduction to Strategic Studies*, eds. John Baylis, James Wirtz, Eliot Cohen and Colin S. Gray (Oxford: Oxford University Press, 2002), 142–3.

22. Mader, *In Pursuit of Conceptual Excellence*, 106.

23. Although it operated as an autonomous force during the Second World War, the US Air Force was not officially separated from the US Army until September 18, 1947. David A. Anderton, *The History of the US Air Force* (London: Hamlyn-Aerospace, 1981), 134.

24. Brereton Greenhous and Hugh A. Halliday, *Canada's Air Forces 1914–1999* (Montreal: Art Global, 1999), 41.

25. A good example of this is Douhet's concept of the "battleplane." Douhet, *Command of the Air*, 117–120. For further examples, see McIsaac, "Voices from the Central Blue," 634–5.

26. Alan Stephens, *Power Plus Attitude: Ideas, Strategy and Doctrine in the Royal Australian Air Force 1921–1991* (Canberra: RAAF Air Power Studies Centre, 1992), 5–9.

27. Ibid., 8–9.

28. Air supremacy exists where enemy air power cannot present a threat to one's own forces or territory. Ian McFarling, *Air Power Terminology*, 2nd ed. (Canberra: The Aerospace Centre, 2001), 10.

29. Richard P. Hallion, "The Second World War as a Turning Point in Air Power," in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds. Sebastian Cox and Peter Gray (London: Frank Cass, 2002), 93–124.

30. Mader, *In Pursuit of Conceptual Excellence*, 108.

31. There was, of course, much debate about the potential role of nuclear weapons during this period, with much of it related to notions of strategic bombardment. However, participation in the written aspect of the debate by members of Western air forces was sparse. Lawrence Freedman, "The First Two Generations of Nuclear Strategists," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton: Princeton University Press, 1986), 735–78, esp. 736–7.

32. Carl H. Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the US Air Force* (New Brunswick: Transaction Publishers, 1994) examines the role of the theoretical development of air power and its relationship to the USAF and concludes that the USAF's abandonment of air power theoretical development during the decades following the Second World War led to many of the institutional problems it encountered during the 1980s and early 1990s. Mader, *In Pursuit of Conceptual Excellence*, 111–2, highlights the factors that led to the stagnation of air power theoretical and doctrinal development within the RAF during the cold war. In the case of the Canadian Air Force, a comprehensive study of the role air power theory played during its early history is yet to be undertaken. Allan D. English, *Understanding Military Culture: A Canadian Perspective* (Montreal: McGill-Queens University Press, 2004) esp. 93–5 examines the culture of the RCAF during this period, emphasising its close alignment with that of the USAF. This alignment, combined with the lack of available Canadian material from this period that addresses air power theory, suggests a high likelihood that the RCAF experience was similar to that of its larger allies.

33. For an overview of the RAF's interwar doctrine development, see William March, "Different Shades of Blue: Interwar Air Power Doctrine Development; Part 1: Air Power, Doctrine and the Anglo-American Approach," *The Canadian Air Force Journal* 2, no. 1 (Winter 2009), 20–23. Available online at http://www.airforce.forces.gc.ca/CFAWC/eLibrary/Journal/Vol2-2009/Iss1-Winter_e.asp (accessed May 8, 2009).

34. English, *Understanding Military Culture*, 95.

35. On NORAD and NATO, see Danford W. Middlemiss and Denis Stairs, "The Canadian Forces and the Doctrine of Interoperability: The Issues," in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed, Ann L. Griffiths (Halifax: Centre for Foreign Policy Studies, Dalhousie University, 2002), esp. 15–7; Joseph Jockel, "NORAD: Interoperability at 'The Zenith'," in *The Canadian Forces and Interoperability: Panacea or Perdition?*, 126–34; and Public Diplomacy Division, *NATO Handbook* (Brussels: NATO, 2006), 15–29.

36. Since the Mulroney Government reintroduced a limited form of separation of the services in the mid-1980s, there has been little evidence that the Canadian Air Force has continued to be wary about the potential division of its assets into the other CF commands and today this concern does not seem to be as prominent as one might suspect. Quoting Douglas Bland, Allan English offered a possible explanation for the Canadian Air Force's recent nonchalance in this regard: "Bland tells us that 'few senior officers would be so bold as to advocate the dismantling of a rival service, at least overtly,' because they understand that 'appearing to share scarce resources protects them from criticism.'" English, *Understanding Military Culture*, 105.

37. Desmond Morton, *A Military History of Canada: From Champlain to Kosovo*, 4th ed. (Toronto: McClelland & Stewart, 1999), 251.

38. Ibid., 261.

39. Allan English and John Westrup, *Canadian Air Force Leadership and Command: The Human Dimension of Expeditionary Air Force Operations* (Trenton, ON: Canadian Forces Aerospace Warfare Centre, 2007), 156–227. Available online at http://www.airforce.forces.gc.ca/cfawc/eLibrary/eLibrary_e.asp (accessed May 11, 2009).

40. Richard Szafranski, "Desert Storm Lessons from the Rear," *Parameters* 21, no. 4 (Winter 1991–2), 45; and Builder, *The Icarus Syndrome*, xiii–xix.

41. English and Westrup, *Canadian Air Force Leadership and Command*, 156–8.