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Alternative Thinking Team

Track: C2 Concepts, Theory, Policy, and Approaches

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Abstract

Operational contexts are becoming increasingly complex, and the nature and degree of this is already causing significant problems for command teams. A primary challenge is one of developing a sufficiently rich understanding to take account of this operational complexity, especially when combined with situational uncertainty and dynamism. Militaries hence face a historic dilemma, which has now arguably worsened i.e. responding to elements of crises which are the simpler, military force on force type but also, and often simultaneously being able to respond to the more complex aspects. Traditional approaches for developing understanding were focussed on the former situations rather than the latter, and therefore it proposed that we need to considerably adapt and enhance our understanding and planning processes to make them fit for purpose in today's and tomorrow's more complex information age settings.

The UK has developed a concept which it believes provides a useful stepping stone in addressing this problem, and is currently referred to as the Alternative Thinking Team (ATT), or without the team construct, just Alternative Thinking (AT). The team concept is distinct from prior but similar concepts such as Red-team and Red-teaming. The rationale for the team name is based on the concept of creating not just a single commander's account of a crisis situation, or a single theory of change for how it might be influenced in the desired direction, but rather to create multiple plausible alternatives. These are initially developed during understanding and planning phases and then exploited, further developed and added to during execution. This paper provides an account of this ATT concept, and the findings from a number of limited evaluations conducted during two recent Joint Operational Level Headquarters exercises.

Introduction

At a UK Joint Operational level C2 exercise in 2015 the 2* commander instigated a concept referred to as a Commander's Innovation Group (CIG). The CIG, which contained participants from MOD, Dstl and Industry was asked to observe the exercise, and based on what it saw to propose potential concepts for improvement in HQ effectiveness. Following the exercise ten concepts were briefed to the commander, and included within these, were a number focussed on improving HQ sense-making[1] and avoiding surprise. Following discussion with the HQ staff, elements of these ideas were fused together to become a concept referred to as 'Integrated Understanding'. This included the intent to challenge the commander's thinking by assessing evidence against a set of competing narratives, including alternative narratives that reflected different thinking about the operating environment. An

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[1] Sensemaking—the process through which individuals work to understand novel, unexpected, or confusing events—has become a critically important topic in the study of organizations…Sensemaking goes beyond interpretation and involves the active authoring of events and frameworks for understanding, as people play a role in constructing the very situations they attempt to comprehend, Sensemaking in Organizations: Taking Stock and Moving Forward, Maitlis, S., Christianson, M., The Academy of Management Annals, 2014 Vol. 8, No. 1, pp 57–125.

initial exploration of the Integrated Understanding concept was undertaken during Exercise Joint Venture 2016, during which the team renamed itself as the 'Alternative Thinking Team' (ATT), in order to better convey the nature of the capability it could offer to the wider headquarters.

The ATT concept is founded on a number of underpinning ideas and initiatives including the need for improved sense-making, requisite variety, the avoidance of surprise and groupthink. These ideas will now be very briefly discussed:

Improved Sense-making

As noted in the paper referred to earlier from Maitlis and Christianson (2014), *"Sensemaking is the process through which people work to understand issues or events that are novel, ambiguous, confusing, or in some other way violate expectations"*. This is constantly the case for crises and conflicts that the military find themselves engaged in. The authors also refer to the need for sensemaking when *"organizational members encounter moments of ambiguity or uncertainty, they seek to clarify what is going on by extracting and interpreting cues from their environment, using these as the basis for a plausible account that provides order and "makes sense" of what has occurred.."*. Another important point is raised in the paper which is that *"Sensemaking goes beyond interpretation and involves the active authoring of events and frameworks for understanding, as people play a role in constructing the very situations they attempt to comprehend."* This is certainly true of the military as the primary reason for sensemaking within C2 is to support the intent to act; to intervene in one of a number of possible ways.

The observations from the exercise in 2015 suggested that this activity, at least in an explicit and obviously observable form, appeared to be somewhat limited in its extent across the HQ as a whole, whereas it should ideally be a social activity as explained by Maitlis[2] (2014) where *"organization members interpret their environment in and through interactions with others, constructing accounts that allow them to comprehend the world and act collectively."*

In addition to improved sensemaking, the ATT concept has the potential to assist with providing three other important features within command organisations. These are:

- Requisite Variety: i.e. stating Ross Ashby's law[3] less formally, in order to cope with the diversity of problems in the environment, there is a need to have a range of responses which is (at least) as diverse. Karl Weick[4] refers to a similar concept coined by a colleague, which is referred to as 'conceptual slack': *"The importance of a head full of theories is that this increases requisite variety. By that I mean that it takes a complicated sensing device to register a complicated set of events."*

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[2] The social processes of organizational sensemaking, Maitlis, S., Academy of Management Journal, Vol. 48, No. 1, 21–49., 2005.
[3] An Introduction to Cybernetics, Ashby, W.R., Chapman & Hall, 1956.
[4] The generative properties of richness, Weick, K.E., Academy of Management Journal, 2007, Vol. 50, No. 1, 14–19.

- Avoidance of Surprise: In their paper on strategic surprise[5], Bar-Joseph and Sheaffer note the assumed benefit of identifying and then continuously monitoring Early Warning Signals (EWS). However, they note that surprises rarely occur as a result of not having early warning indicators. Rather, they are the result of intelligence staff and military and political decision makers failing to comprehend the meaning of incoming information due to "numerous pathogens". They note that attempts to avoid surprise tend to result in extensive investment in the means to collect, process and distribute information pertaining to incoming threats. However, they imply that that it may be better to deal with the inherent weaknesses of the responding organization itself.

- Groupthink: Nemeth et al., noted in their 2001 paper[6] that studies on the quality of processes and outcomes for decision making groups identified a major problem i.e. an excessive search for uniformity. They proposed that the reason for this was a fear of being different and of holding different views. This is compounded by an assumption that "truth lies in numbers" i.e. that if people hold minority and different views, the error must lie with them. Finally, there is a fear of rejection, something that is more likely if group members continue to maintain minority viewpoints. The consequence is one of agreement at the expense of decision quality. This same theme has arguably already been well covered by the concept of groupthink, as expressed by Janis in 1972[7] i.e. groupthink is *"a mode of thinking which people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action".* Janis[8] proposed a number of means to try and avoid groupthink.

Finally, on the topic of groupthink it is worth noting the findings of a large UK government driven into the conflict in Iraq[9], the response to which was some lessons learned[10]. The latter refers to the notion of groupthink, stating of the report: *"It referenced other forms of 'groupthink', with a desire to conform results in unchallenged analysis or decisions".* It states that structural and knowledge management improvements should *"provide greater diversity of thought and views, counteracting group think and checking assumptions."*

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[5] Surprise and its causes in business administration and strategic studies, Bar-Joseph U., Sheaffer, Z., International Journal of Intelligence and Counter Intelligence, Jan 2008.

[6] Improving Decision Making by Means of Dissent, Nemeth, C., J., Connell, J., B., Rodgers, J., D., Brown, K., S., University of California, Berkeley, Journal of Applied Social Psychology. 2001, 31, 1, pp. 48-58.

[7] Victims of Groupthink: A Psychological Study of Foreign-Policy Decisions and Fiascoes, Janis, I.L., Boston: Houghton-Mifflin, 1972.

[8] Ibid.

[9] The Report of the Iraq Inquiry, Report of a Committee of Privy Counsellors, 6th July 2016.

[10] Annex: Learning Lessons from the Iraq Inquiry: The National Security Adviser's Report, 1 January 2017, https://publications.parliament.uk/pa/cm201719/cmselect/cmpubadm/708/70803.htm, accessed 23rd July 2018.

Contrast with Similar ideas - Red Team and Red Teaming

The ATT arguably has some similarities with other approaches which are contained in extant military doctrine. Hence it is worth revisiting a number of these to explore the potential differences. These approaches are red-team (or red cell), red-teaming, NATO alternative analysis and analysis of competing hypotheses. The following is brief recap of these:

a. **Red Cell:** The concept of having a red cell is to investigate how a credible adversary 'red', might react to a change in own 'blue' tactics, techniques and procedures (TTPs) and/or capabilities. The aim is to avoid testing new concepts against an assumed compliant opposition. This does not represent an attempt to predict the future threat, but rather explore what opposing forces/agents could do and hence determine whether current plans and contingencies are sufficient to address these outcomes. Typically a red team is employed in a live operational setting. In the DCDC red-teaming guide[11] the red cell is a J2-led entity which focuses on the activities of, potential adversaries and threats. A red cell may also play the adversarial role(s) in any wargaming or debate undertaken to assist decision making during the planning process.

b. **Red teaming:** This concept tends to focus on challenging current assumptions and plans i.e. it is adding a critique. The DCDC red teaming guide provides an account of the primary purposes of red-teaming, which includes challenging assertions and assumptions, and identifying faulty logic or flawed analysis.

c. **ATT:** Alternative Thinking as an idea is not entirely new in that it is mentioned in the DCDC red teaming guide, albeit that it receives less mention in the 2013 second edition than it did in the first. However, the second edition refers to the NATO concept referred to as Alternative Analysis[12]. The NATO concept is much more similar, but still not identical to, the UK developed concept of AT and ATT. Some of the key differences between the NATO concept and the ATT are as follows:

  • Challenging plans at inception (rather than being limited to critiquing once created).
  • Making sure wider system and environmental assumptions are made explicit and are challenged.
  • Having a primary task of continuous creation, development and maintenance of alternative stories/narratives/perspectives as

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[11] DCDC Red Teaming Guide, dated January 2013.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/142533/20130301_red_teaming_ed2.pdf, accessed 23rd July 2018.
[12] The NATO Alternative Analysis Handbook, Second Edition, December 2017.
http://www.act.nato.int/images/stories/media/doclibrary/alta-handbook.pdf, accessed 23rd July 2018.

explanations for what may be occurring in the situation of interest (with protected time and authority from operational staff work).

- Provide a diversity of voices, and new alternative views, instead of just trying to be contrary in relation to something which may already exist.

d. **Analysis of Competing Hypotheses:** This is a method[13] developed for the CIA. This attempts to identify all potential hypotheses, assign evidence and arguments for and against each hypothesis, and analytically applying evidence against each hypothesis in an attempt to disprove them.

The ATT concept thus represents an embodiment of one set of potential mitigations to some of the problems discussed above. There are many more features of sensemaking and decision making that could be improved, and many more approaches to trial. However, the ATT is one concrete solution that has been developed, used and partially assessed, which has the potential to add value to military HQ understanding and decision quality. The following provides a brief account of UK MOD experiences to date.

Initial Experiences with the Alternative Thinking Team

The initial trial of the ATT took place during the UK Joint Operational level exercise, Exercise Joint Venture 2016. As this was the first iteration, there were some inevitable and considerable limitations with its operation, most notably that it struggled to get ahead of, and provide alternatives to, the thinking of other HQ staff. The reason this happened was that the team had not participated in the prior understanding and planning stages of the exercise.

Despite the limitations, the team did develop alternative ideas to challenge command team and commander thinking. They also started to develop a way of working within the HQ, and formed relationships with key staff. Most important perhaps, the initial intervention generated useful lessons learned, raised the awareness within the HQ to what was prior to this a somewhat alien concept[14], all of which increased interest and commitment with the HQ to try the concept again the following year.

For Exercise Joint Venture 2017 the ATT attempted to operate very much like other parts of the HQ. It therefore attended HQ training and development sessions and also the initial understanding and planning events. Based on the lessons learned from 2016, this permitted the team to start developing their alternate 'narratives' of what might be happening in the crisis/conflict situation. For more on this topic, see the subsequent section on alternate narratives.

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[13] Chapter 8: Analysis of Competing Hypotheses, Heuer, R.J., Psychology of Intelligence Analysis, Center for the Study of Intelligence, Central Intelligence Agency.
[14] Noting that red teaming activity was not evident in the HQ.

During Exercise Joint Venture 2017 a more extensive observation and evaluation of the concept was conducted. However, it should be noted that the ATT was still evolving its ways of operating, and observation and evaluation were constrained for a number of reasons (such as funding, limited resources and lack of access to key events where ATT advice was being provided).

The following were some of the focussed and practical insights that emerged:

- It was challenging to create the alternative narratives, partly because the primary facilitator for the team was spending a large proportion of time supporting the command group. This would appear to be a potential constant tension if an approach to mitigation is not found i.e. it is the tension between developing ideas to exploit, and engaging with those who might exploit them.
- Without the primary SME the team didn't all have sufficient experience and expertise to maintain team progress. This compounded the initial problem, and is a challenge whenever one is 'bootstrapping' a new way of working in a new team. The team needs to keep its focus on developing the narratives from the start, with ideally at least two team members permanently driving idea development. To be able to do this all ATT team members should have sufficient expertise and confidence to facilitate and drive the work forward.
- The range of system thinking techniques employed by the team was less than expected, given that the team was expected to create greater diversity. It had been hoped to see more variation and experimentation, to see if alternative techniques could generate more creative and new ideas. Therefore, ideally, the team should be encouraged to continuously try a wider range of thinking techniques[15].
- Having an easy to use electronic whiteboard, which can enable diagrams to be quickly drawn and shared on the infrastructure used by the military staff is hugely beneficial to ATT effectiveness.
- The ATT must maintain sufficient cognitive "separation distance" from the rest of the HQ, otherwise there will be a natural tendency to constrain divergent thinking, and hence the team risks becoming as trapped by "groupthink" as the rest of the HQ and losing its raison d'être. To assist with this, the team should also be given their own space which has some visual and audio privacy from the remainder of the HQ.
- The injection of alternative ideas into HQ working was not as profuse as expected. It is hypothesised that this was caused by not having a sufficiently large and varied repertoire of ideas to take to HQ working groups, which can either be a source of challenge to developing thoughts in these groups, or used to help groups develop their own new ideas and insights.
- As engagement continues the ATT should be constantly recording assumptions being made, ideas being rejected; ideally prompting staff to note what is happening, with

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[15] To the extent possible within the time constraints of an exercise.

the intent that the ATT will take these thoughts away for further consideration. Hence, the ATT might relieve a measure of cognitive load from HQ staff of not having to remember and worry about ideas which have been set to one side (but which nonetheless may be worth exploring further).

- There needs to be "battle rhythm" to the way that the ATT operates i.e. before meetings, and especially the command group meetings. There ought to be a summarisation period where key ideas with the potential to be injected are discussed and agreed. Likewise, immediately after command group meetings there should be a readout, and exploration of any ideas, and related issues, that were being considered (to develop them further if necessary).
- Finally, from what was observed, it did appear that the ATT was performing a valuable challenge function within the HQ and the command group. However, there remained a concern that the ideas being fed in were not sufficiently challenging, diverse and surprising. This is another tension for the ATT in that ideas generated need to be genuinely new and divergent, but not so divergent that they are dismissed as completely implausible.

Summary

In summary, the Alternative Thinking Team remains as an emerging and embryonic concept, and one which has only been partially observed and evaluated. It has similarities with previous concepts the military have developed to add a challenge function to military sensemaking and decision making, but also important differences. It is most similar to the NATO Alternative Analysis concept, which isn't commonly practiced, at least not in UK military HQ. The value of the ATT, whilst anecdotally is promising, remains to be comprehensively demonstrated and assessed. There may also be unforeseen risks and consequences, and gaps and weaknesses with the concept which might only be identified and addressed by further research attention and subsequent development. However, despite these concerns, the potential value of the concept, and its likely effectiveness in addressing some of the critically important concerns identified in the UK Chilcot report/Iraq enquiry, suggests that further research and development should be undertaken with some urgency.