

Canadian  
Forces  
College  
  
Collège  
des  
Forces  
Canadiennes



## ARMY PROCESS

Major B. Kawaguchi

### JCSP 40

#### *Exercise Solo Flight*

##### Disclaimer

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2014.

### PCEMI 40

#### *Exercice Solo Flight*

##### Avertissement

Les opinions exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale, 2014.

CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES  
JCSP 40 / PCEMI 40

**ARMY PROCESS**

By Major B. Kawaguchi

*This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.*

Word Count: 4836

*La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.*

Compte de mots : 4836

*The challenge of prediction in human affairs has always plagued philosophers, political scientists, and statesmen. Their predictions have been notoriously unreliable. Socio-political phenomena, which include wars, are not susceptible to simple cause-effect analysis. Causes and effects in human affairs are tangled, multi-causal, multi-directional, and contingent.*

-Lieutenant Colonel Celestino Perez, Jr., *A Practical Guide to Design*

In March 2010, the United States Army published Field Manual (FM) 5-0: *The Operations Process* as part of a larger comprehensive doctrinal update. *The Operations Process* Field Manual included a newly conceived conceptual planning tool called Army Design Methodology (ADM). The School of Advanced Military Studies (SAMS) and the Army's Training and Doctrine Directorate (TRADOC) unveiled its design theory with strong links to the Israeli Defense Force's (IDF) now-abandoned-Systemic Operational Design (SOD) doctrine. This new methodology was the result of having identified the need for change in addressing the increasing complexity of the current operating environment (OE). There is an ongoing wider debate that the OE has not increased in complexity; but it is not the intent of this paper to prove or disprove this point, rather it assumes that it is more complex. US Naval War College Professor Dr. Milan Vego states, "modern military operations are too complicated for applying a so-called linear approach because the enemy and environment form a complex adaptive system"<sup>1</sup> and Adam Elkus and Crispin Burke's article in the *Small Wars Journal* further elaborate that "21<sup>st</sup> century operational conditions such as globalization, the increasing rapidity of communication, and challenges from both state and non-state subaltern figures"<sup>2</sup> have increased complexity.

Rather, this paper will describe what ADM is and how it fits into the current operations process. It will then examine the execution of the implementation of the ADM into the Army as a whole. Finally, while balancing implementation challenges and the total benefits it has added to

---

<sup>1</sup> Milan N. Vego, "A Case Against Systemic Operational Design," *Joint Forces Quarterly* 2nd QTR, no. 53 (2009) 73.

<sup>2</sup> Adam Elkus and Crispin Burke, "Operational Design: Promise and Problems," *Small Wars Journal* (2010) 5.

the Army since its adoption in 2010, this paper will prove that the addition of ADM to its doctrine has improved the Army's existing operations framework by giving it a more capable one that is both able to address complexity, and add value to the trajectory and thinking of the Army as it meets new and existing challenges in the OE.

### **What is Army Design Methodology?**

It is impossible to discuss ADM without first acknowledging its origins in SOD. In the mid-90s the IDF's Operational Theory Research Institute (OTRI) started development of a new operational art. IDF Brigadier General (BG) (Reserve) Simon Naveh and his associates recognized the need for a new way of critical and creative thinking to deal with the complexities in their OE.<sup>3</sup> In 2005, the SAMS faculty and TRADOC's Futures Department collaborated with BG Naveh on SOD. From 2006 until 2009 the collaboration continued, when in 2009 the SAMS faculty started work on a first draft of design doctrine.<sup>4</sup>

From 2009-2010, the SAMS faculty and the Combined Arms Doctrine Directorate worked together to capture design in a doctrine. It was during this period that the US Army Design Methodology morphed from its SOD foundations. Designers worked hard in adjusting SOD to fit into the Army's existing structures and processes.<sup>5</sup> As outlined in the SAMS *Art of Design Student Text*, it also underwent, "simplifications of the design lexicon and alternative approaches to the delivery of design education."<sup>6</sup>

---

<sup>3</sup> Vego, *A Case Against Systemic Operational Design* 70.

<sup>4</sup> School of Advanced Military Studies, *Art of Design; Student Text*, 2.0 ed. (Fort Leavenworth, Kansas: Department of the Army, 2010) 4.

<sup>5</sup> *Ibid.*

<sup>6</sup> *Ibid.*

Following this five year experimental and developmental period ADM emerged in what the Army's capstone operations publication, FM 5-0 defines as, "a methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to solve them."<sup>7</sup> It is from this definition that the methodology builds off of essentially three elements that are tied together; considered and defined together. These elements are the problem frame, the environmental frame, and the operational approach. In order to do this, a creative and critical thinking discourse is conducted that consistently flows from one frame to the next, always considering how the new condition relates to the existing conditions of the problem and the end state. Ultimately, this discourse serves to comprehensively answer three basic questions to produce an actionable design concept: "What is the context in which design will be applied? What problem is the design intended to solve? What broad, general approach will solve the problem?"<sup>8</sup>

Although SOD was directly produced for the operational level as a replacement of the IDF's former operational art process, doctrinally, ADM can be applied at the strategic, operational, and tactical levels. This inherent flexibility results from ADM utilization being driven by structure of the problem, and not by the level or type of command.<sup>9</sup> The three-level problem structuring outlined by FM 5-0 is refreshingly coherent and understandable- illustrating the conditions for the use of ADM to the practitioner. The Army benefits from this flexibility as it facilitates personnel transitions between staff levels because it provides a common thread for interaction between these levels. Conversely, the current analytical process practiced by tactical

---

<sup>7</sup> Department of the Army, *The Operations Process: FM 5-0* (Washington, DC: Headquarters, Department of the Army, 2010) 3-1.

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

level officers is the Military Decision Making Process (MDMP), which is not suited for use at the operational level where the Joint Operations Planning Process (JOPP) problem solving methodology is used.

To further describe ADM beyond its origin and doctrinal definition, the ADM has unique theoretical underpinnings in systems thinking, complexity theory/ wicked problems, and the art of reflection-in-action. LTC Craig Dalton, a Canadian Army US Command and General Staff College (CGSC) graduate explains in his SOD monograph, “the influence of both systems theory and complexity theory is evident throughout SOD...”<sup>10</sup> The art of holistically framing and reframing the problem and environmental frames in ADM can definitely be seen to ascribe by the golden rules of wicked problems set forth by Professors Horst Rittel and Melvin Webber, specifically where, “any solution, after being implemented, will generate waves of consequences over an extended- virtually an unbounded- period of time”<sup>11</sup> and the approach that ADM takes to ill-structured problems that “every wicked problem is essentially unique”.<sup>12</sup> It is these theoretical underpinnings that give the ADM the distinct ability for it to address complexities in the OE; such as dealing with human affairs, globalization, and the proliferation of media on the battlefield. Current analytical models such as MDMP and JOPP provide the tools to organize and solve complicated medium-structured problems where end states can be defined in a closed system, yet are ill-equipped to deal with complex, ill-structured problems. Major Ben Zweibelson, an experienced operational planner and SAMS graduate further advocates the benefits of design stating that tactical operations, “do have ‘problems’ and ‘end-states’ in that

---

<sup>10</sup> Craig Dalton, *Systemic Operational Design: Epistemological Bump Or the Way Ahead for Operational Design?* (Fort Leavenworth, Kansas: School of Advanced Military Studies, 2006) 30.

<sup>11</sup> Horst W. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4 (1973) 163.

<sup>12</sup> Ibid.

many problems yield to reductionist approaches. The trick is not to allow reductionist success to begin explaining emergent patterns.”<sup>13</sup>

Finally, according to FM 5-0, ADM does not replace MDMP but it serves to underpin the Battle Command process of understanding, visualizing, and describing; providing a tangible link to detailed planning. ADM is the conceptual piece of planning- it is not designed to produce detailed plans such as operations orders whereas MDMP and Troop Leading Procedures (TLP) are designed to produce detailed plans. In addition, these analytical methods are not continuous. Doctrinally, design is continuous- it is conducted prior and during detailed planning, during preparation, and during execution and assessment.<sup>14</sup>

### **ADM Implementation**

On the outset of implementation, the Army did not take a very holistic approach, ironically utilizing a very anti-design outlook. This was apparent through its narrow focus on changing doctrine and getting its theoretical underpinnings and concept right- and not regarding issues on a wider scope. The simple staff mnemonic Doctrine, Organization, Training, Material, Leadership and Education, Personnel, and Facilities (DOTMLPF) is used when addressing new efforts to ensure initiatives take a holistic look across the spectrum. Clearly, DOTMLPF consideration did not occur as the doctrine changed, yet other areas remained unchanged such as: training, education, and organization.

In the organizational and personnel realm there was no change to the organizational structure or personnel staffing levels to accompany the addition of ADM into doctrine. The *Art*

---

<sup>13</sup> Ben Zweibelson, "To Design Or Not to Design (Part Three)," *Small Wars Journal* (2011b) 3.

<sup>14</sup> Department of the Army, *The Operations Process: FM 5-0*, 3-1.

*of Design*, emphasizes that “the current Modification Table of Organization and Equipment (MTOE) for the various Army HQs does not allow for a separate design team.”<sup>15</sup> To ask an already over taxed staff to conduct ADM simultaneously with their normal duties with an *ad hoc* group on an irregular basis based off the whims of the commander- sets design efforts up for failure before it even starts. The only way that design efforts succeed is if there are experienced ADM practitioners that can convince the commander to allocate time and resources towards it or if the commander himself is already a believer in the methodology. More often than not, time, personnel, and the lack of design understanding led to the lack of ADM utilization. To have far-reaching impact, more personnel need to be trained in order to turn ADM into a widespread practice. Recent conceptual articles and how-to articles have grown in numbers and are definitely improving understanding.

Focusing specifically on ADM doctrine in FM 5-0, the information that is written in the 13 pages dedicated to ADM is not congruent to the introduction of a new concept. FM 5-0 does cover the wider concept and describes the frames of design but it does not provide the how or even attempts to describe conditions for transitions between frames, or what completed frames look like. Doctrine writers did this both by design and in some cases inadvertently. Doctrine writers made a bold attempt at capturing it, but by its very nature, ADM is an anti-doctrine, and thus hard to capture. They were fully aware of the risk of treading the fine line of being to prescriptive or checklist based and thus losing the essence of design theory. Nevertheless, the introduction of a *new* conceptual doctrine *requires* a breadth of practical examples since it has not been used before. The *Art of Design* further expands on ADM’s doctrinal introduction stating, “doctrine must be widely applicable which in turn means that it is often vague, and

---

<sup>15</sup> School of Advanced Military Studies, *Art of Design; Student Text*, i.

Chapter 3[ADM], FM 5-0 is no different”.<sup>16</sup> Therefore it did not provide, “the level of depth necessary for operational artists to gain understanding of the theory, philosophy, and application behind the concept of design.”<sup>17</sup> Army Techniques, Tactics, and Procedures (ATTP) manuals are meant to provide supplemental information and practical techniques used by its FM counterpart. In the case of ADM and FM 5-0, its ATTP counterpart, ATTP 5-0.1 provides no new information- it is simply a shorter regurgitation of FM 5-0. As a result, without a more detailed approach and a how-to guide, the actual doctrinal implementation of ADM proved generally inadequate for most staff officers.

There are some that believe that FM 5-0 provides enough conceptual information on ADM to guide the experienced operational artist through implementation. This view is certainly bolstered by Major Grant Martin’s comment stating, “I do believe that Design efforts-even limited to our [current] doctrine- could help us in complex environments.”<sup>18</sup> While Grant Martin is right in that discrete parts of ADM contribute to understanding as it stands, the entire ADM system, the essence of ADM that has the capacity to deal with complexity is not wholly understood from the groups of captains and majors *et al* who have much less planning and operational experience. Grant Martin’s perspective is driven by his experiences as a planner at the operational level and as part of the SF community therefore he is able to pick up ADM from the short 13 pages in FM 5-0 much more effectively than others in the Army.

As it stood in 2010, there were no comprehensive plans to educate and train the wider population of officers in ADM. There are various reasons for this, not the least is the fact that

---

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Grant Martin, "A Tale of Two Design Efforts (and Why they both Failed in Afghanistan)," *Small Wars Journal* (2011) 15.

academics and military members of the SAMS faculty were still discussing what ADM should look like and how it should be taught. There are still sentiments that CGSC still has not made up its mind regarding the teaching of ADM. A recent graduate of CGSC and current SAMS student said, “I don’t think that SAMS has fully figured out exactly what design is or should be.”<sup>19</sup> Upon implementation, CGSC introduced design classes to the common core, and several years later leadership and education efforts proved more comprehensive, introducing an ADM elective to CGSC and adding blocks of instruction into the pre-command course.

Further efforts to train the Army on ADM were implemented in multiple venues. The three Combined Training Centers (CTCs) incorporated ADM mentorship into its Leadership Training Program (LTP) program. Although during exercises ADM was inconsistently applied by the rotational training units as a result of lack of time/ priority of efforts, unfamiliarity with ADM, and unfortunately a result of a systematic issue with the relative depth of scenarios that does not enable the true realization of the benefits of the application of ADM. This initiative continues to expose a wider population to the ADM, yet mentorship remains at the basic level as the Observer Controller- Trainers (OC-Ts) were mostly self-taught on the doctrine.

### **Benefits and Challenges**

Thus far, this paper has been quite critical on the implementation of the ADM into doctrine. As mentioned earlier, one needs to remember that ADM is inherently an anti-doctrine and thus difficult to introduce as a doctrine. In this next section, the challenges that occurred in the introduction of ADM will be outlined and ongoing efforts to counter those challenges will be identified. The benefits of the ADM and the greater design theory will also be examined to

---

<sup>19</sup> MAJ DAVE, Why Design?, 2014.

demonstrate the strength of this new conceptual methodology and the value that it brings to the Army.

A challenge to the art of design is that it relies much more on the involvement of the commander as opposed to the MDMP- requiring commander time and buy-in, whereas in the MDMP, commanders get involved on a periodic, yet, planned basis. This is a challenge to ADM practitioners, because if the commander does not believe in design or is busy, the level of involvement will drop off and will result in design efforts being pushed to the side. The impact of commander non-participation in design discourse sessions is astutely communicated by the following quote by Grant Martin from his experience with design efforts in Afghanistan, “he [commander] was already divorced from the logic that had driven us to our solutions.”<sup>20</sup> Grant later elaborates that another impact of commander non-involvement is that the design team is not privy to information that he is receiving from higher headquarters such as the politics that drive your own decisions.<sup>21</sup> When commanders are involved, design efforts are successful because he is able to provide this key perspective and because he is aware of the logic that led to the overall plan.

One of the institutional obstacles that ADM ran into was that it possessed an elitist-air to it. The only officers that really understood ADM were the officers that received formal training from CGSC or SAMS; with SAMS students receiving far more in-depth training. While some officers simply tried to self-teach themselves, others were put off by the entire prospect and just ignored it. Consequently, an ‘us versus them’ attitude prevailed among the officers in the Army, significantly reducing the use of ADM. Most viewed it as a tool of the intellectual elite of the

---

<sup>20</sup> Martin, *A Tale of Two Design Efforts (and Why they both Failed in Afghanistan)*, 1-16.

<sup>21</sup> *Ibid.*

military, as exhibited by this quote from a CGSC instructor, “design was portrayed as something that only those with an elite education can grasp.”<sup>22</sup> This maxim appeared true due to the ‘lofty’ theoretical underpinnings of ADM such as systems theory and complexity theory. Despite the elitist-air that exists, ADM continues to be aggressively pursued by practitioners in the Army due to the realization of the benefits of design to the operations process. The more individuals that grasp design, the better, more creative, and dynamic the Army becomes as a whole. After over four years of its presence in doctrine and approximately eight years of it being discussed, the methodology and theory is taking hold in the masses- being understood by more and more officers- slowly diminishing its air of elitism.

Nevertheless, ADM was and still is a difficult concept to grasp to the layman staff officer- due to their lack in formal training and education in ADM. Historically, it takes a long time for change, especially the adoption of a new doctrine across a large organization like the US Army. According to John Kotter’s eight step model to organizational change, in order for change to take place one must, “communicate the vision, empower others to act, and plan for and create short term wins”<sup>23</sup>. Initially the Army did a poor job in communicating the benefits of ADM adoption and explaining why. Additionally, no plans for education in areas such as systems theory and the practice of systems thinking techniques and facilitation skills.<sup>24</sup>

As described earlier, one of the major issues with implementation was the vague ADM doctrine. It failed to describe how design was to interact with detailed planning, remaining in the

---

<sup>22</sup> Anna P. Grome et al., *Incorporating Army Design Methodology into Army Operations: Barriers and Recommendations for Facilitating Integration*, (US Army Research Institute for the Behavioral and Social Sciences,[2012]), 9.

<sup>23</sup> Esther Cameron and Mike Green, *Making Sense of Change Management*, 3rd Edition ed. (USA: Kogan Page Limited, 2012), 491.

<sup>24</sup> John F. Schmitt, *A Systemic Concept for Operational Design*, 2006) 30.

theoretical realm- while lacking any practical examples to demonstrate how it was supposed to work. This served as a major barrier into the use of ADM. Staffs that did conduct design were left wondering how they were going integrate it with detailed planning. Fortunately, a multitude of literature has been written since 2010, describing this interaction and interface with existing analytical models in the operations process. Articles by the director of SAMS, COL Stefan Banach titled *The Art of Design* and CGSC instructor LTC Celestino Perez titled *A Practical Guide to Design* provide practical examples, guiding questions, and practical triggers to use during the process. Articles like these have greatly advanced ADM by lowering the entry level barrier for other practitioners. The growing theoretical and practical guide articles have made ADM more desirable by extolling its capacity to deal with complexities over time and the encouragement of solving the right problem. As a result it has garnered the attention of the international community, specifically with the Australians<sup>25</sup>, and the Canadians, who teach blocks on design theory on their intermediate and senior service college curriculums.

The US Army is known for its traditions and long standing culture that has formed over its long history. It is also a large slow moving bureaucratic organization. As a result, the cultural challenges that ADM faced were the biggest obstacles to the adoption of ADM. The top two reasons for the cultural resistance is the Army's comfort with analytical linear methods with prescribed steps as opposed to divergent creative, critical thinking protocols. The other reason is that MDMP has been around for a long time and is culturally ingrained in the force. Senior Leaders have invested a lot of time learning and mastering this process. In fact, they automatically view problems through this lens without even knowing it. To divest this lens from the force and re-train the force on ADM specifically requires time and support. In their co-

---

<sup>25</sup> Stefan J. Banach, "The Art of Design; A Design Methodology," *Military Review*, no. March-April (2009) 114.

authored book on *Change Management*, Esther Cameron and Mike Green insist that a key factor in change is that, “managers and staff need to be supported through the transition process with the necessary coaching and training.”<sup>26</sup> This coaching and training was not available until only recently. As of 2013, under the new Regionally Aligned Brigade concept, one of the requirements for Brigades moving into the ready phase is ADM training. Mobile Training Teams (MTTs) provide home station train-up on ADM for BDE and BN Headquarters. In addition, as part of professional military education (PME), personnel that head to pre-command courses receive a commander’s guidance version of ADM. One would expect a higher level headquarters to be able to perform ADM more effectively since they have senior members who are experienced and would quantitatively possess more SAMS graduates, yet, interestingly, former SAMS instructor and director James Greer stated that, “in my observations of BN, BDE, DIV, and Corps level design teams, often the BN and BDE staffs had been more successful implementing design.”<sup>27</sup> This illustrates that the Army is doing a better job educating at CGSC and SAMS.

The ADM provides practitioners with advanced skills such as problem setting. It is this problem setting that allows the rest of the methodology and thereby solution to flow from. Professor Donald Schon describes the importance of problem setting in the following quote from *The Reflective Practitioner*,

But with this emphasis on problem solving, we ignore problem setting, the process by which we define the decision to be made, the ends to be achieved, the means which may be chosen. In real-world practice, problems do not present themselves... They must be constructed from the materials of problematic situations which are

---

<sup>26</sup> Cameron and Green, *Making Sense of Change Management*, 342.

<sup>27</sup> James Greer, *Army Design Methodology*.

puzzling, troubling, and uncertain... must make sense of an uncertain situation that initially makes no sense.<sup>28</sup>

This problem setting or in ADM terminology is referred to as defining the problem frame and environmental frame, is somewhat similar to mission analysis in MDMP except that it looks further into the problem, and fundamentally asks, why is that the problem?. It looks further into narratives of agents and uses a holistic approach of the system as a whole in addition to the actions on individual agents. Another difference is that it does not assume the problem set given is the right problem to solve as is reflected in current analytical planning processes.<sup>29</sup> There are clear benefits to the operations process as it inherently allows for a better understanding of what is going on and is more likely to capture the 'right problem' that needs to get solved.

Another benefit of ADM is it allows for the incorporation of outside actors such as Inter-Governmental Organizations (IGOs) and Non-Governmental Organizations (NGOs), aligning with NATO's Comprehensive Approach. NATO's Comprehensive Approach is a larger framework that encourages interaction among civilians and the military. The following NATO Comprehensive Approach Report excerpt describes the intent of the approach saying, "there are a large range of missions where civilian actors and the military find themselves operating in the same space, and need to work towards compatible if not identical ends."<sup>30</sup> The advantage of ADM is it accounts and encourages for the incorporation of agents with expertise in various disparate areas and encourages divergent thinking during discourse sessions. In fact, the design created with these subject matter experts will prove more robust, comprehensive, and more successful.

---

<sup>28</sup> Donald A. Schon, *The Reflective Practitioner; how Professionals Think in Action* (USA: Basic Books, 1983) 40.

<sup>29</sup> Elkus and Burke, *Operational Design: Promise and Problems*, 11.

<sup>30</sup> Julian Lindley-French and William Hopkinson, *Operationalising the Comprehensive Approach, (16-18 April 2012; WP 1092, Wilton Park,[2012])*.

The following three examples of real world design efforts prove that ADM is an effective tool to use. It highlights the achievement of the design effort and the reason for its success in very different OEs. The first example occurs in Iraq during the transition from a military-led to a civilian-led mission. Obviously, ADM was started while operations were already well underway. In this example, the intention of the design process was to identify if they were focusing on the right things at the right times and to make sense of an otherwise chaotic environment. This effort proved effective because they were successful in identifying the critical path to transition and importantly, they were able to identify critical events at the time- thereby reducing many inefficiencies.<sup>31</sup> Again, the value of ADM is highlighted, as it was able to cope with the abundant complexities in the post-COIN Iraq OE. Major Ben Zweibelson reiterates that only design could have assisted with a solution in this situation because, “complex systems resist reductionism, and dynamic ecosystems resist linear causality solutions.”<sup>32</sup>

In 2011, a small design team at National Training Mission-Afghanistan (NTM-A) headquarters made effective use of the ADM. As lead of the design team, Major Zwiebelson describes how they introduced non-traditional planning methods, which drove critical thinking and abstract reflection, not normal to military thinking.<sup>33</sup> He attributes the success to ADM, because standard analytical planning methodologies would not have allowed for the tailoring of their approach that, “required a blend of creativity, improvisation, and conscious editing to use

---

<sup>31</sup> United States Army School of Advanced Military Studies, *Army Design Methodology: Commander's Resource*, ed. US Army Research Institute for the Behavioral and Social Sciences (Fort Leavenworth, Kansas: US Army, 2012) 64.

<sup>32</sup> Ben Zweibelson, "Cartel Next: How Army Design Methodology Holistic and Dissimilar Approaches to the Mexican Drug Problem," *Small Wars Journal* (2011a) 3.

<sup>33</sup> Ben Zweibelson, "Does Design Help Or Hurt Military Planning: How NTM-A Designed a Plausible Afghan Security Force in an Uncertain Future, Part I," *Small Wars Journal* (2012) 11.

what proved useful and disregard the unnecessary”.<sup>34</sup> The end result was a developed plan that reflected greater understanding of the OE.

The EUCOM geographic command utilized design to approach their wicked problem of ‘owning’ a 92 country Area of Responsibility (AOR). Prior to the conduct of the design approach, the existing campaign plan was deemed disjointed. A holistic, re-build from the ground-up was needed to address the issues of their 92 country AOR.<sup>35</sup> By working on iteratively understanding the problem, being open-ended and focused on learning, the design team was able to come up with innovative ideas to their operational approach. None of this would have been able to have been accomplished utilizing existing analytical methods. In the end, the campaign plan was well-thought out and a strategic idea emerged; transitioning from ‘Prediction’ to ‘Positioning’, which later translated into an active strategy of ‘Access, Influence, and Presence’.<sup>36</sup>

The three cases previously outlined were all great successes as a result of ADM. There are other examples of smaller successes that have not been cited as evidence. However, the counterargument is that there are many failures of ADM- perhaps outnumbering the successes. One famous example is the failing of its previous form- SOD, in the IDF’s fight against Hezbollah. Anti-design advocates often cite this as a counter-point, yet when one critically examines this example, one clearly sees that the main reason for failure was the extremely poor implementation of SOD into the IDF, leading to a severe lack of understanding throughout the IDF. It was not a result of an inherent problem with the doctrine. The current failures in the US

---

<sup>34</sup> Ibid.

<sup>35</sup> Grome et al., *Incorporating Army Design Methodology into Army Operations: Barriers and Recommendations for Facilitating Integration*, B-12.

<sup>36</sup> Ibid.

Army's design efforts reflect the same experience. These efforts failed due to either lack of understanding, lack of commander involvement, or lack of SMEs and ground-level practitioners to provide the real ground-level perspective.

Finally, the *Art of Design, Student Text* outlines three different purposes of thinking, which are sense making, idea making, and decision making.<sup>37</sup> The problem setting or problem frame of ADM aligns neatly with sense making and the mission analysis phase of MDMP, while the entire MDMP obviously aligns with decision making. The remaining purpose of thinking-idea making- is exactly what design is intended to do.<sup>38</sup> It attempts to inspire cognitive flexibility and creativity to generate new ideas and new solutions. Possessing a developed intellectual capacity to generate ideas is vitally important when trying to solve complex issues as it takes a creative non-linear approach to come up with solutions to these problems. In this context, idea making is extremely helpful in the innovation of new ideas when dealing with larger issues at the operational and strategic level. This flexibility and creativity is what American Strategic Thinker, Colin Gray, noted as lacking throughout his review of US strategic history of the modern era.<sup>39</sup> Despite being taught this at SAMS, it is the fostering of this idea making atmosphere and the teaching of idea making is what is missing in the rest of the standard Army PME. The teaching of this creative idea making is the biggest benefit to the US Army from its adoption of the art of design.

---

<sup>37</sup> School of Advanced Military Studies, *Art of Design; Student Text*, 17.

<sup>38</sup> Ibid.

<sup>39</sup> Elkus and Burke, *Operational Design: Promise and Problems*, 21.

## Conclusion

As discussed, the operating environment has grown increasingly complex. ADM was adopted to sufficiently address this complexity or wickedness that the current analytical MDMP could not properly address. The theoretical underpinnings and design of ADM has proven to improve the Army's existing operations framework by giving it a more capable framework that is able to address complexity.

In the short term, implementation of ADM has run into many challenges. Most of these challenges such as vague doctrine, the elitist-view on ADM, and a resistant culture have slowed the implementation of ADM across the Army, but they are all actively being addressed. Despite these challenges, ADM adoption has provided yet another conceptual tool to help commanders and staff wrap their heads around the complexity of the environment and problem. More importantly, it helps commanders communicate a shared understanding of their vision.

During recent combat operations ADM has both succeeded and failed. The failed ADM attempts are a combination of the challenges that were outlined, but in most cases, the 'unsuccessful' attempts still improved the design team's understanding of the OE and of the complex interactions between agents and the system. Theoretically, ADM proves to be an effective addition to the operations process, still, there are few case studies completed on the effectiveness of ADM in real operations. Further research needs to take place to assess ADM's operational effectiveness.

The greatest mid-to-long term effect that ADM has had on the Army is the second-order effects of increased ADM discourse on critical thinking, creativity, complexity, and conceptual planning. It has drawn a level of attention from officers and academics alike- on par with hybrid

and irregular warfare discourse. If for some reason ADM proved to be an ineffective tool and became obsolete in the future, the greatest lasting effect to the Army would be that Army Officers are now expanding their horizons to keep up with ADM and its associated linkages to critical thinking, CAS theory, reflective thinking, and change management theory. This idea is further captured by a quote from a CGSC instructor stating that, “if design does anything it’s challenging us to be more *thoughtful in our thinking*”.<sup>40</sup> Yet, it is not until the full PME and training system is revamped that the US Army will be able to reap the full effect from the surrounding ADM discourse. As one operational planner and SAMS graduate identified,

The beauty of Design is that it’s not hierarchical; it’s not reductionist. You have adaptation, innovation, and creativity coming from any direction. This [is completely] against what we’re professionally educated to do, which is uniformity, prescription, obedience, hierarchy.<sup>41</sup>

Further research into best practices, improved distribution and refinement of existing doctrine, and systematic implementation efforts of ADM into the Army will have farther reaching impacts on the Army as a whole. TRADOC and operational commanders need to continue to aggressively pursue ADM and its foundations, as it will lead to a more effective, critical thinking force poised for the challenges and complexity of the future.

---

<sup>40</sup> Grome et al., *Incorporating Army Design Methodology into Army Operations: Barriers and Recommendations for Facilitating Integration*, 26.

<sup>41</sup> *Ibid.*

## Bibliography

- Banach, Stefan J. "The Art of Design; A Design Methodology." *Military Review* no. March-April (2009): 105-115.
- Brennan, John E. *Design*, correspondence to Major Kawaguchi, Bryce, May 2014.
- Cameron, Esther and Mike Green. *Making Sense of Change Management*. 3rd Edition ed. USA: Kogan Page Limited, 2012.
- Dalton, Craig. *Systemic Operational Design: Epistemological Bump Or the Way Ahead for Operational Design?*. Fort Leavenworth, Kansas: School of Advanced Military Studies, 2006.
- Department of the Army. *The Operations Process: FM 5-0*. Washington, DC: Headquarters, Department of the Army, 2010.
- Elkus, Adam and Crispin Burke. "Operational Design: Promise and Problems." *Small Wars Journal* (2010): 1-21.
- Greer, James. *Army Design Methodology*, speech to Canadian Forces College, April 2014.
- Grome, Anna P., Beth W. Crandall, Louise Rasmussen, and Heather M. K. Wolters. *Incorporating Army Design Methodology into Army Operations: Barriers and Recommendations for Facilitating Integration*: US Army Research Institute for the Behavioral and Social Sciences, 2012.
- MAJ DAVE. *Why Design?*, correspondence to Major Kawaguchi, Bryce, May 2014.
- Lindley-French, Julian and William Hopkinson. *Operationalising the Comprehensive Approach* 16-18 April 2012; WP 1092: Wilton Park, 2012.
- Martin, Grant. "A Tale of Two Design Efforts (and Why they both Failed in Afghanistan)." *Small Wars Journal* (2011): 1-16.
- Rittel, Horst W. and Melvin M. Webber. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4, (1973): 155-169.
- Schmitt, John F. *A Systemic Concept for Operational Design*, 2006.
- Schon, Donald A. *The Reflective Practitioner; how Professionals Think in Action*. USA: Basic Books, 1983.
- School of Advanced Military Studies. *Art of Design; Student Text*. 2.0th ed. Fort Leavenworth, Kansas: Department of the Army, 2010.

- United States Army School of Advanced Military Studies. *Army Design Methodology: Commander's Resource*, edited by US Army Research Institute for the Behavioral and Social Sciences. Fort Leavenworth, Kansas: US Army, 2012.
- Vego, Milan N. "A Case Against Systemic Operational Design." *Joint Forces Quarterly* 2nd QTR, no. 53 (2009): 69-75.
- Zweibelson, Ben. "Cartel Next: How Army Design Methodology Holistic and Dissimilar Approaches to the Mexican Drug Problem." *Small Wars Journal* (2011a): 1-19.
- . "Does Design Help Or Hurt Military Planning: How NTM-A Designed a Plausible Afghan Security Force in an Uncertain Future, Part I." *Small Wars Journal* (2012): 1-21.
- . "To Design Or Not to Design (Part Three)." *Small Wars Journal* (2011b): 1-13.