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**Principles of War in Doctrines at the Operational Level;  
A Comparison of the Doctrines “Canadian Forces Operations” (AF-000),  
US “Doctrine for Joint Operations” (JP 3-0) and  
Austria’s Regulation “Operational Command”(Draft)**

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## **Abstract**

This paper argues that the “classic” Principles of War are incorporated in the operational joint doctrines of three fundamentally different countries; specifically, Canada, the United States and Austria. To make this case, the Principles of War will be reviewed, using the US Doctrine Manual for Joint Operations as a source document. A comparative analysis will then be carried out of the Principles of War, focused on the key elements of the principles according to their definition in American doctrine and their incorporation in the doctrines and manuals on the operational level. Finally, one of the principles – Mass – will be examined in greater depth, according to its application in the doctrine, as well as its importance in the Gulf War, to confirm not only its continuing relevance, but also its effectiveness as a key element of operational art.

# **Principles of War in Doctrines at the Operational Level; A Comparison of the Doctrines “Canadian Forces Operations” (AF-000), US “Doctrine for Joint Operations” (JP 3-0) and Austria’s Regulation “Operational Command”(Draft)**

*“The Principles of War are as relevant today as they were fifty years ago. Indeed, they are as relevant as they have been since they began to emerge in the writings of strategists theorists as long as Sun Tzu”<sup>1</sup>*

## **Introduction**

Since the very beginning of mankind, men fighting against each other to reach specific interests has been a part of identity and culture. Because fighting of wars often not only held a potential risk for the human being, but was also of an essential importance for the community, the operational art of conducting campaigns was critical. How to win the war was probably always a topic of existential interest and, therefore, the understanding of inherent rules or Principles of War was and remains helpful and necessary.

If we accept the assertion by Maj Gen Milton above, then the Principles of War will have had to “survive” fundamental and dramatic social, geo-political, economic and technical changes, since their formal promulgation in the latter half of the last century and moreover, back to their roots in ancient times.

One litmus test of the continuing relevance of the Principles of War is their inclusion in the curricula taught in professional military schools and their use in the operational doctrines of numerous countries. This paper will argue that this latter element, that is the application of the Principles of War in the operational doctrine of three fundamentally different countries, specifically, Canada, the United States and Austria, provides clear evidence of their relevancy.

As a point of departure, an examination of the three referenced countries and confirmation of some of their fundamental and significant differences follows.

## **The Countries – A Comparison<sup>2</sup>**

The geographical area of the USA at 9.159.000 km<sup>2</sup> is almost the same size as Canada with 9.221.000km.<sup>2</sup> Conversely, Austria with an area of 84.000km<sup>2</sup> is less than one percent of the size of Canada. Whereas the USA and Canada have direct access to three oceans, Austria is literally land-locked as it is located in the middle of Europe. However, unlike the US who has two neighbors and Canada who has only one, Austria is not only surrounded by eight states, in

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<sup>1</sup> T. Milton, “British defense doctrine and the British approach to military operations” RUSI Journal (December 2001): 41

<sup>2</sup> [www.cia.gov/cia/publications/factbook/](http://www.cia.gov/cia/publications/factbook/); The world fact book 2001; 20 September 2002

the context of the European Union, it must abide by the regulations as part of the Schengen-border.<sup>3</sup>

The United States far outweighs both Canada and Austria in terms of Gross Domestic Product (GDP). The GDP of the USA, at US\$9.963 trillion, compared with Canada's US\$775 billion, and Austria's US\$203 billion, is approximately 50 and 4 times larger respectively. Per capita, Canada and Austria are closely aligned at US\$24.800 (Canada) and US\$25.000 (Austria); however they are again lower than the American GDP per capita of \$ 36.200.

The manpower availability in the USA equates to about 70.820.000 personnel, compared to Canada's 8.325.000 and Austria's 2.091.000. The military expenditures for the USA of US\$276.7 billion, is at 3.2 percent of the GDP, whereas Canada invests US\$7.5 billion, (1.3 percent GDP), and Austria US\$1.7 billion (1.2 percent). One of the main differences between these two North American countries and Austria is in the composition of their militaries; both the USA and Canada have mainly professional armed forces, whereas Austria's armed forces are structured through a conscription basis. The United States and Canada are members of the North Atlantic Treaty Organization (NATO); Austria is a neutral state.

## Discussion

### *The Principles of War*

Given the tremendous volume of material written on the Principles of War and their application, a decision must first be made as to whose definition and, subsequently, which approach in application should be adopted for the purposes of this paper. This decision is not made easy, given the often-conflicting and countervailing views.

For example, in the American context, there are two distinct schools of thought on the principles. Authors such as R.R. Leonhard represent one point of view in that he notes, "...the current single word list is too simplistic, of limited use and should be replaced by dialectic or a series of arguments".<sup>4</sup> Others, such as Alvin and Heidi Toffler, J. Keegan and Martin von Creveld support the Leonhard thesis by arguing that new threats need new answers and therefore, as a consequence, new principles.<sup>5</sup>

When taking a first look at the newly developed Principles of War deduced by Leonhard, one can find the principle of knowledge and ignorance as the overarching independent principle, followed by three packs of principles; The principle of aggression with the elements of dislocation and confrontation, the principles of interaction with the elements of opportunity, reaction and activity/ security and, lastly, the principles of control consisting of option, acceleration, objective and command/ anarchy.<sup>6</sup> Regardless the fact that this set is not used in any actual doctrine, many of those elements sound similar to the "classic" set of Principles of War including their interpretation.

Alternatively, many espouse the thesis that the principles remain applicable, at least in operations in war. Some, like C.A. Willoughby, assert that "...these principles are basic and

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<sup>3</sup> This regulation has the effect that the border to the non-EU-members has to be controlled in an accurate manner; inside the EU there are in general no controls on the border intended.

<sup>4</sup> John L. Gifford, "The Principles of War for the Information Age" *Military Review* (July-August 2000): 106-107

<sup>5</sup> S. Metz, "A Wake for Clausewitz: Toward a philosophy of 21<sup>st</sup>-century warfare: Parameters (Winter 1994-95): 126 - 132

<sup>6</sup> Robert R. Leonhard, "The Principles of War for the information age", *Presidio Press* 1998: 252

immutable; the great commanders have been guided by them”.<sup>7</sup> Certainly, his argument is supported by the continued inclusion of these principles in U.S. doctrine and by their application by the world’s only remaining super power, in a series of recent operations. Other countries have incorporated in their doctrines similar “classical” principles. A comparison between nations shows that there are minor differences in naming principles of war between the groups of nations represented by the United Kingdom, Australia, New Zealand, Canada and the US.<sup>8</sup> But considering the fact that the US has been, in the last decades, the lead nation in most of the combined operations and that this will remain for the foreseeable future, the likely trend is an heavy impact for the developing of doctrines of allied nations or members of the partnership for peace (pfp).

Thus, the U.S. Joint Publication, JP 3-0, which defines these principles, based on their evolution during the last century and into the new millennium, will be used as the source document for both the definition and description of the principles of war. It should be noted that, although JP 3-0 distinguishes between the Principles of War and the Principles for Operations Other than War, this paper will only deal with the former.<sup>9</sup>

Therefore the Principles of War as used in this paper are: objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity.<sup>10</sup>

## **A Comparative Analysis**

Doctrine: *Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.*<sup>11</sup>

### **AF-000:**

The Canadian Forces Operations Doctrine, AF-000,<sup>12</sup> is obviously the most detailed document based on size alone of the three doctrines (Canada, US, and Austria). Its contents follow the definition of doctrine, because it contains regulations for the use of military forces, demands authoritativeness and leaves the Commanding Officer with freedom of action in order to execute his mission. AF-000 is a joint doctrine.

The doctrine is comprised of four main parts, organized into 35 chapters. The first part and, for this comparison, the most important portion of the manual, deals with doctrinal concepts and guidance. This introduction is structured in two parts; one orientated to a top-down approach from the strategic to the tactical levels, and the other following the phases from orientation to the planning of a campaign plan. In the latter, the process is also described using the rules of the operational process and ends with regulations for the use of force in CF operations, training and exercises. Finally, there is a discussion on the task force organization. Parts two, three and four deal with international operations, domestic contingency operations and enabling operations.

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<sup>7</sup> Glenn, R. W. “No more Principles of War?” Parameters (Spring 1998): 50

<sup>8</sup> R. Brooks, “The Principles of War in the 21<sup>st</sup> Century: Operational Considerations” Canadian Forces College: Appendix 5

<sup>9</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: V 3

<sup>10</sup> JP 3-0: A1

<sup>11</sup> [www.dtic.mil/doctrine/jel/new\\_pubs/jp1\\_02.pdf](http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf), 20 September 2002

<sup>12</sup> B-GG-005-004/AF-000, Canadian Forces Operations, 18 September 2000

AF-000 provides a remarkably high level of detail in explaining concepts. Some parts, in particular chapter four of Section One which expands on the operational planning process, and the entire portions of Parts Three and Four delve deeply into the regulations of specific processes. The Canadian manual seems to follow a norm, which could be characterized as packing a complete explanation of the concept, including specified principles inside the chapters.

Moreover, there are some concepts explained within AF-000 that have no comparable items in the US and Austrian doctrine manuals. These include Chapter V, “the use of force in CF operations” and Parts III and IV in their entirety.

In AF-000, the principles of the design of the operational planning process are found. They are further described in AF-004 “Force Employment”. These principles are: mission, viability, security, timeliness, clarity, flexibility, economy of resources and distribution.<sup>13</sup> The Principles of War in a joint context are not expressis verbis doctrinally incorporated but are the common basis of doctrines and manuals.<sup>14</sup> They are also found in Commonwealth doctrine and consist of aim, morale, offensive action, surprise, security, concentration of force, economy of effort, flexibility, cooperation and administration.<sup>15</sup>

### **JP 3-0:**

The US doctrine for Joint Operations JP 3-0 was published in September 2001 and is structured into six chapters.<sup>16</sup> The contents of JP 3-0 follow the common definition of doctrine, as it describes regulations for the use of forces, demands authoritativeness and leaves the Commanding Officer the necessary freedom of action in order to execute his mission. The focus of the doctrine deals with the planning and conducting of joint operations, in addition to the strategic context, fundamentals of joint operations, military operations other than war and multinational operations. The portion on military operations other than war (chapter Five) will not be considered in this paper.

In summary the US doctrine is a concise document, which is clearly structured and outlines the hierarchical status of the environment of joint doctrine. Interesting is the significant impact of the Prussian theoretician Clausewitz; his ideologies are dispersed throughout, as are a number of his quotes.<sup>17</sup> The Principles of War seem to be the guidance all doctrine and are basically used for the comparison below. The orientation of the doctrine is mainly focused on operations abroad based on the assumption of the US as a lead nation.

### **Operative Leadership:**

The draft of the Austrian Field Manual (FM) is titled “Operative Leadership” and was published in May 2002.<sup>18</sup> Although only a draft, it will follow the definition of doctrine when

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<sup>13</sup> Canadian Forces Operations, AF-000: 4-2, 4-3

<sup>14</sup> Military Studies Air Component Programme (MS/ACPI), second edition – July 1996, Canadian Forces College: 3-6/17

<sup>15</sup> R. Brooks, “The Principles of War in the 21<sup>st</sup> Century: Operational Considerations” Canadian Forces College: Appendix 5

<sup>17</sup> R.J. Young, “Clausewitz and his influence on U.S. and Canadian military doctrine” in A.D. English, The changing face of war: Learning from history, University press 1998: 20

<sup>18</sup> Merkblatt “Operative Fuehrung” (Entwurf); Generalstabsgruppe B, Beilage zu GZ.: 64.407/0001-5.6/02 vom 07.05.2002

implemented. The author did the translation of the specific parts to be discussed with the use of the “Militaerisches Studienglossar”.<sup>19</sup>

The Austrian FM’s content is structured into five main chapters. Starting with the identification of the purpose of the military-strategic aims (as comparable with the strategic level for Canada) the operational techniques in use for the Austrian Armed Forces while stationed inside Austria are listed. The main chapter “Operative Leadership” highlights in a phased approach, the definitions and the influence of policy-strategy, military-strategy, operations and tactics. In addition, the art and tenets of operations are outlined, as are the elements of operations, including aspects of combined and joint operations. Next is the planning and conducting of operations including the situational estimate of the situation on the operational level. In the last chapter, the many facets of combat service support is discussed.

In summary the Austrian FM is another concise document which takes into account the main doctrines of the German Fuehrungsakademie, the NATO Allied Joint Doctrine (AJP-01) and NATO’s Guidelines for Operational Planning (GOP).<sup>20</sup>

In the Austrian manual, the Principles of War are fixed and contain: orientation at the aim, unity of command, unity of doing, initiative, concentration of forces, economy of forces and sustainability, surprise and deception, simplicity, acceptance of orders by subordinates and mission-type tactics.<sup>21</sup>

## ***Evaluation of the doctrines on the basis of the Principles of War in general:***

### **Objective:**

In terms of the definition as expressed in JP 3-0, the main element in military operations is that the objective is clearly defined, decisive and attainable and that there exists a narrow context of the objective with the political goal.<sup>22</sup>

In examining **AF-000**, and in the context of designing the operational planning process, the principle of mission is stated but not defined.<sup>23</sup> However, in the cross referenced section to AF-004, there is a clearer statement of the desired end state of the mission and of its’ limitations; this is identified as a necessary requirement. Additionally it states that the aim of an operation must be consistent with the nation’s defence objectives while being achievable within available resources.<sup>24</sup>

In “the levels of conflict” there is a requirement that the translation of policy goals into military action has to be clear with a consistency between military and political objectives.<sup>25</sup> The latter concept can also be found in the “strategic levels of conflict”, when the achievement of the political objectives through military power is demanded. Again, in the “campaign design” phase

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<sup>19</sup> The “Militaerisches Studienglossar”, published by the German “Bundessprachenamt” in April 1996 is a for the specific use in armed forces designed dictionary

<sup>20</sup> Merkblatt “Operative Fuehrung” (Entwurf): 9

<sup>21</sup> Merkblatt: 44 - 47

<sup>22</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 1

<sup>23</sup> Canadian Forces Operations, AF-000, 18 September 2000: 404, 2 a)

<sup>24</sup> Force employment, AF-004, 6 September 1998: 203 2 a)

<sup>25</sup> Canadian Forces Operations, AF-000, 18 September 2000: 110, 1.



with the mission analysis there must be ample coordination between the military and political leaders, and should include a feedback mechanism to monitor how the goal is progressing.<sup>26</sup>

**In JP 3-0**, though the principle of objective is defined in Annex A, the importance of its use is underlined through the whole doctrine. Starting with the executive summary the close context between political and strategic/operational goals, including a feedback procedure, is the focus of chapter one and again in the beginning of chapter three.<sup>27</sup> The other criteria of the definition of “objective” are described in chapter three through the planning of the campaign, the requirement to choose centers of gravity or decisive points and again in chapter Four to choose the center of gravity of the enemy.<sup>28</sup>

In the **Austrian Operative Leadership**, the principle of “Orientation towards the aim” is the overarching aim for all military operations, which are conducted under the political direction.<sup>29</sup> For the principle “unity of doing” the focusing of all efforts to reach one aim is essential.<sup>30</sup> In addition, the principles of economy of force and sustainability are defined, stating that all forces should be employed to achieve the mission.<sup>31</sup> Furthermore, in the main chapter of Operative Leadership, the elements of decisive points are described as potential objectives.

### **Offensive:**

In relation to the definition of offensive operations, in JP 3-0, the main elements of military operations are identified as to seize, retain and exploit the initiative, doing this by maintaining freedom of action and achieving decisive results.<sup>32</sup>

**In AF-000** the same definition of offensive operations exists, yet is expressed in other terms. In the “conduct of the campaign” the seizing and maintaining of the initiative is heavily stressed; initiative is described as the key to success and as a prerequisite for achieving the objective.<sup>33</sup>

**In JP 3-0** the principle of offensive operations is defined in Annex A; the description of which highlights the importance of starting at the fundamentals of campaign plans, when the sequence of planning a series of operations is stated and as a basic principle in chapter two in the context with leverage, timing and tempo, gaining the initiative in common with culmination and is stated in chapter four as a normally decisive operation mainly direct or indirect against enemies center of gravity.<sup>34</sup>

**In Operative Leadership**, the principle of initiative as stated, covers most of the criteria as explained in the definition.<sup>35</sup> Additionally in the context of domestic operations within Austria’s territory, it is stressed that operations for the strategic defense of Austria should always be conducted as “offensive defensive operations”.<sup>36</sup>

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<sup>26</sup> AF-000: 303, 3

<sup>27</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: VII - XII

<sup>28</sup> JP 3-0, III 4; III 6; III 22; III 23; IV 6

<sup>29</sup> Merkblatt “Operative Fuehrung” (Entwurf): 44 1

<sup>30</sup> Merkblatt: 44 3

<sup>31</sup> Merkblatt: 44 6

<sup>32</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 2

<sup>33</sup> Canadian Forces Operations, AF-000, 18 September 2000: 313

<sup>34</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: III 8; III 14; III 14; II 20; III 23; IV 8; IV 9

<sup>35</sup> Merkblatt “Operative Fuehrung” (Entwurf): 45 4

<sup>36</sup> Merkblatt: 20

## Economy of force:

In describing the definition of economy of force in JP 3-0, the main elements in military operations are the purpose of allocating minimum military power to secondary efforts, doing this through allocation of combat power to different tasks to achieve mass at the decisive point.<sup>37</sup>

**Looking at AF-000** the context of economy of resources is used when progressing through the design of the operational planning process, however the term is not defined adequately.<sup>38</sup> In cross referencing to AF-004, there is a definition provided, and states that economy of resources means that a plan must provide for maximum economy in the use of resources.<sup>39</sup>

Additionally it is understood that the aim of an operation must be consistent with defense objectives and it must be achievable within available resources. In a wider sense, the criteria of feasibility demands the availability of the sufficient resources.<sup>40</sup>

**In JP 3-0** this principle is defined in Annex A; stated as a principle of war in chapter two it is clearly specified in chapter three, when in the context of balance of the force, and describing of the necessary leverage the combat elements have to be designed to accomplish their mission. The principle of mass is closely dependent on the principle of economy of force.<sup>41</sup>

**In Operative Leadership** the principle of economy of force, sustainability and concentration of the forces covers the main concept.<sup>42</sup> Because of the very limited Austrian Armed Forces this principle is a necessary element of all considerations and therefore an inherent principle.

## Maneuver:

On the basis of the definition of maneuver in JP 3-0 the main elements in military operations outlines the purpose of maneuver as the ability to place the enemy in a position of disadvantage through the flexible application of combat power, and is meant by movement of forces in relation to the enemy.<sup>43</sup>

**In AF-000**, it is determined that one of the principles to consider in the operational planning process is that of flexibility, though there is no definition of flexibility in AF-000.<sup>44</sup> According to AF-004, it is stressed that staffs must prepare plans, which are flexible.<sup>45</sup> Other parts of this principle can be found in the description of the conduct of the campaign, when in “seizing and maintaining the initiative” flexibility is demanded, especially in a high operational tempo where our own forces are faster than the enemy, with the purpose to make the enemy unable to react.<sup>46</sup>

**In JP 3-0** the principle of maneuver is defined in Annex A. It is also stated as a principle of war in chapter two and is clearly defined in chapter three, when in the context with timing and tempo many of the influence-factors are described. Later in chapter four movement as a necessarily precondition in the context of operational reach is mentioned and in all facilities described under the title “maneuver”.<sup>47</sup>

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<sup>37</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 4

<sup>38</sup> Canadian Forces Operations, AF-000, 18 September 2000: 404, 2 g)

<sup>39</sup> Force employment, AF-004, 6 September 1998: 203 2 g)

<sup>40</sup> Canadian Forces Operations, AF-000, 18 September 2000: 404, 4, b)

<sup>41</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 5; III 13; III 14

<sup>42</sup> Merkblatt “Operative Fuehrung” (Entwurf): 45 5, 46 6

<sup>43</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 5

<sup>44</sup> AF-000, Canadian Forces Operations, 18 September 2000: 404, 2, f)

<sup>45</sup> AF-004, Force employment, 6 September 1998: 203 2 f)

<sup>46</sup> AF-000, Canadian Forces Operations, 18 September 2000: 313, 1, 3

<sup>47</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: III 15; IV 3; IV 9

**In Operative Leadership** this principle is not named as a stand-alone principle, but it is realized mainly in the context of the phasing of operations. Maneuver is a standard phase in conducting an operation and is similar to the definition as described above.<sup>48</sup> When regulating the conduct of operations, depending whether their design is for inner- or outer-line operations the importance of strong and movable/flexible forces is again required.

### **Unity of Command:**

The basis of the definition of unity of command in military operations as identified in JP 3-0, states that the purpose is to make one commander responsible for every objective. This means requisite authority to direct all forces for the common purpose. When this should not be possible in specific operations, than unity of effort is essential.<sup>49</sup>

**In AF-000**, in the section entitled “principles of CF operations”, the Task Force Commander (TFC) must be delegated a level of command authority over all Canadian forces.<sup>50</sup> Additionally it is further emphasized that a command structure, which clearly defines the overall command responsibility, including during each phase, has to be established. In the principles of command the unity of command is expressis verbis demanded.<sup>51</sup>

**In JP 3-0** the principle of unity of command is defined in Annex A. It is further stated as a principle of war in chapter two and is generally specified as overall common sense in the executive summary, as an essential complement in chapter three and later as a fundamental principle of the campaign plan in chapter three.<sup>52</sup>

**In Operative Leadership** the principle of unity of command is also referred to as unity of effort and covers, together with the principle unity of doing, the same requirements as described above.<sup>53</sup>

### **Security:**

In JP 3-0 the main elements in the definition of security during military operations are to never permit the enemy an unexpected advantage. It results by measures taken by commanders and needs the understanding of enemy strategy.<sup>54</sup>

**AF-000** has included in the design of the planning process the principle of security, though again it is not specifically defined.<sup>55</sup> The cross reference to AF-004 states that a compromise of the plan, or even knowledge of its existence, could jeopardize the success of the operation.<sup>56</sup> Additionally in commanding the campaign there are more detailed considerations regarding the context of operational level intelligence in evaluating the enemy’s capabilities.<sup>57</sup>

**In JP 3-0**, this principle is defined in Annex A. It is also stated as a principle of war in chapter two, and is clearer in chapter three when the importance of anticipation, operations

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<sup>48</sup> Merkblatt “Operative Fuehrung” (Entwurf): 85

<sup>49</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 6

<sup>50</sup> Canadian Forces Operations, AF-000, 18 September 2000: 119, 2, 4a)

<sup>51</sup> AF-000: 203, 1

<sup>52</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A 9; II 6; II 12; III 8

<sup>53</sup> Merkblatt “Operative Fuehrung” (Entwurf): 45 2, 45 3

<sup>54</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 7

<sup>55</sup> Canadian Forces Operations, AF-000, 18 September 2000: 404, 2 c)

<sup>56</sup> Force employment, AF-004, 6 September 1998: 203 2 c)

<sup>57</sup> Canadian Forces Operations, AF-000, 18 September 2000: 312, 4

security and deception are mentioned. In chapter four its meaning is further highlighted together where protection of military forces and freedom of action are stressed.<sup>58</sup>

**In Operative Leadership** this principle is not signaled out as a stand alone principle. The importance of security is specifically highlighted, when the protection of the friendly forces information system is required.<sup>59</sup>

### **Surprise:**

In the definition of surprise as explained in JP 3-0 the main elements are based on the requirement to strike an unprepared enemy. To achieve this goal there are factors such as speed in every context, intelligence, deception and variations in tactics and operations necessary.<sup>60</sup>

**In AF-000** most of these points are in the definition of “tempo” whereas in this context, seizing the initiative, varying the rhythm of operations, completing quickly the decision-action cycle and maintaining flexibility are highlighted.<sup>61</sup>

**In JP 3-0** the principle surprise is defined in Annex A. It is further stated as a principle of war in chapter two, but it is mainly described in context with other principles. However, in chapter four, it is quoted directly in the discussions of unopposed operations.<sup>62</sup>

**In Operative Leadership** the principles of surprise and deception are incorporated within the doctrine. Therefore deception and unexpected combat power measures are also essential.<sup>63</sup> Additionally in describing of the principle of concentration of the forces the importance of the element of unexpected combat power is again stressed.<sup>64</sup>

### **Simplicity:**

In the definition of simplicity as explained in JP 3-0 the main elements are based on the requirement to prepare uncomplicated plans, to ensure a clear understanding at all levels and facilitate mission execution in all conditions.<sup>65</sup>

**AF-000** has clarity as a concept in the operational planning process, however, it is not clearly defined.<sup>66</sup> Clarity, as discussed in AF-004 is a consideration in the preparation of the staff and in presenting the plan in such a manner, that there can be no misunderstanding of the commander's intent.<sup>67</sup>

**In JP 3-0,** the principle of simplicity is defined in Annex A. It is stated as a principle of war in chapter two, though it is also an implied principle. In the executive summary it is directly quoted.<sup>68</sup>

**In Operative Leadership** this principle is also called simplicity and covers the same requirements.<sup>69</sup>

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<sup>58</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A 7; III 12; III 32; III 39; III 37; IV 1; IV 3

<sup>59</sup> Merkblatt “Operative Fuehrung” (Entwurf): 57

<sup>60</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 8

<sup>61</sup> Canadian Forces Operations, AF-000, 18 September 2000: 313, 3

<sup>62</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A 9; IV 4

<sup>63</sup> Merkblatt “Operative Fuehrung” (Entwurf): 47 7

<sup>64</sup> Merkblatt: 47 5

<sup>65</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 9

<sup>66</sup> Canadian Forces Operations, AF-000, 18 September 2000: 404, 2 e)

<sup>67</sup> Force employment, AF-004, 6 September 1998: 203 2 e)

<sup>68</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A 9; XII

<sup>69</sup> Merkblatt “Operative Fuehrung” (Entwurf): 47/8

## **“Mass” – an example of continuing relevance:**

Nowadays there are often discussions, as to whether there exists a predominant Principle of War and, if such is the case, which principle would be *primus inter pares*. Unfortunately, the doctrines give no hint to a possibly different value of certain Principles. It is argued in some circles that the Principle Objective would be the more important one compared with the Principle Mass. It is true that, without a clear objective, deduced from the overarching political aim, a sensible operational design cannot be developed. The same statement has value in the context of the demands of the “Auftragstaktik”, where the knowledge of the objective for the subordinate commanders is critical. On the other hand the Principle Objective can be considered as a *conditio sine qua non* in the meaning, that it is the prerequisite for command and control techniques and therefore the beginning of the loop. However, how to design an efficient campaign on the basis of the Objective requires the use of other Principles of War.

Going back in history, one of the famous early theoreticians, Clausewitz, highlighted the importance of identifying the “center of gravity”, so as to focus one's military efforts against the enemy's "center of gravity".<sup>70</sup>

Others like J. F. C. Fuller further developed these ideas. Fuller postulated that there are three groups of principles, which could be melded together to form the principle of “economy of force”;<sup>71</sup> these include the Principles of Control, Principles of Pressure and Principles of Resistance. B. H. Liddell Hart demonstrated similar thinking when he condensed his principles into one word “concentration”.<sup>73</sup> Concentration and Economy of Force actually seem to be two sides of the same coin, meaning the achievement of one aim is a prerequisite to the other. Together they can be considered as the essential “main” Principle of War.

Today this principle has still high visibility in both field manuals and doctrine. The Marine Corps emphasizes, in its FMFM 1 War Fighting, that there exist two important concepts that are highly significant and universal in its use – these principles are “concentration and speed”.<sup>74</sup>

But mass has often been misunderstood by interpreting it solely as the concentration of fire and forces. The current definitions modify this meaning to one of “effects of combat power” including amassing the effects of all pertinent capabilities, both military and other. These effects include army assets (armour, artillery, and aviation), joint support (intelligence means, aviation, naval gunfire, and missiles), special forces, psychological operations, electronic warfare and others.<sup>75</sup> In future scenarios such as “network centric mass”<sup>76</sup> Mass is again included.

The definition of Mass used by the Americans today has changed little, focusing to highlight the *effects* of combat power to avoid misinterpretations. The purpose of Mass is to concentrate the effects of combat power at the most advantageous place and time to achieve decisive results.<sup>77</sup> This requires the commander to synchronize and/or integrate appropriate force capabilities, where they will have a decisive effect in a short period of time. Mass often must be sustained to have the desired effect. Massing effects, rather than simply concentrating forces, can

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<sup>70</sup> [www.clausewitz.com](http://www.clausewitz.com), the clausewitz homepage: what made Clausewitz so important, 20 September 2002

<sup>71</sup> Glenn, R. W. “No more Principles of War?” *Parameters* (Spring 1998): 51

<sup>72</sup> Glenn: 51

<sup>73</sup> Glenn: 51, 53

<sup>74</sup> Glenn: 54

<sup>75</sup> Glenn: 58

<sup>76</sup> P. Murdock, “Principles of War on the Network-Centric Battlefield: Mass and Economy of Force” *Parameters* (Spring 2002): 88 - 90

<sup>77</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: Appendix A; 3

enable even numerically inferior forces to achieve decisive results and minimize human losses and waste of resources.

The definition used in JP 3-0, in combination with the development of the principle, actually seems to serve as a focus of the whole “formula” of warfare, to which each of the other principles contribute directly or indirectly.

When trying to test which other principles of war could be interpreted as incorporated in Mass, most of the criteria of “objective”, which were delineated earlier, are included. Even the necessity to achieve the political goal is implemented, when the descriptor “at the most advantageous place and time to achieve decisive results” is used. Decisive in this context can be considered as fulfilling the overarching political aim.

Economy of Force seems to have the same contributing role, when the purpose of minimizing essential combat power to secondary efforts in order to achieve Mass elsewhere is stated. Maneuver, with the aim to place the enemy in a position of disadvantage, has no other purpose than to outbalance the forces at the decisive points according to the commander’s evaluation. Unity of Command is a necessary prerequisite of conducting an operation successfully; security, surprise and simplicity are again elements, which combine to achieve Mass against decisive objectives.

Mass can thus be considered as the expression of that focus, which has to be reached through military action in fulfilling the political will. The other “secondary” tenets can be considered as those elements, which are, together, necessary to seize the objective. Evaluating the historical experiences and the experiences of modern warfare demonstrates the contribution other principles make to the achievement of Mass. This also fits with the point made in the Marine Corps FMFM 1 that the second main principle, Speed, is considered as nothing more than Mass in the context of time. The extraordinary position of Mass can be clearly demonstrated in each of the three doctrines.

**AF-000** focuses on both objective and mass, whereas decisive points in the context of centers of gravity are summarized in the operational objectives and, together, define the starting point.<sup>78</sup> The other elements of mass are exemplified through the necessity of synchronizing the forces in sequencing and synchronizing.<sup>79</sup>

**The JP 3-0** has consistently incorporated the definition used for this study. In the context with center of gravity and decisive points there has to be considerations given in the planning of joint forces.<sup>80</sup> Synergy, synchronization and joint warfare together with concepts of depth, timing, tempo and leverage in general are emphasized in the same chapter.<sup>81</sup>

**Austrians Operative Leadership** has concentrated many of the sub-elements in describing the tenet “concentration of the forces” together with their requirements according to the collecting of forces, maintaining of reserves and achieving the centers of gravity.<sup>82</sup> The principles of economy and mass are in close tenets in a contemporary way. The other elements are already mentioned in describing the principle objective.

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<sup>78</sup> Canadian Forces Operations, AF-000, 18 September 2000: 304 2 a), 304 2b); 119 4 f)

<sup>79</sup> AF-000: 305 1, 313 2

<sup>80</sup> Doctrine for Joint operations, JP 3-0, 10 September 2001: III 8, III 11, III 21, III 22, IV 5

<sup>81</sup> JP 3-0: II 4, III 4, III 9, III 11, III 14, III 15, III 20

<sup>82</sup> Merkblatt “Operative Fuehrung” (Entwurf): 45 5, 50, 64

## **Gulf War:**

The Gulf War was certainly the largest combined joint operation of the past decade and, because of the use of modern technology and the possibility of a similar scenario in the years 2002/ 2003, is very relevant. It is always critical to look at lessons learned in a war, a war which was conducted by very different armed forces. Nevertheless certain trends, specifically the continuous relevance of Mass, can be proved. The deployment of troops by the Coalition showed that, for the Gulf War, a strategic decision was made to provide troops as a main focus, especially by the US. For example, the US Air Force deployed 46 percent of the US's total combat force into the theater.<sup>83</sup> That massing of assets, which took place not only by the air force but in all services, was enabled by a change of the worldwide security environment at that time. This is opposite to the situations during the Korean and Vietnam wars, where the Soviet Union was always considered an additional threat, therefore military capabilities were located in relevant places as necessary means of maintaining a balance of power. The demise of the Warsaw Pact had, fortunately, created a new situation.<sup>84</sup>

In order to execute the Air Campaign, the Coalition employed 1.820 combat aircraft.<sup>85</sup> The Iraqi Air Force had at its disposal by the middle of January, approximately 750 combat aircraft. The Iraqi air force was nearly defeated within a week and ordered to withdraw their aircraft to "safe" airfields outside the country. The Coalition had therefore quickly reached total air superiority.<sup>86</sup> Massing effects of combat power demonstrated by Coalition aircraft are not only due to the total number of aircraft, but was also heavily influenced by the effects of technologies such as stealth and precision guided munitions.<sup>87</sup>

The Coalition ground forces at the beginning of the land campaign on the 24<sup>th</sup> of February 1991, comprised 770.000 troops and about 4.000 tanks,<sup>88</sup> The Iraqi Forces had 42 divisions with approximately one million troops and 3.700 tanks.<sup>89</sup> One must be careful with these latter figures because the Iraqi Forces suffered significant losses mainly due to the coalition's air campaign and may not be accurate. Regardless, since the land campaign only lasted three days, even though the Air Force doctrine was not organized to support the Army corps,<sup>90</sup> and some divisions who had to advance more than 300 km; it showed impressively that the Iraq army had lost its sustainability.<sup>91</sup> In summary the massing effects of combat power, especially the prior air campaign,<sup>92</sup> enabled the coalition to be successful.

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<sup>83</sup> Bruce W. Watson, Bruce George, Peter Tsouras, B. L. Cyr, and the International Analysis Group on the Gulf "War Military Lessons Of The Gulf War", Greenhill Books, London, Presidio Press, California, 1991: 61

<sup>84</sup> Harry G. Summers, "On Strategy II, A Critical Analysis of the Gulf War", A Dell book, 1992: 207

<sup>85</sup> Bruce W. Watson, Bruce George, Peter Tsouras, B. L. Cyr, and the International Analysis Group on the Gulf "War Military Lessons Of The Gulf War", Greenhill Books, London, Presidio Press, California, 1991: 227

<sup>86</sup> Watson, George, Tsouras, Cyr: 69 - 70

<sup>87</sup> Paul T. MITCHELL, AMSC Case Study - The Persian Gulf War: 1

<sup>88</sup> Bruce W. Watson, Bruce George, Peter Tsouras, B. L. Cyr, and the International Analysis Group on the Gulf "War Military Lessons Of The Gulf War", Greenhill Books, London, Presidio Press, California, 1991: 240 - 245

<sup>89</sup> Watson, George, Tsouras, Cyr: 83, 246

<sup>90</sup> Szelowski, David W., "Disjointed just how joint are we?" Proceedings (September 2000): 58

<sup>91</sup> Bruce W. Watson, Bruce George, Peter Tsouras, B. L. Cyr and the International Analysis Group on the Gulf "War Military Lessons Of The Gulf War", Greenhill Books, London, Presidio Press, California, 1991: 83 - 88

<sup>92</sup> Paul T. MITCHELL, AMSC Case Study - The Persian Gulf War: 8

In considering the coalition's ground campaign, from the employment of ground forces, no clear center of gravity can be defined. The operational objective of the Coalition in this phase was the neutralization or rendering ineffective the Republican Guard. For this purpose XVIII Corps was employed on the left flank to attain this goal; however, the employment of the other troops of the Coalition in the middle and at the right flank of the battlefield shows that they were concentrated in a similar way as XVIII Corps, and additionally, attacking nearly the whole front at the same time.<sup>93</sup> From this point of view Mass was not used clearly against the operational objective.

Mass was employed by the Coalition in a manner as defined above, including technical, numerical, and human effects on the battlefield. For reaching success in that ratio of operational effects other Principles of War like economy of force and "operational art" were not used intensively. Taking the overwhelming force of the Coalition in account, the Gulf War was not only an example of the principle of Mass, but also showed the effect of attrition in a kind of "asymmetric warfare" which was accomplished in a short period of time.

As long as the ratio between the means and possibilities of one side is as overwhelming as in this campaign, mass deployed in a reasonable way can certainly be sufficient to reach the operational goal. In more balanced, classic military conflicts, the application of the range of Principles of War will be more important than in the Gulf scenario. But as long as this strategic situation will last, mass seems to be sufficient in an applicable military context, in a battlefield, where mass can be effectively employed.

## Summary and Conclusions

This paper has shown that the Principles of War, as first crafted during the nineteenth century, and as modified by writers of doctrine and academics, based on the experiences of war, remain both relevant and important in contemporary military thought. It is quite remarkable that, in spite of all the significant changes of the last centuries, the rules seem to have a timeless importance. Even in spite of the fact that there have been several attempts to create new principles, the doctrines have still incorporated the classic principals. There are minor differences in their specific definitions, probably because of the different histories including different research done by the countries. The fact that the principles used in the doctrines in their collectivity are similar, is very important. That said, it is important that, to avoid misunderstandings in future coalitions, common "international" definitions implemented in the doctrines would be very useful.

By using a comparative analysis of the doctrine of three very diverse countries, it has been demonstrated that applicability of the principles has not only survived over time, but in a wide spectrum of national contexts. It seems to make little difference when incorporating the principles into doctrine, if the country has a dominant role in today's world in a military and economical context. Even the status as a neutral country seems to influence the principles only little.

Of the principles, the author believes "Mass", when compared with the other principles of war, is *primus inter pares*. In the attempt to look behind the definitions of principles and to shift the focus to the meaning and the content of the specific principles, Mass seems to unify the main relevant aspects of the other classic principles of war. Especially in conflicts between highly

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<sup>93</sup> Bruce W. Watson, Bruce George, Peter Tsouras, B. L. Cyr and the International Analysis Group on the Gulf "War Military Lessons Of The Gulf War", Greenhill Books, London, Presidio Press, California, 1991: 83 - 88



technically equipped Western Nations, which often act as a Coalition, and other poorly equipped armed forces, the application of many of the principles serve to achieve Mass in its many manifestations. Using the Gulf War as an example (with the caveat that one must be careful not too fixate on one scenario and one circumstance when drawing lessons), the key role of Mass focused to the effects of combat power in the achievement of battlefield success was explored.

In future, military commanders will have to cope with the same problems when planning and conducting an operation as today. In spite of the further technological and cultural changes, essential decisions made by human beings will always be necessary. Regardless of the question, as to whether Mass or another Principle of War has a predominant role, it seems to be a fact that, although the nature of conflict changes over time, future military commanders would be well advised to return to the inherent meaning of the classical Principles of War, when applying operational art in the formulation of their campaign plan.

## ***Bibliography***

B-GG-005-004AF-000, Canadian Forces Operations, 18 September 2000

B-GG 005-004 AF-004, Force employment, 6 September 1998

Brooks, R. "The Principles of War in the 21st Century: Operational Considerations" Canadian Forces College

Cancian, Mark "Centers of gravity are a myth" US Naval Institute Proceedings 124 n.9 (September 1998): 30 - 35

Doctrine for Joint operations, JP 3-0, 10 September 2001

Gifford, John L. "The Principles of War for the Information Age" Military review (July-August 2000): 106-107

Glenn, R. W. "No more Principles of War?" Parameters (Spring 1998): 48 - 66

<http://www.cia.gov/cia/publications/factbook/>; The world fact book 2001; 20 September 2002

<http://www.clausewitz.com>, the clausewitz homepage: what made Clausewitz so important, 20<sup>th</sup> of September 2002

[http://www.dtic.mil/doctrine/jel/new\\_pubs/jp1\\_02.pdf](http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf), 20 September 2002

Leonhard, Robert R. "The Principles of War for the information age", Presidio Press 1998

Merkblatt "Operative Fuehrung" (Entwurf); Generalstabsgruppe B, Beilage zu GZ.: 64.407/0001-5.6/02 vom 07.05.2002

Metz, S. "A Wake for Clausewitz: Toward a philosophy of 21st -century warfare:" Parameters (Winter 1994-95): 126 - 132

Militaerisches Studienglossar, published by the German "Bundessprachenamt" in April 1996 (dictionary for specific use in armed forces)

Milton, A. A. "British defense doctrine and the British approach to military operations". Rusi Journal (December 2001): 41 - 44

Mitchell, Paul T. AMSC Case Study - The Persian Gulf War

Murdock, P. “Principles of War on the Network-Centric Battlefield: Mass and Economy of Force” Parameters (Spring 2002): 86 – 95

Summers, Harry G. On Strategy II, A Critical Analysis of the Gulf War A Dell Book, 1992

Szelowski, David W., “Disjointed just how joint are we?” Proceedings (September 2000): 58 - 61

Watson, Bruce W.; George, Bruce; Tsouras, Peter; Cyr, B. L.; The International Analysis Group on the Gulf War Military Lessons Of The Gulf War, Greenhill Books, London, Presidio Press, California, 1991

Young, R. J. “Clausewitz and his influence on U.S. and Canadian military doctrine” (in A.D. English, The changing face of war: Learning from history, University press 1998)

Zimm, Alan D. “Desert storm, Kosovo, and “doctrinal schizophrenia”” Strategic review (Winter 2000): 32 - 39