

## Book Review

# Handbook of Military Sciences

Anders McD Sookermany (ed.)

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The *Handbook of Military Sciences*,<sup>i</sup> edited by Anders McD Sookermany, is an excellent reference book to gain an understanding of the military and many of the sciences related to it.<sup>1</sup> This edition of the handbook is an interdisciplinary reference work published by Springer, consisting of 48 chapters that comprehensively delve into the vast domain of military sciences. The book could serve as a crucial resource for academics, military professionals, and policymakers seeking a deep understanding of contemporary military issues.

Covering the field of military sciences in a single book is a daunting, almost overwhelming task. The discipline of Military Science covers so many topics that it would be impossible to cover every topic in one volume, not even in several volumes. What is more effective is to cover several topics that would pique an individual's interest to follow up and to study in depth. In my opinion, this volume achieves this admirably.

Unlike traditional textbooks that cover military topics that may focus primarily on strategy, tactics, leadership or history, this handbook integrates insights from several fields of study. Various areas are covered, such as operational art, psychology, sociology, political science, religion, and engineering. The final product is a holistic and broad overview of military topics, such as military strategy, operations, technology, cybersecurity, logistics, human resources management, resilience, human behaviour, leadership, and ethics.

Since at the time of writing, the hardcopy version of the *Handbook of Military Sciences* was scheduled to be published at a later stage, the reviewer cannot comment on the actual structure of the book or on the ease of navigating and locating relevant information. The chapters in the open access volume however allow readers to approach the handbook either as a reference work for specific inquiries or as a comprehensive study guide.

The key strength of the handbook is the interdisciplinary nature of it. More than 80 authors from more than 30 institutions across 15 countries contributed, thereby providing the

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<sup>i</sup> The *Handbook of Military Sciences* is a 'living reference work' that was reviewed in 2025, with many chapters updated on different dates. See A Sookermany (ed.), *Handbook of Military Sciences* (Cham: Springer, 2026). <https://link.springer.com/book/9783030272784#about-this-book> [Accessed on 1 January 2026]

handbook with diverse perspectives and expertise. This collaborative effort enriched the content, and provides readers with a global viewpoint on military sciences. By incorporating perspectives from various academic fields, the book offers a nuanced analysis of military institutions, warfare, and defence strategies. The inclusion of contemporary challenges, such as hybrid warfare, artificial intelligence in military applications, and the role of international organisations in conflict resolution, makes it highly relevant in today's geopolitical landscape.

Furthermore, several of the chapters of the book strike a good balance between theoretical depth and practical applicability. Military professionals will find value in its case studies and strategic insights, while scholars will appreciate its rigorous research foundation. In general, the contributions are well researched and cite a broad range of sources, making it a valuable academic resource.

Despite its comprehensiveness, the vast scope of *Handbook of Military Sciences* may be overwhelming for some readers, especially those looking for an in-depth introduction to military sciences. In some of the chapters, the focus on theoretical aspects that were not illuminated or supported with historical case studies or practical examples was too broad. For a student or "armchair general" who lacks the practical operational experience or technical expertise, some of the chapters might be too theoretical to comprehend fully. Additionally, while the book provides an extensive examination of Western military doctrines and practices, a broader inclusion of non-Western perspectives could enhance its global relevance further. As an operational psychologist, I appreciated those chapters that focus on the role of psychology in the military but missed emphasis on the role of psychologists as operational force-multipliers or in the field of performance development and enhancement.

The book contains many noteworthy chapters, but considering its length, only a selection of interesting, well-written and insightful chapters receives particular attention in this review. It should be emphasised that there were very few chapters that the reviewer did not find interesting. The chapters discussed here, are in no particular order.

'Military Behavioral Sciences: An introduction' by Irina Goldenberg: This chapter provides a meso-level orientation of all the disciplines involved in the study and application of human behaviour in the military. It refers to the usual subjects, such as military psychology, sociology, and anthropology but also to more unfamiliar fields, such as biology and environmental studies.

Quite revealing is the organisational level at which research is being conducted by research institutes. The examples used in this chapter illustrate the importance of why research should be conducted and communicated at the strategic decision-making level in order for it to be turned into policies that are actionable at the tactical levels. It should answer the questions of 'So what?'. To emphasise this point, Irina Goldenberg quotes McFate *et al.* (2012) in this chapter, when she says 'The military as a customer of social science

knowledge, wants to apply whatever they learn to solve problems in a timely, practical manner'.<sup>2</sup> Human behavioural research for the military should therefore not just be done for the sake of research or to increase knowledge, but rather to find solutions to practical problems.

Another topic that the reviewer found novel and quite interesting was the role of national and international think-tanks and organisations to generate and sponsor applied research. Goldenberg also discusses how these organisations serve as conduits between various research groups and stakeholders, such as universities, military academies, military research institutes and other stakeholders.

'Intelligence in Military Missions: Between Theory and Practice' by Sebastiaan Rietjens: The reviewer really enjoyed the manner in which this chapter was written. Rietjens manages to illustrate how the function of intelligence has changed from a "puzzle" that needs to be "built" through a systematic process that would provide answers to a process of "complex sense-making" that would lead to a better understanding of "wicked" situations without definite answers.

Rietjens illustrates this change in emphasis by contrasting how both the approaches play out differently in the intelligence cycle illustrating the contrast – using examples from the "New Wars" in Afghanistan, Mali, Syria and Iraq. The chapter closes with a brief discussion on the attention (or lack thereof) that have been paid by scholars to study military intelligence, mainly focussing on the limitations in and the reasons for doing so.

'Rationality and Irrationality in Military Organizations' by Joseph Soeters: Throughout the ages, soldiers have understood that rationality and irrationality are two sides of the same coin. The same dichotomy of rationality–irrationality has contributed to the design of organisations and technology that have carried forward massive leaps in development and social change in societies. Prime examples of this are the organisation – some would say militarisation – of labour during the Industrial Revolution according to a system copied from military organisations. Not only did this contribute to the organisation and coordination of labour but it also influenced the modernisation of management philosophy.

This chapter further reports on investigation into and discusses the role that rationality played in the standardisation of processes and procedures in society, including the military – often referred to as 'McSoldiering' (p. 7). Soeters discusses the influence, both positive and negative, of 'McSoldiering' (pp. 7–8) on the effectiveness of operations and military leadership thinking.

The debate around the manner in which decisions are made in order to balance the chaos, uncertainty and ambiguity of war with control, structure and order is at the heart of this chapter. This is a debate that should be held more often by those who are serious students of the military and military leadership.

‘Training-related Stress and Performance in the Military’ by Oshin Vartanian, Cathy Boscarino, Jerzy Jarmasz and Vlad Zotov: As an operational psychologist who is often involved in the training of military personnel, the reviewer found this chapter fascinating for its insights and well-written discussion. The findings on the enhancing effect of positive mood on performance during high-intensity and high-risk training are particularly interesting. The impact of DHEA-S<sup>3</sup> to lower cortisol and to improve performance under stress by improving information processing, such as working memory, was distinctly useful. Furthermore, the findings in terms of the value of working memory as a predictor of stress-resiliency are thought-provoking, and should be pursued further.

‘Military Leadership: Concepts and Theoretical Approaches’ by Franz Kernic, Martin Elbe and Gregor Richter: This chapter provides perspectives on the different theoretical approaches to military leadership. The chapter is however somewhat inconclusive, which is probably a reflection of the ambiguity in this field. In addition, while there seems to be more clarity in terms of what practically constitutes a good or efficient military leader, there is a gap in the theoretical domain.

‘Empirical Research on Military Ethical behaviour’ by Deanna L Messervey & Erinn C Squires and ‘Military Leadership and Ethics’ by Peter Olsthoorn: Although these two chapters are separate chapters in the volume, they are conceptually related, and are therefore discussed together. Both chapters are well researched, providing practical, actionable proposals grounded in theory. The chapters comprise an important link between behaviour in operations, leadership, and ethics. In, ‘Military Leadership and Ethics’, Olsthoorn argues that the two concepts “ethics” and “leadership” are actually inseparable. This argument is important, based on the research findings that highlight the facilitative influence of leadership on ethical behaviour as well as the development of ethical behaviour by both military leaders and their subordinates. This is a crucial finding that needs to be considered seriously both for further research and for inclusion in military development courses.

‘Military Leadership and Resilience’ by Danny Boga: This chapter provides a good summary of what resilience is, but is somewhat one-dimensional, both in the definition as well as in the theoretical approach upon which it is based. Although there are some emphases on the dynamic nature of resilience, Boga focusses only on resilience as a trait within an individual. This approach disregards the view by O’Neil & Kruger (2022), that resilience is also a process of ‘learning and adapting’ to adverse conditions, that include individuals, groups and organisations.<sup>4</sup> Apart from this, the chapter highlights interesting research results in the development of resilience with several practical findings that can be turned into actionable strategies.

‘Anthropology of the Military’ by Maren Tomforde and Eyal Ben-Ari: I found this chapter convincing as it highlights areas that have been studied by scholars – such as the use of violence and power that is integral to societies and military forces but that has been somehow neglected within the military community as seen from this perspective.

One part of this chapter that was quite engaging was on teaching cultural competence. This section focusses on the part played by anthropologists in operations as force-multipliers. Here, Tomforde and Ben-Ari discuss how anthropologists are used to prepare and enhance operational effectiveness by teaching cultural awareness, intercultural competence, and what is in general referred to as “cultural intelligence”.

‘History and Development of Military Psychology’ by George R. Mastroianni: This chapter highlights the modern necessity for psychology as a discipline but also links it to its classical roots in ancient Greece. Mastroianni highlights the fact that military psychology is an ever-changing discipline that adapts as the context changes to become a strategic force-multiplier. Simultaneously, the author managed to convey the importance of remembering that human nature remains relatively unchanged, despite technological advances. This necessitates that, as the character of warfare evolves, military psychologists should continuously balance the need to enhance military performance while simultaneously caring for the humans that practice war. Related to this dichotomy, but not addressed in this chapter, is the role of ethics for psychology and the role that psychologists play in the field of operational psychology and performance enhancement.

To conclude, the reviewer found *Handbook of Military Sciences* an extremely useful reference tool. Its interdisciplinary approach, comprehensive coverage, and contemporary applicability make it quite relevant and a “must-have” publication in the field for people who are engaged in the practice of military science. Furthermore, anyone who is a serious scholar of the military sciences – as all professional soldiers should be – would be able to use this handbook productively both as a reference source as well as a teaching tool.

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## Endnotes

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- <sup>1</sup> A Sookermary (ed.), *Handbook of Military Sciences* (Cham: Springer, 2025).
- <sup>2</sup> I Goldenberg, 'Military Behavioral Sciences: An Introduction', in A Sookermary (ed.), *Handbook of Military Sciences* (Cham: Springer, 2022), 7 with reference to M McFate, B Damon & R Holliday, 'What Do Commanders Really Want to Know? U.S. Army Human Terrain System Lessons Learned from Iraq and Afghanistan', in SH Laurence & MD Matthews (eds.), *The Oxford Handbook of Military Psychology* (New York: Oxford University Press, 2012), 102.
- <sup>3</sup> DHEA-S refers to the levels of dehydroepiandrosterone-sulphate (DHEA-S) in one's blood. One's adrenal glands make DHEA-S, a steroid hormone found in all genders. The body converts DHEA-S into androgens (testosterone and androstenedione) and oestrogen.
- <sup>4</sup> JW O'Neil & L Kruger, 'Mindset as a Resilience Resource and Perceived Wellness of First Responders in a South African Context', *Jamba-Journal of Disaster Risk Studies*, 14, 1 (2022), 1–10.