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## MODERN AIR CAMPAIGNS AND THE DEATH OF STRATEGIC ATTACK: OPERATION UNIFIED PROTECTOR AND WARDEN'S RINGS

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***Exercise Solo Flight***

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## **MODERN AIR CAMPAIGNS AND THE DEATH OF STRATEGIC ATTACK: OPERATION UNIFIED PROTECTOR AND WARDEN'S RINGS**

*It was strategic attack on Iraq which put it in a position where it was forced to accept the dictates of its opponents...It is strategic attack which is cheaper, faster, and less bloody than the industrial-age warfare...It is strategic attack based on precision, stealth aircraft, and standoff weapons which offers extraordinary new options to American political leaders.*

– Col (Ret.) John A. Warden III, *Success in Modern War*

### **INTRODUCTION**

As one of the leading air power<sup>1</sup> theorists in the United States Air Force (USAF), Colonel (Ret.) John A. Warden III found himself in a position that most could only dream of – with a chance to plan an air campaign using his own original concepts and then have it executed by the most powerful air force in the world. In 1988, John Warden published his first book, entitled *The Air Campaign: Planning For Combat*.<sup>2</sup> This effort was the outcome of years of education, Vietnam combat experience, and deep intellectual reflection on modern air warfare. Additionally, although not yet wholly developed in this book, the centres of gravity concepts contained within it formulate the basis of his Five Rings system of parallel strategic attack.<sup>3</sup> It was this system of parallel strategic attack, now known as Warden's Rings, which was so successfully put to use in the skies over Iraq during Operation Desert Storm.<sup>4</sup>

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<sup>1</sup> The author of this paper notes the syntax difference in the literature sources between using the word "airpower," or "air power." For this essay, the author will use the "air power" spelling, but will not change the single word usage if it is directly quoted or referenced in the footnotes or bibliography.

<sup>2</sup> John A. Warden III, *The Air Campaign: Planning For Combat* (Washington, DC: National Defense University Press, 1988), v.

<sup>3</sup> John A. Warden III, *The Air Campaign: Planning For Combat [Revised Edition]* (Lincoln, NE: iUniverse, 2000), 145.

<sup>4</sup> John A. Olsen, *John Warden and the Renaissance of American Air Power* (Washington, DC: Potomac Books, Inc., 2007), 3.

However, after the conflict, some questioned whether or not Warden really did have a key role in the planning of the Gulf War. Furthermore, others have claimed that his significance in the planning of Desert Storm is overrated;<sup>5</sup> suggesting that the effectiveness of his Five Rings system of strategic attack was not really a factor in attaining victory during the conflict.<sup>6</sup> However, there is just as strong, or an even stronger testimony to how valuable Warden's contribution was from two very key players in the Gulf War – General Norman Schwarzkopf and General Colin Powell.<sup>7</sup> Powell declaring post conflict that Warden's, "...original concept remained at the heart of the Desert Storm air war."<sup>8</sup> Additionally, General Schwarzkopf's remarks on Warden were even more complimentary, stating that, "...together we mapped out the strategic concept that ultimately led to our country's great victory in Desert Storm."<sup>9</sup>

Although controversial for some, for the purpose of this paper the effectiveness of Warden's Rings during Desert Storm is not in question. The final assumption for the remainder of this essay is that Warden's system of parallel strategic attack was successful in Operation Desert Storm, and it would be effective again today if the conflict or air campaign was of a similar nature and had the same legal and political constructs that

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<sup>5</sup> David R. Mets, *The Air Campaign: John Warden and the Classical Airpower Theorists* (Maxwell AFB, AL: Air University Press, 1999), ix.

<sup>6</sup> Robert A. Pape, "The Air Force Strikes Back: A Reply to Barry Watts and John Warden," *Security Studies* 7, no. 2 (Winter 1997/98): 209-214.

<sup>7</sup> John A. Olsen, *John Warden and the Renaissance of American Air Power* (Washington, DC: Potomac Books, Inc., 2007), 3.

<sup>8</sup> Colin L. Powell and Joseph E. Persico, *My American Journey* (New York, NY: Ballantine Books, 1995), 460.

<sup>9</sup> Norman Schwarzkopf and Peter Petre, *It Doesn't Take a Hero* (New York, NY: Bantam Books, 1992), 369-371.

were applicable to that time in history. The real question is – do Warden’s Rings apply to modern day crisis-management air campaigns?<sup>10</sup>

It is the position of this paper that although some of Warden’s Rings theory can be applied to the planning and execution of a modern crisis-management air campaign, the bulk of Warden’s system of parallel strategic attack cannot be used effectively in these types of operations due to modern political and legal restraints. To demonstrate this point, the author will briefly explain Warden’s Rings and then examine Warden’s second to fifth Ring only, the first *Leadership* Ring having already been analyzed in a previous paper.<sup>11</sup> Furthermore, the investigation will be performed by analyzing the four Rings in the context of Operation Unified Protector (OUP) – the 2011 intervention in Libya that was led by the North Atlantic Treaty Organization (NATO).

## **A BRIEF EXPLANATION OF WARDEN’S RINGS**

A graphical representation of Warden’s Rings can be seen in Figure 1.<sup>12</sup> In its simplest form, the concept is five target sets, or centres of gravity, that should be attacked simultaneously if possible. The priority Ring is *Leadership* in the centre and the Rings

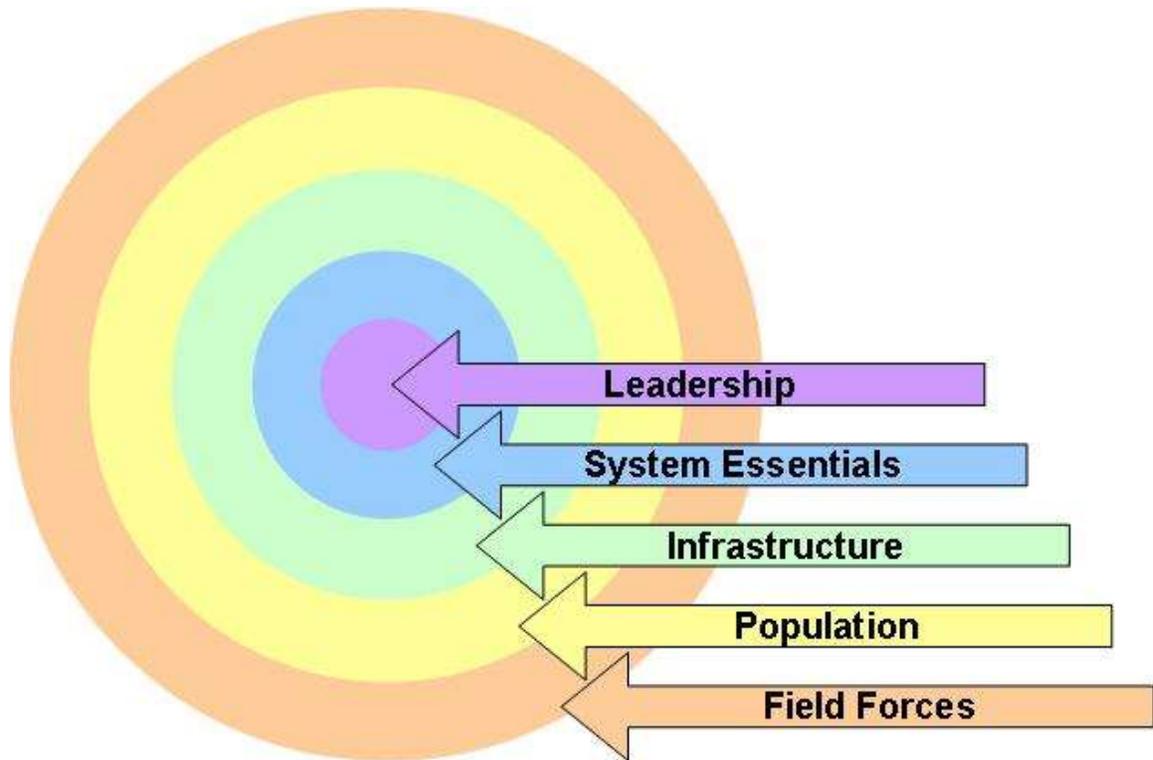
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<sup>10</sup> When trying to determine what to call NATO led air campaigns in the Balkans, Afghanistan and/or Libya, the author struggled with several different terms, such as “intervention missions,” or “peace support and stabilization missions” before finding NATO’s latest definition from January 2015. NATO is now calling these efforts “crisis-management operations.” For that reason, this term will be used throughout this paper to describe key NATO led air campaigns, but one should note that it is synonymous with mission descriptors found elsewhere in the literature. Website reference: North Atlantic Treaty Organization, “NATO operations and missions,” last updated 14 January 2015, [http://www.nato.int/cps/en/natohq/topics\\_52060.htm](http://www.nato.int/cps/en/natohq/topics_52060.htm)

<sup>11</sup> Mark C. Hickey, “Crisis-Management Operations and Strategic Attack: A Modern Day Examination of Warden’s Rings” (DS501 Modern Joint Air Campaigns Paper, Canadian Forces College, 2015).

<sup>12</sup> Customer Innovations, “Centers of Gravity: Levers for Shifting The Customer Experience,” Last modified 5 January 2008. <http://customerinnovations.com/centers-of-gravity-levers-for-shifting-the-customer-experience/>

decrease in value as one moves outward, with the least valuable being *Field Forces* in the outer Ring.<sup>13</sup>



**Figure 1 – A graphical representation of Warden’s Five Rings**

Source: Customer Innovations, “Centers of Gravity: Levers For Shifting The Customer Experience,” Last modified 5 January 2008. <http://customerinnovations.com/centers-of-gravity-levers-for-shifting-the-customer-experience/>

Table 1 shows an example of how this system can be used; in this case the table is what Warden presented to General Schwarzkopf in their second meeting on the Desert Storm air strategy.<sup>14</sup>

<sup>13</sup> John A. Warden III, “Success in modern war: A response to Robert Pape’s bombing to win,” *Security Studies* 7, no. 2 (Winter 1997/98): 174-177.

<sup>14</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146.

**Table 1 – Iraqi Target Systems presented by Col. J. Warden to Gen. Schwarzkopf**  
Iraqi Target Systems

Leadership	Key Production	Infrastructure	Population	Fielded Forces
Saddam Hussein Government	Electricity	Railroad Bridges	Military Elites	Strategic Air Defenses
National Communications	Retail Petroleum		Foreign workers	Strategic Offensive Systems (air and missile)
Internal Security Forces	Weapons of Mass Destruction		Baathists	
			Middle Class	

Source: Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146.

Before moving onto each Ring's analysis there are two important points that must be addressed. First, John Warden believes that aerial warfare undertook a revolution, not an evolution.<sup>15</sup> This aerial revolution can be attributed to two things – stealth aircraft and precision weapons.<sup>16</sup> These two modern attributes changed the principal of mass<sup>17</sup> and allow a modern air force to attack all of his Rings accurately and simultaneously; this is his concept of *parallel* attack.<sup>18</sup> To give this point a little bit more weight, Warden points out that during the Gulf War, "...the coalition struck three times as many targets in Iraq in the first 24 hours as Eighth Air Force hit in Germany in all of 1943!"<sup>19</sup>

The second point that must be addressed explains why crisis-management operations are being analyzed in terms of Warden's Rings at all. It is because John

<sup>15</sup> Metz, *The Air Campaign: John Warden and...*, 74.

<sup>16</sup> John A. Warden III, "Employing Air Power in the Twenty-first Century," in *The Future of Air Power in the Aftermath of the Gulf War* (Maxwell AFB, AL: Air University Press, 1992), 79.

<sup>17</sup> John A. Warden III, "Air Theory for the Twenty-first Century," In *Battlefield of the Future: 21st Century Warfare Issues* (Maxwell AFB, AL: Air University Press, 1998), 120-121.

<sup>18</sup> Warden, "Success in modern war: A response...", 176.

<sup>19</sup> Warden, "Air Theory for the Twenty-first Century...", 116.

Warden himself believes his concepts apply to almost all systems.<sup>20</sup> An example of his belief that the concept can model many things is seen in Table 2.<sup>21</sup> If the concept can model a drug cartel or human body, surely it can model crisis-management operations as many suggest.

**Table 2 – Warden’s Five Rings Fitting Many Systems**

	Body	State	Drug Cartel	Electric Company
Leader	Brain -eyes -nerves	Government -communication -security	Leader -communication -security	Central Control
Organic Essential	Food/oxygen -conversion via vital organs	Energy (electricity, oil, food), money	Coca source plus conversion	Input (heat, hydro) Output (electricity)
Infrastructure	Vessels, bones, muscles	Roads, airfields, factories	Roads, airways, sea lanes	Transmission lines
Population	Cells	People	Growers, distributors, processors	Workers
Fighting Mechanism	Leukocytes	Military, police, firemen	Street soldiers	Repairmen

Source: Warden III, “Air Theory for the Twenty-first Century...”, 107.

Overall, although this is only a brief description of Warden’s Rings, one can already see why significant amounts of air force “water-cooler” talk since 1991 about air campaigns has involved someone addressing Warden’s Rings. It is a flexible concept that can model many systems and uses key technologies to achieve strategic ends. But can it be used effectively in a crisis-management operation?

<sup>20</sup> John A. Warden III, “The Enemy As a System,” *Airpower Journal* 9, no. 1 (Spring 1995): 53-54.

<sup>21</sup> Warden, “Air Theory for the Twenty-first Century...”, 107.

## THE SYSTEM ESSENTIALS RING IN CRISIS-MANAGEMENT OPERATIONS

Throughout the development of Warden's Rings, the name of the second most important Ring changed several times; it had been called *Key Production*<sup>22</sup> and *Organic Essentials*<sup>23</sup> before finally finishing with the name *System Essentials*.<sup>24</sup> Regardless of the syntax used to describe this centre of gravity, from a systems perspective, Warden's concept is to attack the activities and targets that the system (a country, military, electrical company, etc.) is highly dependant on. In Warden's own words, *System Essentials*, "...are those facilities or processes without which the state or organization cannot maintain itself. [They are] not necessarily directly related to combat..."<sup>25</sup>

It is also important to mention that in Warden's concept, the *System Essentials* Ring not only relates to different types of systems, but potentially different levels within the same system. Take a state engaged in military conflict as an example; at the strategic level, Warden is very clear that the key essentials for the state's ability to function are oil products and electricity.<sup>26</sup> He puts forth that, "...the growth in the size of cities around the world and the necessity for electricity and petroleum products to keep a city functioning have put these two commodities in the essential class for most states."<sup>27</sup> However, John Warden also acknowledges the operational and tactical level of conflict within a state, and realizes that at the operational level, the ammunition and fuel that the military needs to carry out attacks can be seen as *System Essentials* products as well.<sup>28</sup>

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<sup>22</sup> Warden, "Employing Air Power in the Twenty-first...", 65.

<sup>23</sup> Warden, "The Enemy As a...", 65.

<sup>24</sup> Warden, "Success in modern war: A response...", 183.

<sup>25</sup> Warden, "The Enemy As a...", 60.

<sup>26</sup> Warden, "Employing Air Power in the Twenty-first...", 65-66.

<sup>27</sup> Warden, "The Enemy As a...", 60.

<sup>28</sup> Warden, "The Enemy As a...", 66.

This use of Warden's Rings at the operational or tactical level when a strategic end cannot be pursued will prove to be repetitive throughout the remainder of this paper's analysis.

In the case of Desert Storm, Table 1 clearly shows that Col. (Ret.) Warden proposed Electricity, Retail Petroleum, and Weapons of Mass Destruction to Gen. Schwarzkopf as the key *System Essentials* targets that the coalition should attack.<sup>29</sup> Within minutes of the start of Operation Desert Storm the lights went out in Baghdad, with electricity only returning to the capital after the war had ended.<sup>30</sup> The effect this had on the country was significant and felt not only in the *System Essentials* Ring, but in other Rings as well. For example, the lack of electricity shut down anti-aircraft radar antennas (*Fielded Forces*), elevators in command headquarters (*Leadership*), computers everywhere (*All Rings*, including *Population*), phone systems and communication ability in general plummeted (*All Rings*)<sup>31</sup> – such is the way of parallel strategic attack. The lack of electricity in a nation is not going to win the war alone, but it will have a very significant effect, slowing down the military and civilian pace and making life very difficult. In Warden's over simplification, he states that, "...shutting off electricity is rather like pouring a layer of molasses over the whole country; people can still move, but they move more slow and spend energy they would otherwise have put to more profitable uses."<sup>32</sup>

The other significant target in Desert Storm, petroleum, was important in the same way as electricity – it was an attack on a component of the enemy system that would have

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<sup>29</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146.

<sup>30</sup> *Ibid.*, 149.

<sup>31</sup> Warden, "Success in modern war: A response...", 183.

<sup>32</sup> *Ibid.*

a nation wide effect. When defending his theory to commentators and pundits, John Warden would often take issue with the fact that they saw the attacks against petroleum as something that only affected a military's *Fielded Forces*.<sup>33</sup> In the literature, Warden is quite clear that his aspirations for attacking oil products at the strategic level go far beyond effecting just *Fielded Forces*. As a parallel warfare thinker, Warden not only sees tanks without fuel in his minds eye; he sees the back-up electrical generators that now need fuel because the electrical grid has been taken out; he sees lines of people in the common population waiting for fuel to cook their food, power their vehicles, or power their personal back-up generators; he sees a government bureaucracy overwhelmed with civilian and military demands for energy; he sees fuel prices sky rocketing to the chagrin of the government and the common population.<sup>34</sup> In this lens, attacks against a nations petroleum sector are significant indeed.

However, an examination of OUP shows that strategic level attacks were not conducted against the petroleum sector; nor were they performed against the Libyan electrical grid. To understand why strategic attacks against the *System Essentials* Ring that proved to be so effective during Desert Storm were not attempted in Libya, one needs to understand the legal mandate provided to NATO as a result of United Nations Security Council Resolution (UNSCR) 1973.

It was UNSCR 1973 that provided the legal basis for the intervention in Libya and authorized member states to freeze assets, conduct an arms embargo, enforce a no-fly zone, and "...take all necessary measures...to protect civilians and civilian populated

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<sup>33</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 155-156.

<sup>34</sup> *Ibid.*

areas under the threat of attack...”<sup>35</sup> Having the phrase “all necessary measures” without any temporal, or geographic limits in combination with a lack of defined objectives and legitimate targets meant that UNSCR 1973 was written in a fashion that is notable to legal scholars for its expansiveness.<sup>36</sup> It essentially transferred United Nations Chapter VII powers to the intervening nations in a manner that gave them very significant latitude to interpret the resolution and establish their own terms of engagement.<sup>37</sup> In even the most recent legal interpretations of whether or not the NATO led coalition exceeded their mandate in Libya, some of the world’s top legal scholars cannot agree on the interpretation of UNSCR 1973.<sup>38</sup>

NATO was certainly aware of this issue at the time of OUP, and for the sake of political concerns, such as inter-alliance cooperation and the coalitions legitimacy in the eyes of the international community, they took a very constrained view on what they could and could not target during the operation. To be conservative, it seems that NATO targets needed to meet two criteria: 1) they were militarily associated with Muammar Gaddafi’s attack on the civilian population, and 2) they *also* had an expectation of no civilian casualties. One NATO planner explained the situation well, saying that, “We had a very tight and literal interpretation of UNSCR 1973. From our list of deliberate targets, we only struck 30 percent because of fear of civilian casualties.”<sup>39</sup>

Once this legal paradigm had been decided upon within the NATO led coalition, it set in motion a series of policies and rules of engagement that made OUP the most

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<sup>35</sup> United Nations Security Council, *Resolution 1973* (New York: UN, 2011), 3.

<sup>36</sup> M. Cherif Bassiouni, *Libya From Repression to Revolution: A Record of Armed Conflict and International Law Violations, 2011-2013*, International Criminal Law Series Vol. 5 (Boston: Martinus Nijhoff Publishers, 2013), 222.

<sup>37</sup> Bassiouni, *Libya From Repression to Revolution...*, 222-223.

<sup>38</sup> Bassiouni, *Libya From Repression to Revolution...*, 222-230.

<sup>39</sup> Frederic Wehrey, “The hidden story of airpower in Libya (and what it means for Syria),” *Foreign Policy*, February 11, 2013.

restricted air campaign in history. NATO set a standard of “zero expectation” of death or injury to civilians,<sup>40</sup> meaning that if there was any chance or reason to believe that civilians would be killed or injured, the attack would not take place. This unprecedented goal was further reflected in official NATO documents where the, “...written Non-Combatant and Civilian Casualty Cut-Off Value were equal to zero.”<sup>41</sup> To further support these goals, NATO then made OUP the first air campaign in history to use only precision-guided munitions.<sup>42</sup>

As a result, the potential targets one could strike in Libya were not only reduced in the *System Essentials* Ring, they were reduced in nearly every Ring Warden had contemplated. From a *System Essentials* point of view, the targeting of the Libyan electrical grid in such circumstances was certainly prohibited as a lack of electricity could certainly kill the elderly, wounded, and/or semi-critical patients in hospitals throughout the country. This “zero expectation” of civilian casualties also explains why NATO did not attack the Libyan petroleum industry; lack of essential energy could kill civilians as a second or third order effect.

Although the targeting restraints above were all that was needed to take the Libyan electrical grid and petroleum sector off the OUP target list, it is interesting to note that there were other reasons why the petroleum sector in Libya was not attacked. First, a post conflict Libya would need the energy industry not only to supply their own needs, but as an export to create funds that would go towards the nation’s treasury; attacking the

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<sup>40</sup> United Nations Human Rights Council, *Report of the International Commission of Inquiry on Libya* (New York: UN, 2012), 16.

<sup>41</sup> Romao, Rui, “Targeting and Adaptation in Combat: Examining the Libya Case,” *Baltic Security & Defence Review* 15, no. 1 (2013): 13.

<sup>42</sup> RTTNews, “NATO ‘deeply Regrets’ Civilain Deaths In Libya Air Strikes,” last modified 14 May 2012, <http://www.rttnews.com/1885378/nato-deeply-regrets-civilian-deaths-in-libya-air-strikes.aspx>

energy industry would have saddled post conflict Libya with a burden that would not have made this possible.<sup>43</sup> Secondly, several NATO nations, such as Italy and Turkey in particular, had economic interests and even owned some of the energy infrastructure present in Libya.<sup>44</sup> These two additional factors should not seem strange; pressure to keep all energy infrastructure, and other infrastructure in general, intact for a post crisis-management reality will continue to shape kinetic operations in future conflicts. Also, in today's global economy, one can expect several alliance nations in future coalitions to have foreign investments in the countries in question. This situation will likely produce itself again and is yet another political factor that must be taken into account when creating, or in this case, reducing the approved target list.

Overall, the legal and political constraints during OUP that were imposed upon the coalition by the UN mandate and the political needs of member nations restricted any significant targeting of the *System Essentials* Ring at the strategic level. This fact is not only in direct support of this paper's thesis, but should be kept in mind throughout the rest of this essay as the legal construct in particular affects all other Rings.

Another point that should be addressed before the end of this sections analysis is one that will also come up in every section of this paper; the fact that there is some evidence that NATO did realize the importance of the *System Essentials* Ring, and when it could not be attacked at the strategic level, was attacked at the operational level. For instance, NATO *did* target any fuel<sup>45</sup> or ammunition<sup>46</sup> that it determined would be used

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<sup>43</sup> Christopher S. Chivvis, *Toppling Qaddafi: Libya and the Limits of Liberal Intervention* (New York: Cambridge University Press, 2014), 112.

<sup>44</sup> *Ibid.*

<sup>45</sup> RT News, "NATO attacks ordinary Libyans at petrol pump," last modified 14 June 2011, <http://rt.com/news/fuel-libya-people-line/>

<sup>46</sup> Eric Schmitt, "NATO Air War In Libya Faces Daunting Task," *New York Times*, 25 May 2011.

by Gaddafi's military forces to attack civilians. By doing so, NATO was attacking the operational level *System Essentials* when the strategic level targets were not feasible. Although certainly not as effective, Warden did recognize the operational level as a viable part of his theory.<sup>47</sup> Attacks directed at the operational level are certainly not parallel strategic attack, but perhaps the modern political and legal restraints that go hand-in-hand with crisis management operations will make Warden's Rings attacks directed at the operational level a new model or trend in modern day air campaigns.

### **THE INFRASTRUCTURE RING IN CRISIS-MANAGEMENT OPERATIONS**

John Warden's third most critical Ring is *Infrastructure*, which includes all of a state's transportation systems that are used to move military and civilian goods and services throughout the nation.<sup>48</sup> Warden points out that the *Infrastructure* Ring contains railroads, rail stations, airports, airways, waterways, seaports, bridges, and all roads, highways and similar systems.<sup>49</sup> He also notes that this Ring contains most of a state's industry, since all industry that is not in the *System Essentials* Ring has to fall into this category.<sup>50</sup> As a result of the Ring's definition, there are many more *Infrastructure* targets and more redundancy in this Ring than in the first two, therefore more effort is required to exploit this target set effectively.<sup>51</sup>

Prior to the Gulf War, Table 1 shows that Col. (Ret.) Warden briefed General Schwarzkopf that Iraq's railroad and bridges would be the critical *Infrastructure* targets

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<sup>47</sup> Warden, "The Enemy As a...", 66.

<sup>48</sup> *Ibid.*, 61.

<sup>49</sup> Warden, "Employing Air Power in the Twenty-first...", 66.

<sup>50</sup> Warden, "The Enemy As a...", 61.

<sup>51</sup> Warden, "Employing Air Power in the Twenty-first...", 65- 66.

for that conflict.<sup>52</sup> In Desert Storm's execution, the key north south supply lines between Baghdad and Basra (and therefore Kuwait) were the railroad and highways, and each was interdicted by taking out key bridges over the Tigris and Euphrates rivers.<sup>53</sup> In the case of the railroad between Baghdad and Basra, a single bomb took out the key rail bridge over the Euphrates River and brought all rail traffic to a halt in the first week of the war.<sup>54</sup> For the many highways and roads between the two major cities, destruction of only thirty bridges reduced movement by nearly 100 percent, thereby choking off the flow of critical supplies to Saddam Hussein's forces in Kuwait to a measure that was below the survival level in the first three weeks of the conflict.<sup>55</sup>

In contrast, an examination of OUP in Libya shows no measureable attack of any kind against Warden's *Infrastructure* Ring. Considering the matter from only the transportation lines, such as the links between Tripoli and Benghazi, attacks on roads and bridges were almost entirely prohibited; with the NATO Commander telling one reporter that, "We hit only one road in seven months and this was in Brega."<sup>56</sup>

Furthermore, from the point of view of targeting the other infrastructure that is not part of the *System Essentials* Ring, NATO chose not to follow this approach either. Many military commanders realized that not trying to attack more of the *Infrastructure* target set was prolonging the war and wished to have the OUP target list expanded. One of the more famous examples was when Gen. Sir David Richards, the United Kingdom's Chief of the Defence Staff at the time, went public and stated that he wanted NATO's target list expanded to attack infrastructure in order to speed up the conflict and put more pressure

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<sup>52</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146.

<sup>53</sup> Warden, "Employing Air Power in the Twenty-first...", 73.

<sup>54</sup> *Ibid.*

<sup>55</sup> Warden, "Success in modern war: A response...", 179.

<sup>56</sup> Wehrey, "The hidden story of airpower in Libya..."

on the Gaddafi regime.<sup>57</sup> However, no such expansion of the target list beyond the paradigm set early in the intervention was ever pursued, and NATO continued to conduct kinetic attacks on its key target sets; summarized by this author as the following four target groups: 1) Command and Control Targets; 2) Ammunition Storage Sites; 3) Military Infrastructure; and, 4) Gaddafi's Fielded Forces (including tanks, ships, missile launchers, artillery, technicals, air defence systems, etc).<sup>58</sup>

Of the four target groups listed above, the only one that could be considered valid under John Warden's *Infrastructure* Ring would be the third group, Military Infrastructure, since we have already said that the attacks against ammunition were attacks against the *System Essentials* Ring at the operational level. This pro-Gaddafi Military Infrastructure is a small subset of Warden's proposed *Infrastructure* Ring, and does not support the parallel strategic attack of the type the world witnessed in Operation Desert Storm. Instead, we again see a case where NATO is not able to pursue a strategic *Infrastructure* attack for the legal and political reasons elaborated upon in the previous section. As a result, NATO attempts their next best option, attacking an operational level centre of gravity by going after Gaddafi's Military Infrastructure. This evidence not only supports the paper's overall thesis, it also reinforces the previous sections notion that potentially the political and legal restraints of modern NATO led crisis-management

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<sup>57</sup> Con Coughlin, "NATO must target Gaddafi regime, says Armed Forces chief Gen Sir David Richards," *The Telegraph*, 14 May 2011.

<sup>58</sup> Although many people have tried to summarize and group what targets the NATO led coalition attacked during OUP, different wording, nomenclature, and personal backgrounds often causes the target sets to be put into different groups or labeled differently. To summarize for the purposes of this paper, the author took the "NATO Libya Attacks" data found on "The Guardian" website at [https://docs.google.com/spreadsheets/ccc?key=0Aq-FnOoJcl-ndG9KUHFFNDgyNENWRW5TTU16QnFDcXc&authkey=CPeKjPMB&hl=en\\_US&authkey=CPeKjPMB#gid=0](https://docs.google.com/spreadsheets/ccc?key=0Aq-FnOoJcl-ndG9KUHFFNDgyNENWRW5TTU16QnFDcXc&authkey=CPeKjPMB&hl=en_US&authkey=CPeKjPMB#gid=0) and organized it into the four target groups listed. It should be noted that the author's research in this area, combined with personal experience as a CF-18 strike pilot in OUP, and personal experience as a OUP CAOC 5 Canadian Operations Officer and Liaison Officer, helping to choose Canadian OUP deliberate targets, also helped decide the four groupings.

operations will only allow Warden's Rings to be attacked at the less effective operational level.

## THE POPULATION RING IN CRISIS-MANAGEMENT OPERATIONS

John Warden's fourth most critical centre of gravity or target set is the *Population Ring*. He is quick to point out that even if you were not morally opposed to kinetic attacks against a civilian population, the sheer size of it would make the task very difficult.<sup>59</sup> Furthermore, and a point more relevant to our study of Libya, he postulates that if a population is living in a police state, it may be willing to suffer a great deal before it would rise up and turn upon its government.<sup>60</sup> Overall, Warden knew in 1990 what we still realize today, that bombing the civilian population is morally reprehensible and not a real option. He feels that an indirect approach to the *Population Ring*, such as psychological warfare,<sup>61</sup> is likely best but warns that due to the unpredictability of humans, the effort though worthwhile should not be counted upon.<sup>62</sup>

An examination of Table 1 shows that Warden proposed Military Elites, Foreign Workers, Baathists, and the Middle Class to Gen. Schwarzkopf as the key targets for the *Population Ring* during Operation Desert Storm.<sup>63</sup> However, just seeing these groups of people listed in the table without context could be interpreted to mean that Warden wanted to undertake kinetic attacks against at least some of these groups – he did not. When Warden briefed his Instant Thunder plan to Gen. Schwarzkopf he was clear that he

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<sup>59</sup> Warden, "The Enemy As a...", 61

<sup>60</sup> Warden, "Employing Air Power in the Twenty-first...", 66.

<sup>61</sup> Clayton K. S. Chun, "John Warden's Five Ring Model and the Indirect Approach to War," in *U.S. Army War College Guide to National Security Issues, Volume 1: Theory of War and Strategy, 5<sup>th</sup> Edition* (Carlisle Barracks, PA: U.S. Army War College Press, 2012), 300.

<sup>62</sup> Warden, "The Enemy As a...", 61.

<sup>63</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146.

wanted his fourth Ring, the *Population*, subjected only to psychological operations.<sup>64</sup> He felt that an intense strategic psychological campaign, targeted towards the population and *combined* with the physical parallel attacks against the other Rings (no electricity, little petroleum, etc.) would be the only way to entice the people to rise up and rebel against Saddam's regime forces.<sup>65</sup>

In fact, both times that Warden briefed Schwarzkopf he devoted significant time to the issue of psychological operations, or PSYOPS.<sup>66</sup> This may have been due to the fact that the coordination required to have a *strategic* PSYOPS plan against Iraq was considerable. It required coordination with other government agencies, consistent adherence with national policy directives, messages to support each strike, U.S. broadcasts replacing Iraqi ones, help from several intelligence agencies, contacts within the resistance movement and creation of one if it did not yet exist, double agents, insurgents, etc.<sup>67</sup> Maybe it was because of the amount of coordination required, or maybe because the leadership did not support psychological operations as a key component of the air campaign – either way, Warden would be disappointed when no real strategic psychological campaign was aimed toward his *Population* Ring. In his own words,

Unfortunately, despite the best efforts of a lot of people, including General Schwarzkopf, there was never a real strategic psychological operations campaign which would have done more to facilitate possible coups or other Iraqi actions against Saddam and his Tikrit clan.<sup>68</sup>

Warden instead noted that what actually occurred in Desert Storm was an effective operational and tactical level psychological campaign that was directed towards

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<sup>64</sup> Olsen, *John Warden and the Renaissance of...*, 150.

<sup>65</sup> *Ibid.*, 173.

<sup>66</sup> *Ibid.*, 157, 173.

<sup>67</sup> *Ibid.*, 157.

<sup>68</sup> Warden, "Success in modern war: A response...", 182.

the Iraqi army.<sup>69</sup> Its main effort was leaflet drops and radio station broadcasts directed toward Saddam's armed forces.<sup>70</sup> Some of the objectives of the Gulf War's PSYOPS campaign were to: 1) encourage defection, desertion, and/or surrender of soldiers, 2) induce loss of confidence within Iraqi units, 3) demonstrate the overwhelming superiority of the U.S. and coalition forces, 4) convince Iraqi soldiers that the coalitions quarrel was with Saddam Hussein – not them, and 5) deter Iraqi soldiers from committing war crimes.<sup>71</sup>

Some twenty years later, Operation Unified Protector was found using the same methods and techniques as the PSYOPS campaign during the Gulf War – in fact, a couple of parallels can be drawn between the two efforts. First, the NATO intervention in Libya also relied heavily upon leaflet drops and radio broadcasts as their main effort.<sup>72</sup> Secondly, an examination of the NATO leaflets that were dropped upon Libya reveal that their intent was inline with the five stated objectives above for the Gulf War's psychological operations campaign.<sup>73</sup> The main difference one finds in the OUP leaflet drops and radio broadcasts, and the reason it is a factor at all for the *Population Ring* analysis, is the additional goal of advising the general civilian population to stay away from sites that were going to be attacked by NATO led forces.<sup>74</sup>

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<sup>69</sup> *Ibid.*

<sup>70</sup> Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars, 1941-1991: Lessons for U.S. Commanders* (Santa Monica, CA: RAND, 1996), 142.

<sup>71</sup> *Ibid.*

<sup>72</sup> United Nations Human Rights Council, *Report of the...*, 16.

<sup>73</sup> The amount of leaflets, slogans, and pictures are too numerous to be included within this paper. However, for a good look at the leaflets and how they support the same type of objectives as the Gulf War's PSYOPS campaign, go to the following website. Libya S.O.S. – War Diary 2011/12, "Libya: PSYOP War – NATO Dropped Leaflets," last modified 2 October 2011, <http://libyasos.blogspot.ca/2011/10/libya-psyops-war-nato-dropped-leaflets.html>

<sup>74</sup> United Nations Human Rights Council, *Report of the...*, 16.

Overall, to say that the activities aimed at the *Population* Ring in OUP were largely the same as those in the Gulf War means that Warden's personal assessment of the Gulf War applies to the intervention in Libya as well – that being that strategic attack of the *Population* Ring simply did not take place. When considering the NATO led intervention in Libya, as long as the message to the general population was positive and contained no elements of coercion, there is little legal reason why a strategic campaign aimed at influencing the population in the manner that Warden envisioned in Iraq could not have taken place. What we likely are seeing instead is a political issue due to the broad size of the NATO led coalition, the coordination required to conduct the activity, and the lack of evidence that a PSYOPS campaign could be successful.

The effort required to coordinate all of the countries and those country's agencies towards strategic influence operations during OUP would have been significant to say the least. When that amount of effort is put into something during a large international crisis-management operation, the coalition nations concerned would want to see definitive results; results that even John Warden knew would be unpredictable at best,<sup>75</sup> and negligible at worst. To use a cliché, in the case of strategic level psychological operations directed towards Warden's *Population* Ring, it seems large coalitions feel that the juice is just not worth the squeeze.

The previous points in this section clearly support this paper's thesis – that in this case, mostly political pressures prevented parallel strategic attack against the *Population* Ring. However, it is again interesting to note that we see the same trend of attacking a Ring at the operational or tactical level if it cannot be pursued at the strategic level. One of the major differences for the *Population* Ring in this sections analysis though, is that

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<sup>75</sup> Warden, "The Enemy As a...", 61.

this situation of attacking only at the operational level was also the case in the Gulf War. With Warden's other Rings, we saw that they indeed were attacked at the strategic level during Desert Storm – but not the *Population* Ring. This leads one to believe that even twenty years ago, some of the leadership felt that success in strategic level influence operations directed towards the population was doubtful, and not worth the effort from a cost-benefit point of view. Since this Ring was not attacked at the strategic level in either the Gulf War or during Operation Unified Protector, one gives it little chance of being strategically targeted in future crisis-management operations.

### **THE FIELDDED FORCES RING IN CRISIS-MANAGEMENT OPERATIONS**

Warden's fifth and final Ring, *Fielded Forces*, is interesting because although many feel that military versus military conflict is the way to win a war, Warden feels it is the option of last resort; merely a means to an end and not the end itself, an option that should be avoided if at all possible<sup>76</sup> – this is why it is his least important Ring of course. He further instructs that the only purpose of a states *Fielded Forces* is to protect the other four Rings,<sup>77</sup> and that if you can attack one of the inner Rings of your enemy without clashing with his *Fielded Forces*, such as by flying over them, then you should do so.<sup>78</sup>

An example of how much Warden believed that the traditional clash of land forces could be avoided by strategic attack from the air is evident in the Instant Thunder plan that he briefed to General Schwarzkopf and General Colin Powell. In Instant Thunder, Warden had not included any attack on Saddam Hussein's land fielded forces – instead fully believing that the proper airborne application of his theory of parallel

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<sup>76</sup> *Ibid.*, 51.

<sup>77</sup> *Ibid.*, 62.

<sup>78</sup> Chun, "John Warden's Five Ring Model...", 302.

strategic attack would make it unnecessary.<sup>79</sup> The attacks against the *Fielded Forces* Ring that Warden did support were those against Iraq's Strategic Air Defences and Strategic Offensive Systems, as seen in Table 1.<sup>80</sup> These strategic offensive and defensive systems had to be prosecuted to ensure the coalition would attain air superiority quickly - an essential component of Warden's theory. Air superiority is so important to parallel strategic attack that air defences and offensive air capabilities in the fifth Ring must be weakened as swiftly as possible, so that allied fighters can manoeuvre unmolested over enemy territory.<sup>81</sup>

As was the case during Desert Storm, the Libyan intervention also found itself engaged in strategic attack against the *Fielded Forces* Ring when it targeted the Libyan strategic air defence systems at the start of the conflict; during the US led Operation Odyssey Dawn. Within a few short days, a combination of Tomahawk missiles and precision-guided bombs dropped from B-2 and Tornado GR-4 bombers had had flattened Gaddafi's strategic air defence systems.<sup>82</sup> Although tactical surface-to-air missiles such as the SA-6, SA-8, & SA-24 remained active and un-located throughout all of Operation Unified Protector,<sup>83</sup> it was the initial attacks against Libya's strategic air defence that made air superiority over Libya a reality.

In terms of this paper's analysis of only four of Warden's five Rings, *Fielded Forces* is the only Ring that was attacked at the strategic level during OUP – unfortunately as mentioned, *Fielded Forces* is Warden's least important Ring. However, one cannot underestimate the importance of air superiority in modern crisis-management

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<sup>79</sup> Olsen, *John Warden and the Renaissance of...*, 164.

<sup>80</sup> Warden, *The Air Campaign: Planning For Combat [Revised...]*, 146..

<sup>81</sup> Warden, "Employing Air Power in the Twenty-first...", 74-75.

<sup>82</sup> Chivvis, *Toppling Qaddafi: Libya and the...*, 82-83.

<sup>83</sup> *Ibid.*, 81.

operations, and the ability to target and render a state's air defences impotent is fundamental. In other words, the need to conduct strategic attack against an enemy's air defence has not changed in over twenty years and should change any time in the near future.

In closing this section though, one must be careful to not confuse the strategic attack that was directed towards Gaddafi's air defences with the operation and tactical level attacks that were direct towards his land forces engaged in attacks against the civilian population. The bulk of the attacks performed against tanks, artillery, technicals and other land elements of the *Fielded Forces* Ring were at the operational or tactical level. The strategic portion of the attacks against the air defence systems of the *Fielded Forces* Ring only lasted a few days at the start of the conflict. Therefore, although strategic attack did take place in the *Fielded Forces* Ring, it was quite limited. Furthermore, this is the fourth occasion in this work where Warden's Rings are being attacked at the operational or tactical level when a strategic attack opportunity does not present itself or is no longer a valid option.

## **CONCLUSION**

In summary, the analysis of the evidence put forth in this paper clearly shows that although some of Warden's Rings theory can be applied to the planning and execution of a modern crisis-management air campaign, the bulk of Warden's system of parallel strategic attack cannot be used effectively in these types of operations due to modern political and legal restraints. The examination focused entirely on Warden's second to fifth Ring, as the *Leadership* Ring had been examined in a previous effort by the author.

Although the thesis of this paper was proven rather soundly, the analysis was still of great value as several interesting points have surfaced. First, the investigation showed that the interpretation of a coalition's legal mandate is a key factor that shapes the entire effort. In the case of OUP, the significant latitude given by UNSCR 1973 led the intervening nations towards a very conservative legal interpretation in order to maintain legitimacy in the eyes of the international community. In execution, this meant a very restrictive campaign that set the acceptable level of civilian casualties to zero; thereby affecting not only the methods by which the conflict was conducted, but also drastically increasing the time and effort required to accomplish the mission.

Overall, setting a standard of zero civilian casualties is certainly an honourable goal for modern day air campaigns, and one that is certainly not being criticized by this author. However, setting a precedent whereby a coalition aims at zero civilian casualties drastically changes the nature of conflict as one can see in this examination of OUP. This is not necessarily negative, but it is something that must be understood and carefully considered by the nations that participate in future combat operations – especially if those conflicts start to become existential in nature.

Finally, another major point that appeared in every section of this essay's analysis was the utility of Warden's Rings as a set of targets to be pursued at the operational or tactical level when strategic targeting opportunities are not available. Whether future crisis-management operations are restricted by a legal mandate, political desires, or the precedent of zero acceptable civilian casualties, either of these factors will greatly reduce the amount of strategic targets that a coalition air campaign can pursue. That said, Warden's Rings can still provide value to an alliance as a starting point to determine what

target types should be pursued at the operational level. However, this is not the parallel strategic attack theory that John Warden promoted in his writings.

Instead, use of Warden's Rings at the operational and tactical level is the position that modern political and legal restraints have imposed upon what was demonstrably a powerful and successful strategic concept that helped lead to a decisive victory during Operation Desert Storm. Although nothing to make light of, perhaps advances in today's societal beliefs and values, and the changing nature of modern warfare have truly set the stage for the death of one of air power's most formidable tools – Warden's Rings and the concept of parallel strategic attack.

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