Reinventing Social Science in the Military

Lessons Learned from the United States and New Zealand

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At first glance, the relationship between social science and the military may not be clear. A closer analysis of the opportunities that social science offers the military shows, however, that it provides a variety of research and educational capabilities to address the human dimensions of military organizations and their operational contexts. For instance, psychological and human performance criteria are firmly rooted in social science constructs within the U.S. Department of Defense (DOD).[1]

In New Zealand, this argument shifts toward education, notably whether social science should be taught as part of professional military education (PME) of senior officers. The New Zealand 2016 National Security System and 2016 Defense White Paper both emphasize whole- of-government approaches to defense and security, and that basic social science education can give aspiring commanders another tool to understand complexity, or the variety of horizontal, whole-of-society, institutional, political, structural, economic, and social dimensions of the nation's security threats and risks.[2]

Education and Training

Some military specialties logically embrace social science. In the United States, military information support operations (MISO) and operational research systems analysis (ORSA) functions require the application of social science concepts, albeit through a semi-rigid doctrine filter.[3] A common MISO conundrum lies in confident separation between what is needed

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for phenomena to occur (measure of performance) versus what increases/decreases effects of success for said phenomena (measure of effectiveness).[4] Similarly, ORSA professionals create assessment tools based on data requirements versus a theory. Regrettably, these tools are rarely designed to inform each other toward a common data picture, and neither rests on a sound theoretical base.

In New Zealand, a social science research methodology class was introduced in 2015 to its Command and Staff College. Former graduates had suggested this class to the college, believing it added a missing element to existing offerings in terms of providing a firm basis for establishing critical thinking in military education.[5] The teaching of social science methodology, as part of the qualification, is intended to provide two levels of education to empower its graduates to operate independently as both 1) consumer, with an understanding of what it entails to potentially be, 2) a producer of empirically based population centric research. According to the official New Zealand Defence Force website;

> *Officers today are encouraged to widen their outlook from specialist areas of technical expertise, towards a more balanced coverage of wider strategic issues, requiring a level of analytical and conceptual thinking. Whilst communication and staff skills remain important, greater attention is given to strategic issues and operational studies. The service orientation has become 'joint,' reflecting changes in the New Zealand Defence Force and trends overseas.[6]*

Within this PME curriculum there is a specific focus on encouraging officers to understand being "joint," and to excel in "…activities, operations, organizations, etc. in which elements of more than one service of the same nation participate."[7] Joint operations require an understanding of how to operate with others in new environments—whether they are other service arms, international, or national partners. A joint operational understanding also helps coordinate the delivery of military force and effect for a nation and internationally. This is even more important in New Zealand, where its services are smaller in size and are distinct in their specialist capability. For example, to conduct any form of airlift, its army must work jointly with the air force as the former lacks any air capability to conduct independent operations.

Leadership

In this smaller military, New Zealand Command and Staff College graduates are now expected to personally understand the utility and possibility of social science data and methodology for comprehending environments, trends, and populations. Effectively, these future commanders are consumers rather than producers of social science data. Still, a social science based education empowers those providing the data to know what questions their leadership can ask of other government officials they will have to partner with, as well as competently interpret the utility of data and findings intelligence professionals, research professionals, and policy makers put before them. Correspondingly, relevant professional military education in New Zealand aspires to supplement the student's existing specialist

expertise with a broader understanding of global and domestic security and insecurity. In this generalist national security space, one must ask: is there a role for social science in professional military education?

In the United States, perhaps no two military specialties embody advocacy for a generalist national security space than MISO and ORSA. Narrative, messaging, and target audience analysis are of utmost importance to a defense structure seeking ways to proactively limit adversary recruitment and radicalization.[8] Nevertheless, proper social science-driven integration of these specialties into overall military strategy creates an arguable disconnect with the DOD calculus for determining "success" in military planning. U.S. general officers can and arguably should favor actions linked to—or at minimum, predictive of—tactical outcomes. Understanding the theory behind the data is something most general officers have little time for. Consequently, academic social scientists can be seen as espousing higher level ideas but with little practical military fit.[9]

Still, social science as a methodology offers tools that supply an empirical, robust means to answer questions and make decisions about human complexity. At no point in military history has human complexity been so much at the front and center of the challenges facing the United States, New Zealand, and many other countries. For example, international terrorist movements communicating and operating across geographic and technological borders have altered the entire strategic playbook regarding how to prevent and predict adversary action and intent.[10]

An education in the basic principles of social science can inform senior commanders where to begin to approach such problems, also on what evidence basis they should be making critical decisions. These decisions will ultimately impact national security, in major and minor ways. These questions and areas can include:

Planning
- What are the right sorts of questions to generate knowledge of complex situations?
- How can one frame these questions so they are answerable?
- How can one generate empirical data to answer a research question?

Assessment
- How can one analyze data to provide as many answers as possible to the research question?
- What are known biases and how can one control for them?
- Are the question, method, and analytical tools robust, reliable, replicable, and relevant?

Utility
- Does answering these questions generate value?
- How does one balance the reliability of data analysis with timeliness?

A basic understanding of social science offers senior military officers the opportunity to draw upon an evidentiary, data-driven method of understanding human interaction to make better national security decisions. It allows individuals to ask questions about the evidence behind a particular state of affairs, it also empowers officers to actively understand when it is appropriate to favor or even ignore

the data completely when making decisions. Understanding that poor methodological design and sampling approaches can render even the largest dataset useless, this recognition allows individuals to properly interrogate and improve evidence-driven approaches to knowledge.

Tangibly, due to a lack of overseas engagements prior to 2003, New Zealand senior officers may have less operational but more political and whole-of-government experience than their U.S. counterparts.[11] Still, when New Zealanders are deployed on operations (i.e. the Provisional Reconstruction Team that was deployed to Bamyan, Afghanistan), they are nevertheless expected to similarly and effectively interact with local populations to deter threats from nonstate actors. This requires a robust understanding of the human environment and its complexity, one that is multidimensional. To accomplish these goals, New Zealand officers must therefore be informed consumers of social scientific research that sheds light on the issues they regularly encounter.

In both New Zealand and the United States, knowledge of social science principles can lead to increased understanding of the weaknesses and limitations of existing data sets. For agency-based researchers, the application of social science allows for an evidence-driven approach to demonstrating—through data—that the emperor has no clothes; and with it they can affect institutional change in the proper direction.[12] It also offers a needed buffer to control for a commander's known or unknown biases drawn from previous military experience.

Intelligence and Collections

Perhaps no military area or agency is more reliant on social science and data than those in the intelligence field.[13] Intelligence analysts are intentionally selected based on language, region, and/or cultural expertise to provide context to continuously gathered collections data. While intelligence analysts are conceivably the least wedded to doctrine, they are, however, expected to use social science methodology to justify findings as opposed to explaining them.[14] The end result, and akin to MISO, is that measures of performance and effectiveness can become jumbled in intelligence analyst reports.

To explain, intelligence analysts can only rely on what is available to them when writing reports, often under tight deadlines. When constructing these reports, most polling information becomes force-fit and repackaged as trends, with little attention given to the "why"—the social science—behind it. Disconnected trend data is chart friendly, simplistic (plus or minus in a certain direction) and can provide a myth of progress (presented as timelines) to leadership searching for any and everything to improve strategic and tactical decisionmaking.

This organization and presentation style can lead to over collection, and also very costly and redundant research programs. Wanting to do their due diligence, intelligence agencies continuously gather and monitor data on vulnerable populations.[15] Global terrorist organizations only fuel the fire based on their constant evolution, forming new identities, ideologies, and an always moving data collection target. Where does one entity begin, the other end? The answer: gather even more data to compensate.

Eventually the data pile up. Especially within the social media space, this produces far too much information for any team of analysts to properly analyze. Still, stopping the machine is seemingly an admission to military and government leadership of strategic defeat. Across interagency relationships and partners, the problem multiplies exponentially. Each intelligence organization typically possesses its own research program, with these rarely feeding into their own previous attempts to understand a problem let alone those of counterparts. The Islamic State of Iraq and the Levant, as an example, is well aware of this vulnerability. They reinvent, design information misdirection, and employ proxy actors and motives to exacerbate the problem.[16] When opportunities present themselves, these same enemies will likewise hack systems that attempt data integration, and with it neuter insights potentially gained via wider strategic perspective.

Military organizations must therefore revamp their approaches to employing social science in learning and decisionmaking processes. As a first step, survey research programs should be deliberately redesigned for compatibility with social science. This protects against the measures of performance/measures of effectiveness problem detailed earlier, also avoids dangerous errors of concluding false positives or negatives, based on outcomes. Reducing these errors also reduces the enemy's ability to capitalize on them.[17]

Importantly, this updated approach empowers operators and analysts to stop justifying data outcomes in favor of explaining them. Research programs and findings must be based in social science. Subject matter experts—especially within intelligence environs—are left only to rationalize the "why" behind the data, and with it directly capitalize on their strengths. Why did outcomes trend in a specific direction? Why did a population differ on the same construct, and so dramatically? Why are certain variables correlated or predictive into one another?

Implementation

While increased social scientific education can engender these outcomes, is this education requirement a bridge too far in an already busy defense college schedule (that must include core subjects such as command and leadership)? What are the reasonable limits of PME, and can this education be effectively stretched to also include a grounding in social science? And importantly, when (if ever) is it wise to introduce a questioning, critical, evidentiary, methodological skill set into a hierarchical (often political at senior levels), military organization?

Introducing a methodology and skillset that focuses upon knowledge innovation, data integrity, and a critical viewpoint should improve PME. Specifically—and using the New Zealand requirement above—it can produce senior officers better equipped to deal with complexity. This does not, however, address the practical reality that the value of providing such education will likely remain unclear to uniformed military decisionmakers.

Ultimately, the question of whether a social scientific education has intrinsic value for senior military officers boils down to whether their organizations can afford the money and workload required to add this capability. In both the United States and New

Zealand, it is the independent university–employed social scientist who must convince a military organization there is value in a social scientific education for its officers. This is no easy task.

Currently, when the New Zealand Defence Force needs to generate and analyze data on a particular human problem set, it must contract with external defense social scientific researchers to do this work.[18] Unfortunately, senior commanders rarely know the right methodological questions and/or limitations on scope to ask these entities if/when requesting research. While such an education will improve senior officers' ability to address the complexity of their local and regional environment and future tasks, chances of said education being sustained under fiscal and workload constraints are slender.

Benefits

A powerful argument for an increased social science presence within military environs is that it can and should be a sizable cost saver. A streamlined and more deliberate research program ensures better budgeting.[19] Gathering the right information in small doses provides significantly more strategic awareness versus the reverse. Rigor not sample size becomes paramount.

Moreover, a social science-friendly approach empowers operators and analysts to stop justifying data outcomes in favor of explaining them. A research program derived from theory creates a simple premise: data either supports or refutes a theory used to explain a population. Working off an established theoretical baseline, subject matter experts can instead turn their

attention to offering invaluable data context—a much better use of their skillsets.

This reasons for a dramatic shift toward using data for strategic versus tactical effect. Such a shift would improve our understanding of emerging challenges such as the "gray zone" and phase zero, and of the drivers of conflict in such contexts.[20] This understanding also requires aptitude in social science, plus internal, defense-based social scientists who can educate and inform leadership on how social science approaches could and should drive key decisions. As the number of new top secret security clearances dwindles, these social scientists must be brought into the fold on a permanent basis before they can no longer be let in, period.[21]

By providing only contracted social science education and research, an employed academic can find him/herself advised against autonomy in providing services to the military.[22] Challenges around keeping participants anonymous and conflicts of interest must also be mitigated.[23] In terms of applying social science principles to the military environs, it is highly unlikely, however, that these problems can be completely avoided. There remains a struggle in applying social science to a military context, in that social science is—by design—skeptical of normative approaches to knowledge, which have within them conceptions of what is "good."[24]

Based on experience in the United States and New Zealand, social scientists across the interagency and partner nations must therefore formally collaborate, share information, and publicly work together toward common social science-based goals.[25] This deliberate display of unity reinforces the benefits of the approach, and likewise

ensures that a specific agency or select paradigm does not dominate social science discussion for the worst.

We recommend the following;

- Accept social science outcomes as relevant to strategic as well as tactical outcomes.
- Avoid over-simplifying theory and findings to fit a specific goal.
- Bridge gaps between existing and proposed military paradigms featuring social science.
- Transition social scientists to serve in an internal permanent capacity.
- Encourage a unified military/ interagency social science community.

Conclusion

Importantly, one of the core strengths of social science is its ability to analyze and account for the complexity and messiness of the contemporary world. The purpose of this article has been to address the question of what role social science can play in the military, and what happens when that question is asked across national and international boundaries.

An international comparison—such as between the United States and New Zealand—allows one to reconsider internal constraints and challenges by placing them in light of the constraints and challenges of other nations. First, clearly the politics of linking social science to the military varies considerably between researchers and educators across contexts and continents.

Second, a comparison immediately shows that the value of social science is also dependent on the size of a military. In the United States, with a very large military, the

question is how to better integrate social science research into decision-making. For New Zealand with one of the world's smallest, the question is how social science education can shape military officers to be better generalists. Third, one must also explore the tension that might exist between publicly and military funded social scientists, and their country's unique struggles to negotiate with and add value to their respective military establishments.

To answer any or all of these questions means accepting the difficult reality that current approaches are not up to standard. International comparisons provide useful recognition of this being a shared problem, albeit with different threads based on the scope and nature of each institution. They also serve as valuable lessons learned on efforts conducive to endurance as opposed to those serving merely as stopgaps.

Last, and most importantly, answering these questions requires the courage to accept and embrace social science within the military communities. New Zealand's social science PME push demonstrates solid recognizance, as does analysis of pre-conflict drivers in the United States. To make meaningful impact, military leadership must set the tone by advocating for the objective assessment social scientists can bring to an entity already knee deep in the problem. Leaders must also protect them from consequences of providing guidance potentially counter to current paradigms and prior experiences. Only through a combined, interagency, and international effort will these efforts stick. PRISM

Notes

1   Preservation of the Force and Family (2016) *U.S. Special Operations Command—Preservation of the Force and Family*, accessed on November 1,1 2016 at <http://www.socom.mil/POTFF/default.aspx>.

2   Department of the Prime Minister and Cabinet, *National Security System Handbook*, Wellington: Department of the Prime Minister and Cabinet, 2016. See also New Zealand Government, *Defence White Paper 2016*, Wellington: Ministry of Defence, 2016. See also Department of the Prime Minister and Cabinet, *National Security System Handbook*, Wellington: Department of the Prime Minister and Cabinet, 2016.

3   U.S. Joint Chiefs of Staff. Joint Publication 3-05 "Special Operations" Washington, DC: Government Printing Office, 2014.

4   Lieber, P.S. & Reiley, P. "Countering ISIS's Social Media Influence," *Special Operations Journal*, 2.1 (2016), 47-57.

5   Murray, Nicholas, "The Role of Professional Military Education in Mission Command," *Joint Forces Quarterly*, January 2014, 10-13.

6   New Zealand Defence Force Command and Staff College, *History*, accessed on October 10, 2016 available at < http://nzdf.mil.nz/what-we-do/command-and-staff-college/history/default.htm>.

7   New Zealand Defence Force, *New Zealand Defence Doctrine* Third Edition, (Wellington: New Zealand Defence Force, 2012).

8   Brooking, E. & Singer, P.W.,"The war of social media," *Popular Science*, 288 (2), 2016, 60–65.

9   Campbell, H. & Murrey, A. (2014). "Culture-centric pre-emptive counterintersurgency and U.S. Africa Command: Assessing the Role of the U.S. social sciences in U.S. military engagements in Africa," *Third World Quarterly*, Vol.35 no.8, (2014), 1457-75.

10   Metz, S.,"Countering the Islamic State in the asymmetric social media battlefield," *World Politics Review*, accessed on November 11, 2016, available at <http://www.worldpoliticsreview.com/articles/16042/countering-the-islamic-state-in-the-asymmetricsocial-media-battlefield>.

11   The New Zealand Military have not been deployed into frontline combat since the Vietnam War. A list of New Zealand's recent defence deployments is available at< http://www.nzdf.mil.nz/operations/overseas-deployments/default.htm last accessed 10th November 2016.>

12   Hoverd, W. (Forthcoming, 2017). Differentiating between New Zealand's Two Security Studies Research Agendas: Post the Rise of the Islamic State. In Hoverd, W., Bradley, C., & N, Nelson.*(eds) New Zealand National Security, Challenges*, Issues and Trends, Massey University Press, Auckland.

13   Belt, D. (2015). "An Interpretive Sociological Framework for the Analysis of Threats," *American Intelligence Journal*, (32)1: 43–54.

14   Chang, W. & Tetlock, W. (2016). "Rethinking the training of intelligence analysts," *Intelligence & National Security*, (31)6: 903–920.

15   Duncan, I. (2016). "Social media is a rich source for security services—if they can figure out how to use it," *Baltimore Sun*. Accessed on Nov 11 2016 at: http://www.baltimoresun.com/business/federal-workplace/bs-md-military-socialmedia-20160206-story.html

16   Tadjdeh, Y. (2014). "Government, industry countering Islamic State's social media campaign," *National Defense Magazine*, December: 24–26.

17   A Type 1 error occurs when one falsely concludes the presence of a phenomenon, only it did not actually occur. The reverse presents itself as Type 2 error. In statistical terms, this is commonly notated as p<.01 or p<.05, meaning a finding statistically significant. These numbers imply statistical confidence that the same finding would or would not occur for a similar sample in 99 out of 100 (p<.01) or 95 out of 100 (p<.05) instances, respectively. In this example, it reasons for improving the rigor of survey programs to reduce the potentially dangerous likelihood of reaching seeming conclusions but ones inherently inaccurate by design.

18   In a 2011 review of New Zealand's Defence Technology Agency and its respective website, outside a brief mention of cognitive performance, there is no mention of social science as a required scientific requirement for the NZDF & the country's intelligence agencies. See D Ledson, H Andersen & N Jordan. *Review of the Defence Technology Agency Applying Science for New Zealand's Security and Prosperity* Mar 31 2011, and <http://www.dta.mil.nz/?page_id=172>, accessed on Nov 10 2016.

19   Ewing, M. (2009). "Integrated marketing communications measurement and evaluation," *Journal of Marketing Communications*, 15(2–3): 103–17.

20   Votel. J., Cleveland, C., Connett, C. & Irwin, I. (2016). "Unconventional Warfare in the Gray Zone," *Joint Forces Quarterly* (1st Quarter) (80)1: 101–09.

[21] Kyzer, L. (2015). "Security Clearance Reductions – DoD Cuts Number of Clearances by 15 Percent," *ClearanceJobs.com*, March 7, 2015, accessed on November 11, 2016 at <https://news.clearancejobs.com/2015/03/27/security-clearance-reductions-dod-cuts-number-clearances-15-percent/>.

[22] Calhoun. C. (201). "Social Science Research and Military Agendas: Safe Distance or Bridging a Troubling Divide?" *Perspectives on Politics*, Vol.8 no. 4, 1101–06.

[23] Campbell, H. & Murrey, A.

[24] Sayer, A. (2009). "Who's Afraid of Critical Social Science?" *Current Sociology*, 57(6): 767–786.

[25] U.S. Department of State. (2016). *A new center for global engagement* [Fact Sheet]. Department of State – Office of the Spokesperson, accessed on November 11, 2016, available at <http://www.state.gov/r/pa/prs/ps/2016/01/251066.htm>.