Intelligence for a complex environment: transforming traditional intelligence with insights from complexity science and field research on NATO

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Summary

This study asserts that complexity science, the study of systems that are complex and adaptive, holds many promises for examining the threats in the operational environment as well as intelligence organisations themselves. While this may seem a logical deduction, the study of intelligence has yet to adopt the ideas and methods of complexity science. This is striking; There is general agreement on the increased complexity of threats and the security environment in general, however this is not addressed by taking a complexity turn and adapting intelligence to the changed circumstances. Therefore this study aims to seek insights from complexity science and to apply these to intelligence. In doing so it strives for a theoretical and also an empirical contribution to the study of intelligence. The empirical contribution is formed by case study research into how NATO's Multinational Corps Northeast (MNC NE) organises its intelligence. This is guided with the research question How can complexity science advance intelligence transformation?

The theoretical contribution, Chapters 2 to 4, examines intelligence studies and complexity science literature and finds that the nexus between the two fields is understudied. Next, a synthesis is offered with which to further study the nexus. Chapter 2 describes the status of intelligence transformation along three topics: a growing critique on the intelligence cycle model, a diversification of intelligence theories, and a debate about a paradigm shift in intelligence. It finds that the increased complexity of the operational environment and security context, studied in a fragmented debate, result in much ambiguity on the form and role of intelligence. Chapter 3 relates this to broader developments influencing intelligence. It borrows the five drivers-framework from Buzan and Hansen's Evolution of International Security Studies (2009) and shows how great power politics, technological developments and formative events (external drivers) constitute increased complexity while debate and institutionalisation (internal drivers) are lagging behind in response. Chapter 4 identifies several complexity lenses for intelligence that are already present in literature. In addition, the four complexity characteristics of self-organisation, emergence, non-linearity, and adaptation are adopted into the research method – as well as the design properties requisite variety, sensemaking, and organisational learning.

The empirical part of this research spans Chapters 5 to 8. It uses the intelligence cycle, intelligence theory, and a paradigm shift, in combination with the four

characteristics of complexity, and the three design properties. The object of analysis here is the intelligence organisation of Multinational Corps Northeast (MNC NE). The corps is the NATO tactical command for the defence of Poland, Estonia, Latvia, and Lithuania. The data collection took place by means of interviews with 56 (mainly) intelligence officers from 9 different corps units and commands, on how they make sense of their operational environment. As such, next to contributing to knowledge on military intelligence, this case study also contributes to the small volume of contemporary empirically-based research within intelligence studies.

The case study in Chapter 6 shows how the respondents talk about the broader NATO organisation and the operational environment as interconnected and external factors. These are seen as the origin of many challenges that exist within the corps' intelligence organisation. Remarkably, empirical data contains more on problems within NATO than about Russia or other threats. Next, the analysis is done using the four complexity characteristics: self-organisation, emergence, non-linearity, and adaptation. The cumulative conclusion of these characteristics is that the respondents experience moderate environmental complexity. This contrasts with general consensus in professional and academic literature regarding the increased complexity of the military operational environment.

Chapter 7 describes the organisation of intelligence within MNC NE in respondent terms. The respondents mainly have problems with the intelligence cycle because it is not functioning as it should do, according to doctrine, within the corps. The chapter also shows how the products and methods form the intelligence practice for observing and measuring of reality, or collection and processing in an intelligence context. Any deficiencies in this are seen as the result of a lack of resources, mandate or otherwise practical circumstances and conditions.

Chapter 8 presents the analysis of the intelligence organisation of the corps. In general the respondents are proceduralists and do not think outside the intelligence cycle. It can be seen as a cybernetic feedback loop where only a change of direction input can lead to any adaptation. This is in stark contrast with critical perspectives within intelligence literature. With regard to theory the overall stance of the respondents is a positivist one. The larger implication of this is that the military intelligence workforce employs a worldview, and methods, that are increasingly out of touch with the complexity of the practical dimensions of intelligence.

When analysing the raw data and earlier conclusions with the Cynefin framework most data points fall in the complex domain. This is in contrast to the intelligence

cycle and theory that fall in the ordered domains of clear and complicated. The reason is that most data is about the organisational and operational environment of the intelligence organisation. It is about the problem of complex phenomena within an organisation that is not necessarily suited to deal with complexity. This also underlines earlier conclusions on the gap between an intelligence organisation that is not suited to address the complexity of its environment. Overall, the case study confirms the theory from Chapters 2 and 3.

To answer the research question, complexity science can advance intelligence transformation by providing alternative insights, tested in broader military sciences and other related fields, to improve its performance. This research shows how complexity has a lot in common with intelligence. Both fields are concerned with how a system can understand its environment and how it processes information to do so. The critique on the intelligence cycle, the diversification of theory, paradigm issues, and initiatives by respondents that go against traditional intelligence all resonate some form of complexity thinking. In doing so, they form cracks in the traditional intelligence paradigm but it is still far away from any complexity turn.

Complexity science offers a language and understanding to further examine these cracks – just as it does for examining the gap between a complex environment and an intelligence paradigm meant for solving puzzles. With complexity a new intelligence paradigm is formulated, and contrasted to the traditional intelligence paradigm. The three design properties (requisite variety, sensemaking, and organisational learning) show how concepts from complexity can help to move from the traditional to the new, complexity paradigm.

With these insights this research adds to the debate around the intelligence cycle by explicitly framing it as a cybernetic feedback loop. It also adds a voice to a growing volume of post-positivist intelligence theory. This research continues the paradigm debate past the non-state actor turn and formulates a new, complexity paradigm. Another theoretical contribution is the connection laid between intelligence studies and related fields such as security studies and international relations. More theoretical contribution is made by comparing intelligence to broader military science and the study of war and warfare. This research also makes a contributions to research practice; it shows the role of military security and secrecy in scientific fieldwork, something which is rarely addressed in a practical manner. Lastly, this research provides some insight into NATO – which is very relevant considering the developments on the alliance's eastern border.