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RESEARCH ARTICLE

# Cognitive warfare: Some sceptical observations from general strategic theory and affective science

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**Abstract**

The article probes the analytical utility of the increasingly popular concept of 'cognitive warfare'. It proceeds by reflecting writings associated with the concept's mainstream meaning against selected insights from general strategic theory and affective science and finds cognitive warfare problematic in multiple aspects. From the perspective of general strategic theory, cognitive warfare misrepresents the nature of the challenge at hand, blurs the distinction between core aspects of strategic effort, and draws on questionable rather than sound strategic thought. From an affective science perspective, it relies on an increasingly outdated paradigm for explaining the human mind, provides little insight into how cognition shapes behaviour, and overlooks the beneficial roles of emotions in maintaining social cohesion. Integrating these perspectives, the article argues that information aggression is better understood as attempted subversion centred on specific emotions. The presented argument allows practitioners to better understand the nature of the challenges they face and to develop appropriate remedies, and academics to study the subject in a more focused manner.

**Keywords:** cognitive warfare; emotion; strategy; subversion; war

## Introduction

'Cognitive warfare' is becoming a conceptual buzzword across NATO and its allies,[1] reflected in an expanding vocabulary of 'cognitive domain', 'cognitive dominance', 'cognitive superiority', and countless similar terms.[2] In this discourse, the concept usually relates to technologically enabled, non-violent hostilities conducted for socially disruptive purposes.[3] As such, the associated litera-

[1]Bernard Claverie and François du Cluzel, '"Cognitive warfare": The advent of the concept of cognitics" in the field of warfare', in Bernard Claverie, Baptiste Prébot, Norbou Buchler, and François du Cluzel (eds), *Cognitive Warfare: The Future of Cognitive Dominance* (NATO Collaboration Support Office, 2022), ch. 2, pp. 1–7; Yvonne R. Masakowski and Janet M. Blatny (eds), *Mitigating and Responding to Cognitive Warfare* (NATO STO Report, 2023); NATO ACT, 'Cognitive Warfare', available at: {https://www.act.nato.int/activities/cognitive-warfare/}, accessed 29 December 2025.

[2]See, for example, Hervé Le Guyader, 'Cognitive domain: A sixth domain of operations', in Bernard Claverie, Baptiste Prébot, Norbou Buchler, and François du Cluzel (eds), *Cognitive Warfare: The Future of Cognitive Dominance* (NATO Collaboration Support Office, 2022), ch. 3, pp. 1–5; Dean S. Hartley III and Kenneth O. Jobson, *Cognitive Superiority: Information to Power* (Springer, 2021); Bernard Claverie, Baptiste Prébot, Norbou Buchler, and François Du Cluzel (eds), *Cognitive Warfare: The Future of Cognitive Dominance* (NATO Collaboration Support Office, 2022).

[3]Fabio Ibrahim, Steffen Rhode, and Monika Daseking, 'A systematic review of psychological and cognitive warfare', *The Defence Horizon Journal* (2023), available at: {https://tdhj.org/blog/post/cognitive-psychological-warfare/}.

ture tends to describe propaganda campaigns and their consequences, particularly those relevant to liberal democracies.[4]

To probe the concept's analytical utility, this article examines it through the lenses of general strategic theory and contemporary affective science. General strategic theory,[5] introduced further below, explains how to prevail in adversarial interactions, especially wars, and has a solid track record of exposing flawed ideas in strategic studies.[6] Therefore, if the current conceptualisations of cognitive warfare contradict the theory's basic tenets, they likely hinder rather than enhance our understanding of contemporary conflicts. Affective science, also introduced later in the article, provides a complementary perspective, offering a robust and arguably the best available understanding of how the human mind and behaviour operate.[7] Because the cognitive warfare literature centres on mental, and sometimes behavioural, influence, it should be grounded in sciences that reflect the latest understanding of these phenomena. If it is not, the concept requires revisions to better align with findings from affective science. Given the early stage of the debate and an absence of any authoritative work on the subject,[8] the analysis encompasses a broad and diverse spectrum of publications. However, the article prioritises writings from NATO countries and its allies, despite similar conceptual efforts emerging among some of NATO's adversaries.[9] The reasoning here is that if the 'Western' concept of cognitive warfare is to be analytically useful, it has to make sense on its own terms, instead of merely mirroring conceptual developments elsewhere.

To preview the argument, this article argues that the mainstream conceptualisations of cognitive warfare are flawed but can be fixed. From the standpoint of general strategic theory perspective, the concept mischaracterises non-violent adversarial interactions as warfare, blurs the distinction between core aspects of strategic effort, and draws on questionable rather than sound strategic thought. From an affective science perspective, cognitive warfare literature relies on an increasingly outdated paradigm for explaining the human mind, provides little insight into how cognition shapes behaviour, and overlooks the beneficial roles of emotions in maintaining social cohesion. Integrating these perspectives, the article argues that information aggression is better understood as attempted subversion centred on specific emotions. It is therefore more productive to speak about, say, fear-, anger-, or hatred-based subversions and to study the potential and real emotional effects of specific campaigns.

The article's academic contribution resides in its interdisciplinary engagement with the emerging concept. By drawing on strategic studies and affective science, it reveals unique conceptual deficiencies and offers reconceptualisation opportunities that might remain unnoticed from a

[4]Olga R. Chiriac, 'Cognitive warfare in the 21st century great power competition: Framing of military activity in the Black Sea', in *Romanian Military Thinking International Scientific Conference Proceedings* (2021), pp. 54–71; Oliver Backes and Andrew Swab, *Cognitive Warfare: The Russian Threat to Election Integrity in the Baltic States* (Belfer Center for Science and International Affairs, 2019), pp. 8–11; Matthew A. Lauder and Eskil Grendahl Sivertsen, 'Cases and scenarios of cognitive warfare', in Yvonne R. Masakowski and Janet M. Blatny (eds), *Mitigating and Responding to Cognitive Warfare* (NATO STO Report, 2023), pp. 3-1-3-3.

[5]Colin Gray, *Theory of Strategy* (Oxford University Press, 2018).

[6]Murat Caliskan, 'Hybrid Warfare and Strategic Theory, Beyond the Horizon', Horizon Insights, (19 March 2026), available at: {https://www.behorizon.org/hybrid-warfare-through-the-lens-of-strategic-theory/}; M. L. R. Smith and David Martin Jones, *The Political Impossibility of Modern Counterinsurgency: Strategic Problems, Puzzles and Paradoxes* (Columbia University Press, 2015); Donald Stoker, *Why America Loses Wars: Limited War and U.S. Strategy from the Korean War to the Present* (Cambridge University Press, 2019).

[7]D. Dukes et al., 'The rise of affectivism', *Nature Human Behaviour*, 5:7 (2021), pp. 816–20.

[8]For some appraisals of the state of the literature in late 2025, see Frank Hoffman, 'Assessing cognitive warfare', *Small Wars Journal* (14 November 2025), available at: {https://smallwarsjournal.com/2025/11/14/assessing-cognitive-warfare/}; Elisabeth Dick, 'Defining cognitive warfare: Maximalist versus Minimalist Approaches', *The Defence Horizon Journal* (4 December 2025), available at: {https://tdhj.org/blog/post/defining-cognitive-warfare/}.

[9]For an overview, see Hoffman, 'Assessing cognitive warfare'.

single-disciplinary perspective.[10] While each perspective provides grounds for a critique of cognitive warfare, together they provide a basis for its meaningful reconceptualisation. Therefore, besides offering a fresh perspective for conceptual analysis, this approach demonstrates the value of using affective science to deepen our understanding of strategic affairs. In this way, the article contributes to a growing interdisciplinary scholarship exploring emotions in political conflicts.[11]

The article's practical value is twofold. First, it helps political and military practitioners understand contemporary security affairs more effectively. By viewing adversarial interactions through the lens of cognitive warfare, NATO risks misunderstanding some of the challenges it faces. This is problematic, as accurate diagnosis is essential for prevailing in any conflict, especially war.[12] Information aggression presents a real threat, but treating it as warfare obscures its nature, especially its potential and limitations, making effective responses harder to devise. Interpreting it instead as attempted subversion promotes a realistic and proportional approach. Focusing on specific emotions further enables practitioners to anticipate shifts in cognition and behaviour and to design counter-measures that recognise emotions as vital for social cohesion of targeted societies.

Second, the article offers a new reason, and a suitable template, for revising the concept. Previous scholarship has argued that the militarisation of liberal democracies through concepts such as hybrid warfare or cyber warfare constitute security threats in themselves.[13] Although academics have largely discarded these two concepts,[14] cognitive warfare seems to convey similar militarising potential. In fact, cognitive warfare may be even more problematic because by militarising cognition, it risks defining all attempts to influence human thought as warfare, thus possibly undermining core liberal democratic principles like freedom of expression.[15] While the current article does not directly engage with the social risks of cognitive warfare, it shows that the cognitive warfare lens also leaves much to be desired as an analytical and problem-solving tool. Crucially, the article's proposed solution of reframing the subject matter as subversion minimises both social and instrumental deficiencies associated with cognitive warfare.

The following sections briefly review existing conceptualisations of cognitive warfare and then examine them in detail against the perspectives of general strategic theory and affective science, respectively. The penultimate section shows how information aggression is better understood as attempted subversion enabled through specific emotions. The conclusion summarises the argument, outlines its practical implications, and suggests directions for further research.

[10]Of course, even single-disciplinary conceptual analyses provide valuable insights into the concept's utility, as demonstrated by previous work grounded in political science; see Christoph Deppe and Gary S. Schaal, 'Cognitive warfare: A conceptual analysis of the NATO ACT cognitive warfare exploratory concept', *Frontiers in Big Data* 7 (2024), pp. 1–13.

[11]Neta Crawford, 'The passion of world politics: Propositions on emotion and emotional relationships', *International Security*, 24:4 (2000), pp. 116–56; Robin Markwica, *Emotional Choices: How the Logic of Affect Shapes Coercive Diplomacy* (Oxford University Press, 2018); Roger D. Petersen, *Western Intervention in the Balkans: The Strategic Use of Emotion in Conflict* (Cambridge University Press, 2011); Eran Halperin, *Emotions in Conflict: Inhibitors and Facilitators of Peace Making* (Routledge, 2015).

[12]Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton University Press, 1989), p. 88.

[13]Jakub Eberle and Jan Daniel, *Politics of Hybrid Warfare: The Remaking of Security in Czechia after 2014* (Palgrave Macmillan, 2023); Myriam Dunn Cavelty, 'The militarization of cyber security as a source of global tension', in Daniel Möckli (ed.), *Strategic Trends 2012: Key Developments in Global Affairs* (Center for Strategic Studies, 2012), pp. 103–124.

[14]Chiara Libiseller, 'Hybrid warfare as an academic fashion', *Journal of Strategic Studies*, 46:4 (2023), pp. 858–80; Thomas Rid, *Cyber War Will Not Take Place* (Hurst, 2013); Donald Stoker and Craig Whiteside, 'Blurred lines: Gray-zone conflict and hybrid war – two failures of American strategic thinking', *Naval War College Review*, 73:1 (2020), pp. 13–48; Samuel Zilincik and Isabelle Duyvesteyn, 'Strategic studies and cyber warfare', *Journal of Strategic Studies*, 46:4 (2023), pp. 836–57.

[15]Henning Lahmann, Bart Custers, and Benjamyn Scott, 'The fundamental rights risks of countering cognitive warfare with artificial intelligence', *SSRN* (23 April 2025), available at: {https://ssrn.com/abstract=5332781}; Hedvig Ördén, 'The neuropolitical imaginaries of cognitive warfare', *Security Dialogue*, 55:6 (2024), pp. 613–17.

## The key contours of cognitive warfare

Cognitive warfare is a concept, and as every other concept, it consists of a *label*, a *definition*, and the *phenomena* it is supposed to capture.[16] In the context of cognitive warfare, the label part is obviously the very term 'cognitive warfare'. Other, closely related terms have recently emerged and gained traction, notably 'cognitive domain', 'cognitive superiority', 'cognitive dominance', 'cognitive manoeuvre', 'cognitive battlefield', and 'cognitive combat'.[17] These terms form an expanding landscape where the adjective 'cognitive' is gradually being added to other terms commonly associated with warfare as traditionally understood.

The existing definitions of cognitive warfare vary considerably but generally converge on at least three aspects.[18] First, they assert that cognitive warfare conveys adversarial interaction exercised through non-violent means.[19] Second, cognitive warfare is enabled by innovations in information technology.[20] Third, cognitive warfare aims at the social disruption of the adversary's society, especially through the creation or amplification of conflict lines between different societal segments.[21] Based on this literature, the mainstream meaning of cognitive warfare connotes non-violent, technologically enabled efforts to disrupt the adversary's society. The upcoming sections then critique this meaning of the term and not the more tangential/marginal ones. For instance, this article does not engage with the literature on combat/command performance or direct electronic–magnetic interference with brain processes.[22]

Cognitive warfare is used to describe diverse real-world phenomena, typically digital aggression performed by the West's adversaries. Commonly referenced examples include Russian information

[16]John Gerring, 'What makes a concept good? A criterial framework for understanding concept formation in the social sciences', *Polity*, 31:3 (1999), pp. 357–8.

[17]See respectively Guyader, 'Cognitive domain'; Hartley and Jobson, *Cognitive Superiority*; Claverie et al., *Cognitive Warfare*; T. S. Allen and A. J. Moore, 'Victory without casualties: Russia's information operations', *Parameters*, 48:1 (2018), pp. 59–71; Matthew Flynn, 'Winning the digital war: Cyber ideology and the spectrum of conflict', *Journal of Strategic Security*, 14:4 (2020), pp. 87–102; Claverie and Du Cluzel, 'Cognitive warfare', p. 2–2.

[18]For a review of existing definitions, see Dick, 'Defining cognitive warfare'.

[19]Ibrahim et al., 'A systematic review of psychological and cognitive warfare'. Occasionally, authors tie cognitive warfare to violent means, arguing that 'combat operations' are an element of cognitive warfare; see, for instance, Nataliya Bugayova and Kateryna Stepanenko, *A Primer on Russian Cognitive Warfare* (Institute for the Study of War, 2025), 2. P. Unfortunately, this departure from the rest of the literature is not convincingly justified and has yet to be accepted more widely.

[20]Adam Henschke, *Cognitive Warfare: Grey Matters in Contemporary Political Conflict* (Routledge, 2014), p. 3; Alina Bârgăoanu and Flavia Durach, 'Cognitive warfare: Understanding the threat', in Rubén Arcos, Irena Chiru, and Cristina Ivan (eds), *Routledge Handbook of Disinformation and National Security* (Routledge, 2023), pp. 221–36; Robin Burda, *Cognitive Warfare as Part of Society: Never-Ending Battle for Minds* (Hague Centre for Strategic Studies, 2023); Masakowski and Blatny, *Mitigating and Responding to Cognitive Warfare*; B. Murphy, 'Evaluating the ambiguous cognitive terrain: A framework to clarify disinformation', *Journal of Information Warfare*, 22:3 (Summer 2023), pp. 9–27.

[21]Robert 'Jakke' Bebber, *Cognitive Competition, Conflict, and War: An Ontological Approach* (Hudson Institute, 2024); Alonso Bernal et al., *Cognitive Warfare: An Attack on Truth and Thought* (Johns Hopkins University, 2020), p. 12; Frank Hoffman, 'Four faces of war', in Tim Sweijs and Jeffrey H. Michaels (eds), *Beyond Ukraine: Debating the Future of War* (Hurst & Company, 2024), p. 113; Michael Roi, 'Cognitive warfare', in George M. Schwartz (ed.), *Cognitive Defense: 2024 Homeland Defense Symposium* (US Army War College Press, 2025), p. 22; George M. Schwartz, 'Cognitive warfare: Homeland strong?', in George M. Schwartz (ed.), *Cognitive Defense: 2024 Homeland Defense Symposium* (US Army War College Press, 2025), pp. 31–46.

[22]For a sample of works excluded from the analysis, see Michael J. Cheatham, 'Wars of cognition: How Clausewitz and neuroscience influence future war-fighter readiness', *Air & Space Power Journal* 32 (2018), pp. 16–30; Alexander Kott, *Battle of Cognition: The Future Information-Rich Warfare and the Mind of the Commander* (Praeger Security International, 2007); Janna Mantua, 'China's Focus on the Brain Gives It an Edge in Cognitive Warfare', Irregular Warfare (6 July 2023), available at: {https://irregularwarfare.org/articles/chinas-focus-on-the-brain-gives-it-an-edge-in-cognitive-warfare/}; Robert McCreight, 'The war inside your mind: Unprotected brain battlefields and neuro-vulnerability', *Communication*, 2 (2024), pp. 1–9.

operations in Romania,[23] in the Baltics,[24] in Canada,[25] in Ukraine,[26] and Chinese disinformation spreading in Taiwan.[27]

## General strategic theory

General strategic theory[28] is a theory popular in strategic studies, the latter being a field predominantly occupied with an exploration of military power in political contexts.[29] The theory's purpose is descriptive: it clarifies key concepts and their interactions to help practitioners navigate political conflicts.[30] The theory draws mainly on the works of classical strategic theorists, such as the nineteenth-century Prussian military thinker and practitioner Carl von Clausewitz and his modern disciples. While not lacking disagreements, the tradition provides a coherent understanding of how to navigate political conflicts, particularly wars. Three of its tenets are especially relevant to the current discussions of cognitive warfare: wars and warfare necessitate violent interaction, sound strategic analysis requires distinguishing between key components of strategic effort, and specific strategic theories require appropriate strategic thought. As the following analysis shows, the cognitive warfare literature fares poorly against all three.

First, general strategic theory asserts a conflict becomes war only when both sides actively employ, or are resolved to employ, violence.[31] Reciprocal violence, employed for political purposes, is the only thing that consistently distinguishes war from other social conflicts.[32] This distinction is not only analytically useful but also practically important, as it highlights how reciprocal violence, with its unique costs and consequences, fundamentally alters interactions within and between political collectives.[33] Accordingly, the theory encourages distinguishing war from peace to understand the nature of the conflict at hand.[34] Importantly, this does not mean that war involves only violent interactions, as these are often accompanied by non-violent efforts.[35] However, it does mean that 'warfare', which is simply 'the actual conduct of war', cannot exist without the employment of reciprocal violence.[36]

On this point, general strategic theory firmly opposes attempts to broaden the concept of war, with cognitive warfare being but the latest example. Western strategic thought has long seen efforts to label hostile but non-violent activities as 'war' and 'warfare'. Already in the 1960s, British military historian Michael Howard warned against 'the tendency…of regarding all international relations as an extension of warfare'.[37] His caution had little impact, and the theorists and academics increasingly expanded the concept of war to include non-violent forms of conflict, reflected in terms such

[23]Chiriac, 'Cognitive warfare in the 21st century great power competition'; Bârgăoanu and Durach, 'Cognitive warfare: Understanding the threat'.

[24]Backes and Swab, *Cognitive Warfare*, pp. 8–11.

[25]Lauder and Sivertsen, 'Cases and scenarios of cognitive warfare', ch. 3, pp. 1–3.

[26]Lauder and Sivertsen, 'Cases and scenarios of cognitive warfare', ch. 3, pp. 4–5.

[27]Tzu-Chieh Hung and Tzu-Wei Hung, 'How China's cognitive warfare works: A frontline perspective of Taiwan's anti-disinformation wars', *Journal of Global Security Studies*, 7:4 (2022), p. ogac016.

[28]Gray, *Theory of Strategy*; Daniel Moran, 'Strategic theory and the history of war', in John Baylis et al. (eds), *Strategy in the Contemporary World: An Introduction to Strategic Studies* (Oxford University Press, 2002), pp. 17–44.

[29]Isabelle Duyvesteyn and James E. Worrall, 'Global strategic studies: A manifesto', *Journal of Strategic Studies*, 40:3 (2017), p. 349.

[30]Colin Gray, *The Strategy Bridge: Theory for Practice* (Oxford University Press 2011), pp. 22–3; Lukas Milevski, 'Conceptual resilience versus social utility in strategic thinking', *The RUSI Journal*, 167:2 (2022), pp. 63–4.

[31]Clausewitz, *On War*, p. 87; Chiara Libiseller and Lukas Milevski, 'War and peace: Reaffirming the distinction', *Survival*, 63:1 (2021), pp. 101–12.

[32]Clausewitz, *On War*, p. 87; Stoker and Whiteside, 'Blurred lines'.

[33]Lukas Milevski, 'Choosing strategy: Meaning, significance, context', *Infinity Journal* 6:2 (2018), pp. 15–18.

[34]Libiseller and Milevski, 'War and peace'.

[35]Colin Gray, *Fighting Talk: Forty Maxims on War, Peace, and Strategy* (Praeger Security International, 2007), p. 32.

[36]Ibid.

[37]Michael Howard, 'Military power and the international order', *International Affairs*, 40:3 (1964), p. 404.

as information warfare, psychological warfare, hybrid warfare, cyber warfare, or political warfare.[38] Cognitive warfare continues this trend, with at least some of its proponents explicitly admitting it is not warfare in the traditional sense.[39]

Proponents of expanding the concept of war argue that violent means no longer provide a reliable baseline for distinguishing war from peace.[40] They claim that non-violent means can be as effective as violent ones in achieving political objectives, and therefore conflicts involving exclusive use of non-violent means deserve the label war.[41] One problem with such assessments is that they may hold in the abstract but not in particular situations. Generally speaking, it is possible for both violent and non-violent means to bring about territorial conquest or regime change, though extermination of the adversary's society is arguably only ever achievable through violent means. However, in practice, violence remains indispensable to achieve common political objectives in specific contexts, such as the security of the Ukrainian regime vis-à-vis the Russian invasion in early 2022.[42] Yet even if violent and non-violent means were equally effective politically, they still differ in other crucial aspects. Organised violence offers an unmatched degree of control over most situations and unparalleled speed at which it delivers results, both beneficial and counterproductive.[43] Given the existence of these differences, it is not sufficient to point to similarities to justify the conceptual expansion of war.

From a more practical perspective, others argue that conceptual expansion is appropriate because NATO's adversaries are doing the same.[44] Logically, this is an erroneous line of reasoning because somebody acting in particular ways says little about the objective quality of such behaviour and is thus a poor reason for emulation. The proposition is also questionable on purely strategic grounds, since a good strategy is usually more about creating asymmetries rather than mirror-imaging.[45] Indeed, while the Russian and Chinese regimes do understand war in broader terms,[46] it is unclear what advantage such understanding conveys. Given the poor initial performance of the Russian military in the ongoing war in Ukraine,[47] and the fact that the planning for that war was grounded in the broad concepts of war,[48] it seems plausible that the adoption of such understanding can hinder rather than improve odds of success, at least in some forms of conflicts. At minimum, this case suggests that expansive concepts of war can impair practitioners' ability to

[38]Zilincik and Duyvesteyn, 'Strategic studies and cyber warfare'.

[39]Yuriy Danyk and Chad M. Briggs, 'Modern cognitive operations and hybrid warfare', *Journal of Strategic Security*, 16:1 (2023), p. 40.

[40]For a more extensive discussion of similar arguments and counter-arguments in the context of the hybrid warfare discourse in Slovakia, see Samuel Zilincik, 'Slovensko nie je vo vojne, aj mier môže mať škaredé podoby', Adapt Institute (29 July 2022), available at: {https://www.adaptinstitute.org/sk/slovensko-nie-je-vo-vojne-aj-mier-moze-mat-skarede-podoby/29/07/2022/}.

[41]Jason Warren, 'Not all wars are violent: Identifying faulty assumptions for the information war', *Air & Space Power Journal* 34 (Winter 2020), pp. 75–90.

[42]Mykhaylo Zabrodskyi, Jack Watling, Oleksandr V. Danylyuk, and Nick Reynolds, *Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022* (RUSI, 2022).

[43]Erik Gartzke and Jon R. Lindsay, *Elements of Deterrence* (Oxford University Press, 2024); Lukas Milevski, *Grand Strategy Is Attrition: The Logic of Integrating Various Forms of Power in Conflict* (Strategic Studies Institute 2019); William F. Owen, 'Modern errors in discussions on strategy', *Infinity Journal*, 5:4 (2017), pp. 37–9.

[44]Robert 'Jakke' Bebber, 'China is waging cognitive warfare. Fighting back starts by defining it', *Defense News* (19 March 2025), available at: {https://www.defenseone.com/ideas/2025/03/china-waging-cognitive-warfare-fighting-back-starts-defining-it/403886/}; Nadia Schadlow, 'Research & debate – it's a gray, gray world', *Naval War College Review*, 73:3 (2020), pp. 139–44; Oscar Jonsson and Ilmari Käihkö (eds), *Non-Military Warfare: A War of Our Time* (Routledge, 2026). For this author's discussion of such argumentation, see again Zilincik, 'Slovensko nie je vo vojne, aj mier môže mať škaredé podoby'.

[45]Lukas Milevski, 'Asymmetry is strategy, strategy is asymmetry', *Joint Force Quarterly*, 75:4 (2014), pp. 77–83.

[46]Oscar Jonnson, *The Russian Understanding of War: Blurring the Lines Between War and Peace* (Georgetown University Press, 2019); Peter Mattis, 'China's "Three Warfares" in Perspective', War on the Rocks (30 January 2018), available at: {https://warontherocks.com/2018/01/chinas-three-warfares-perspective/}.

[47]Rob Johnson, 'Dysfunctional warfare: The Russian invasion of Ukraine', *Parameters*, 52:2 (2022), pp. 5–20.

[48]Dimitri Minic, 'How the Russian army changed its concept of war, 1993–2022', *Journal of Strategic Studies*, 47:1 (2024), pp. 29–63.

understand and anticipate the character of adversarial interactions, rendering any other potential benefits less appealing.

Some authors justify expanding the concept of war by redefining violence. General strategic theory defines violence narrowly, as the act of physically harming people.[49] Advocates of conceptual expansion suggest that non-kinetic actions may harm people, or even incite physical violence, meaning they too can be usefully conceptualised as violence.[50] Essentially, this latter approach suggests that violence is defined by its consequences rather than by the instruments used. While perhaps useful in other fields, this approach is analytically unproductive for understanding strategic affairs. Without a clear link to physical means, the concept of violence becomes too broad, as almost anything, from gossip to the lack of drinkable water, can harm people. If such an expanded concept of violence is used to justify broadening war, it becomes impossible to distinguish war from other social interactions.

The cognitive warfare literature then continues a long-standing contradiction of a central tenet of general strategic theory, without proper justification. This misalignment is more than a semantic problem; it also inhibits useful understanding of contemporary conflicts. By characterising non-violent interactions as a form of warfare, the concept implies that digital means alone can not only wage but also win wars. Yet despite the hype surrounding digital technology, wars in the twenty-first century are still largely shaped, and usually won, through violence.[51] Assuming that non-violent actions will determine the outcomes of future wars hinders NATO's ability to prioritise threats, make strategically meaningful investments, and develop appropriate capabilities. Unfortunately, this conceptual and organisational misdirection is only the most recent manifestation of a broader Western tendency to inappropriately inflate the importance of a wide array of security threats and to respond to them disproportionately.[52]

Second, general strategic theory emphasises the importance of thinking clearly about the key components of strategic effort and their relationships.[53] Theorists and scholars typically break conflicts into their constituting elements, focusing on the actors involved, the political objectives pursued, the means employed, the strategic effects generated, the geographies exploited, the relevant time scales, and so on.[54] This analytical separation is essential for understanding the character of any war, which largely results from the dynamic interactions of the belligerent's strategic efforts.[55]

In this sense, general strategic theory provides useful tools to make sense of the meaning and phenomena behind the cognitive warfare label. The technologies and techniques employed to disrupt the adversary's society constitute the means. These means are usually employed in cyberspace, which constitutes a human-made and multilayered geography designed for information transmission.[56] The employment of means in this geography may or may not disrupt the adversary's society. If it does, it generates a strategic effect, a situation that impacts the adversary's ability to perform

[49]Rid, *Cyber War Will Not Take Place*; Stathis Kalyvas, *The Logic of Violence in Civil War* (Cambridge University Press, 2006), p. 19.

[50]David Greggs, 'Violent limitation: Cyber effects reveal gaps in Clausewitzian theory', *The Cyber Defense Review*, 9:1 (2024), pp. 73–8; Florian J. Egloff and James Shires, 'The better angels of our digital nature? Offensive cyber capabilities and state violence', *European Journal of International Security*, 8:1 (2023), pp. 130–49; John Stone, 'Cyber war *will* take place!', *The Journal of Strategic Studies*, 36:3 (2013), pp. 101–8.

[51]Simon Anglim, 'Endgame in Karabakh – Azerbaijan, Armenia and the utility of land power in the 2020s', *Military Strategy Magazine*, exclusive article (2024); Patrick Porter, 'Out of the shadows: Ukraine and the shock of non-hybrid war', *Journal of Global Security Studies*, 8:3 (2023), p. ogad014; Amos Fox, 'The Donbas in flames: An operational level analysis of Russia's 2014–2015 Donbas campaign', *Small Wars and Insurgencies*, available at: {https://www.tandfonline.com/doi/full/10.1080/09592318.2022.2111496} (18 Aug 2022); David Betz and M. L. R. Smith, 'Smart weapons, dumb assumptions: Western strategic delusions meet industrial reality in Ukraine', *Military Strategy Magazine*, exclusive article (26 June 2025).

[52]M. L. R. Smith, 'Why is the West so rotten at strategy?', *International Affairs*, 100:4 (2024), pp. 1591–614.

[53]Gray, *Theory of Strategy*.

[54]Lukas Milevski, 'Enunciating strategy: How to talk about strategy effectively', *Military Strategy Magazine*, 7:1 (2020), pp. 18–25.

[55]Lukas Milevski, 'The nature of strategy versus the character of war', *Comparative Strategy*, 35:5 (2016), pp. 438–46.

[56]Martin Libicki, *Cyberspace in Peace and War* (Naval Institute Press, 2016).

strategy.[57] Such an effect may or may not contribute to the achievement of a wide spectrum of political objectives, from territorial conquest to regime change. These strategic effects can vary in time and can potentially be mitigated by an adversary's counter-measures.[58] Altogether, this is a useful perspective because it draws attention to not only the potential but also the inherent limitations of strategic effects. Specifically, it helps theorists and practitioners understand that despite means being employed, favourable strategic effects do not have to manifest and may fail to contribute to the desired political objectives, and the adversary may mitigate them over time. General strategic theory is then capable of grasping and usefully explaining the essential dynamics of information aggression, regardless of the means employed.[59]

The cognitive warfare literature struggles to distinguish the basic elements of strategic effort. This is partly because it is not grounded in general strategic theory and partly because in emphasising the concept's importance, it sacrifices terminological precision in favour of sensationalism. As a result, it often treats the human mind, simultaneously or alternatively, as means, effects, and geographies. For instance, NATO Allied Command Transformation (ACT) writes that 'cognitive warfare is not the means by which we fight; it is the fight itself. The brain is both the target and the weapon in the fight for cognitive superiority. Contesting in this environment…'[60] Leaving aside the fact that the second sentence contradicts the first one, it is evident that the institution primarily responsible for preparing the Alliance for future conflicts does in fact see the human mind as means ('weapon'), effects ('target'), and a geography ('environment') all at once.[61] Other authors usually focus on one of the elements, further contributing to conceptual confusion. Some treat the adversary's cognitive processes as means, arguing that the human mind itself has become a 'weapon'.[62] The geographic aspect is usually framed by treating the human mind as a domain of warfare.[63] Accordingly, the concept's proponents argue that cognition is an environment in which actors operate, akin to land, air, sea, or space, or cyberspace.[64] Still other works treat human minds as something to be influenced, thus framing the subject in terms of effect and presenting the only view compatible with the perspective of the general strategic theory.[65]

Treating the adversary's minds as either means or geographies is ultimately unconvincing, even metaphorically. Emerging research across disciplines suggests it is difficult enough to meaningfully influence, let alone employ, other people's cognitive processes, especially through digital tools alone.[66] There is no reason, beyond technological optimism or apocalypticism, to assume technology can grant such superpowers.[67] In this sense, the concept of cognitive warfare overpromises,

[57]Emily Meierding, Jeffrey A. Larsen, and James J. Wirtz, 'What is "strategic"? The who, what, when, where, and why of strategy', *Military Strategy Magazine*, 9:4 (summer 2024), pp. 4–11.

[58]Gray, Strategy Bridge, pp. 167–172.

[59]For a more elaborate demonstration, see Colin S. Gray, *Making Strategic Sense of Cyber Power: Why the Sky Is Not Falling* (US Army War College Press, April 2013).

[60]NATO ACT, 'Cognitive Warfare'.

[61]For another example of this perspective, see Tanna M. Krewson, 'The brain is both the target and the weapon: The strategic necessity of NATO's cognitive warfare concept', *The Three Swords*, 41 (2025), pp. 29–36.

[62]Zac Rogers, 'The promise of strategic gain in the digital information', *The Cyber Defense Review,* 6:1 (2021), pp. 81–106.

[63]Guyader, 'Cognitive domain', pp. 1–5; Ibrahim et al., 'A systematic review of psychological and cognitive warfare'.

[64]Claverie and du Cluzel, 'Cognitive warfare'; Alvaro Pastor, 'Cognitive Warfare: The Weaponisation of the Science of Brain and Behaviour', HAL Science, (2024), available at: {https://hal.science/hal-04420986/document}.

[65]Peter B. M. J. Pijpers, 'On cognitive warfare: The anatomy of disinformation', *The Defence Horizon Journal* (21 March 2024), available at: {https://tdhj.org/blog/post/on-cognitive-warfare-the-anatomy-of-disinformation/}.

[66]Alexander Lanoszka, 'Disinformation in international politics', *European Journal of International Security*, 4:2 (2019), pp. 1–22; Lennart Maschmeyer, Alexei Abrahams, Peter Pomerantsev, and Volodymyr Yermolenko, 'Donetsk don't tell – "hybrid war" in Ukraine and the limits of social media influence operations', *Journal of Information Technology & Politics* 22:1 (2025), pp. 49–64; Hugo Mercier, *Not Born Yesterday: The Science of Who We Trust and What We Believe* (Princeton University Press, 2020); Claes Wallenius, 'Do hostile information operations really have the intended effects? A literature review', *Journal of Information Warfare*, 21:2 (2022), pp. 21–35; Gavin Wilde, 'From panic to policy: The limits of foreign propaganda and the foundations of an effective response', *Texas National Security Review*, 7:2 (2024), pp. 42–55.

[67]Ördén, 'The neuropolitical imaginaries of cognitive warfare', pp. 613–17.

creating a false illusion about the amount of control actors can exercise over the minds of peoples on the adversary's side. The geographic framing is equally problematic. It is impossible to operate or fight within human minds in any sense even remotely comparable to other geographies. At best, actors can operate outside of human minds by creating external stimuli and hoping these affect the target's mind favourably.[68] Besides, treating cognition as a distinct domain seems redundant because mental effects have always been integral to operational conduct within and across all the traditional military domains.[69] Framing the human mind as a geography then again misleads practitioners about the dynamics of contemporary information aggression and the possibilities and limitations involved.

Third, general strategic theory recommends that specific strategic theories draw on appropriate strategic thought to guide practitioners in specific forms of conflict.[70] Unlike general strategic theory, specific strategic theories provide normative guidance for operational conduct in particular contexts, such as in land warfare, naval warfare, air warfare, and so on.[71] In order to convey such guidance, appropriate strategic thought needs to be grounded in the in-depth understanding of particular conflict dynamics. Julian Corbett's work, published in 1911, exemplifies this approach, offering insights so enduring that they remain foundational to contemporary thinking about maritime warfare.[72]

Per general strategic theory, the most appropriate strategic thought for a largely non-violent disruption of the adversary's society seems to be the one associated with subversion. Subversion, generally understood as the creation or amplification of conflicts within the target society, is a well-recognised strategic effect.[73] Conveniently, there is a long tradition of classical strategic thinkers offering valuable insights into the generation and countering of subversion, ranging from Thucydides[74] and Niccolò Machiavelli[75] to Vladimir Lenin[76] and Mao Zedong.[77] Additionally, the so-called control tradition of strategic thought, with proponents such as Henri Eccles, Herbert Rosinski, and Joseph Wylie, puts social cohesion, and its disruption, at the forefront of strategic consideration.[78] Recently, there has also been a steadily growing literature on subversion in the digital age.[79] Altogether, these works provide a meaningful understanding of both what keeps societies together and actionable guidelines on how to tear them apart.

The cognitive warfare literature has taken a different path. Framing the phenomena as warfare, it mostly overlooks subversive strategic thought in favour of manoeuvre warfare

[68]The crucial role of stimuli manipulation has been recognised by some of the more psychologically sensible writings on cognitive warfare; see Hung and Hung, 'How China's cognitive warfare works', p. 1.

[69]Patrick Hofstetter and Flurin Jossen, 'There is no need for a cognitive domain', *The Defence Horizon Journal* (2 November 2023), available at: {https://tdhj.org/blog/post/no-need-cognitive-domain/}.

[70]Gray, *Strategy Bridge*, p. 20.

[71]Gray, *Strategy Bridge*, p. 20.

[72]J. J. Widén, *Theorist of Maritime Strategy: Sir Julian Corbett and His Contribution to Military and Naval Thought* (Ashgate Publishing Limited, 2012).

[73]Randall G. Bowdish, 'Military strategy: Theory and concepts' (doctoral diss., University of Nebraska, 2013), available at: {https://digitalcommons.unl.edu/poliscitheses/26/}; Michael Fowler, 'Comparing compellence strategies', *Comparative Strategy*, 40:3 (2021), pp. 254–67.

[74]Thucydides, *History of the Peloponnesian War*, trans. Rex Warner (Penguin Books, 1974).

[75]Matthew Kroenig, 'Machiavelli and the naissance of modern strategy', in Hall Brands (ed.), *The New Makers of Modern Strategy* (Princeton University Press, 2023), pp. 91–115.

[76]Vladimir Ilich Lenin, *State and Revolution* (Mansfield Centre, [1917] 2009).

[77]Mao Zedong, *On Protracted War* (1938), Beijing, Foreign Languages Press.

[78]For an overview, see Antulio Echevarria, *War's Logic: Strategic Thought and the American Way of War* (Cambridge University Press, 2021), pp. 111–42.

[79]Andreas Krieg, *Subversion: The Strategic Weaponization of Narratives* (Georgetown University Press, 2023); Lennart Maschmeyer, 'A new and better quiet option? Strategies of subversion and cyber conflict', *Journal of Strategic Studies,* 46:3 (2023), pp. 570–94; Rid, *Cyber War Will Not Take Place*; William C. Wohlforth, 'Realism and great power subversion', *International Relations*, 34:4 (December 2020), pp. 459–81; Henrik Breitenbauch and Niels Byrjalsen, 'Subversion, statecraft and liberal democracy', *Survival*, 61:4 (2019), pp. 31–41.

theory.[80] While some works reference the classics, such as Thucydides or Clausewitz, they usually do it for rhetorical purposes rather than to derive any meaningful guidelines for the understanding of the phenomenon.[81] If there is one dominant strategic thought thread associated with cognitive warfare, it is that of manoeuvre warfare. Some experts explicitly advise to 'use the tenets of maneuver warfare as a framework for gaining the initiative in the cognitive dimension'.[82] Others implicitly adopt this perspective by referencing the two most famous manoeuvrist theorists, Sun Tzu[83] and John Boyd.[84]

From the perspective of general strategic theory, this choice is not only surprising but also problematic. Manoeuvre warfare theory and its theorists primarily addressed violent rather than non-violent interactions,[85] rendering the quality of their insights into the latter uncertain. The theory itself rests upon shaky conceptual and empirical foundations, promising much without offering convincing evidence of practical effectiveness.[86] Furthermore, despite Boyd's central focus on human decision-making, his understanding of the subject was flawed and overly simplistic,[87] which is a real problem if his insights are supposed to shed light on how the human mind works in conflict settings. Moreover, and in line with the general crux of manoeuvre warfare thought, Sun Tzu's and Boyd's thought emphasises quick victories over the adversary.[88] Such scenarios are the opposite of what cognitive warfare, as allegedly practiced by China and Russia, is about.[89] Instead of aiming at quick victories, these adversaries are supposed to gradually fragment the cohesion

[80]For a rare exception, see the following work, which makes an explicit link between cognitive warfare and subversion but only engages with one work on subversion: Jean-Marc Rickli, Federico Mantellassi, and Gwyn Glasser, 'Peace of mind: Cognitive warfare and the governance of subversion in the 21st century', *GCSP Policy Brief* (Geneva Center for Security Policy, 2023), pp. 1–15. Others question the analytical utility of subversion in this context because they imbue cognitive warfare with a meaning somewhat different from the one discussed in the current article. See Frank Hoffman, 'Assessing cognitive warfare'.

[81]Peter B. M. J. Pijpers, 'Legislation as an instrument of cognitive warfare', *The Defence Horizon Journal* (25 November 2024), available at: {https://tdhj.org/blog/post/lawfare-cognitive-warfare/}; Pijpers, 'Cognitive warfare in the 21st century great power competition'; Koichiro Takagi, 'The Future of China's Cognitive Warfare: Lessons from the War in Ukraine', War on the Rocks (22 July 2022), available at: {https://warontherocks.com/2022/07/the-future-of-chinas-cognitive-warfare-lessons-from-the-war-in-ukraine/}.

[82]Andrew MacDonald and Ryan Ratcliffe, 'Cognitive warfare: Maneuvering in the human dimension', *Proceedings*, 149:4 (2023), available at: {https://www.usni.org/magazines/proceedings/2023/april/cognitive-warfare-maneuvering-human-dimension}.

[83]Frank Flemisch, 'Human–machine teaming towards a holistic understanding of cognitive warfare', in Yvonne R. Masakowski and Janet M. Blatny (eds), *Mitigating and Responding to Cognitive Warfare* (NATO STO Report 2023), ch. 9, pp. 1–12; Kimberley Orinx and Tanguy Struye de Swielande, 'China and cognitive warfare: Why is the West losing?', in Bernard Claverie, Baptiste Prébot, Norbou Beuchler, and François du Cluzel (eds), *Cognitive Warfare: The Future of Cognitive Dominance* (NATO Collaboration Support Office, 2022), ch. 8, p. 1; Pijpers, 'On cognitive warfare'; Takagi, 'The Future of China's Cognitive Warfare'; Steen Søndergaard, *Cognitive Warfare NATO Chief Scientist Research Report* (NATO STO, 2025), p. 7.

[84]Emily Bienvenue, Sian Troath, and Zac Rogers, 'Cognitive Warfare', Cove (20 September 2018), available at: {https://cove.army.gov.au/article/cognitive-warfare}; J. William Demarco, 'The Dialectic of Deception: John Boyd and the Cognitive Battlefield', War on the Rocks (4 September 2025), available at: {https://warontherocks.com/2025/09/the-dialectic-of-deception-john-boyd-and-the-cognitive-battlefield}; Benjamin J. Knox and Yvonne R. Masakowski, 'Situational awareness, sensemaking and future NATO multinational operations', in Yvonne R. Masakowski and Janet M. Blatny (eds.), *Mitigating and Responding to Cognitive Warfare* (NATO STO Report, 2023), ch. 8, pp. 1–8; Rogers, 'The promise of strategic gain in the digital information'.

[85]William Lind, *Maneuver Warfare Handbook* (Routledge, 1985); Frans Osinga, *Science, Strategy and War: The Strategic Theory of John Boyd* (Routledge, 2007); Sun Tzu, *The Art of War: Complete Texts and Commentaries*, trans. Thomas Cleary (Shambhala, 2005).

[86]Lukas Milevski, 'Manoeuvre warfare in the Baltic: Political imperatives and tactical conditions', *The RUSI Journal* 169:6 (2024), pp. 78–80; William F. Owen, 'The manoeuvre warfare fraud', *RUSI Journal*, 153:4 (2008), pp. 62–7.

[87]James Hasík, 'Beyond the briefing: Theoretical and practical problems in the works and legacy of John Boyd', *Contemporary Security Policy*, 34:3 (2013), pp. 583–99 (p. 590); Jim Storr, 'Neither art nor science - towards a discipline of warfare', *The RUSI Journal*, 146:2 (2001), pp. 39, 42; David J. Bryan, 'Rethinking OODA: Toward a modern cognitive framework of command decision making', *Military Psychology*, 18:3 (2006), pp. 183–206.

[88]Hasík, 'Beyond the briefing', p. 590; John F. Sullivan, 'Reconsidering Sun Tzu', *Parameters*, 49:1 (2019), pp. 69–79 (p. 78).

[89]Hung and Hung, 'How China's cognitive warfare works', Backes and Swab, *Cognitive Warfare*.

of Western societies. Therefore, the manoeuvrist strategic thought seems inadequate in helping practitioners to navigate the very challenge they seek to engage with. Together, these shortcomings indicate that manoeuvre warfare tradition cannot adequately explain contemporary information aggression or provide actionable guidance for its conduct.

Relatedly, this choice also directs attention to tactics at the expense of strategy. Per its more recent interpretations, Sun Tzu's work provides limited strategic guidance because it deals almost exclusively with tactics.[90] Boyd's expertise also lay in tactics rather than strategy, rendering his discussions of the latter unimpressive.[91] By drawing on this thought, NATO risks focusing on tactics at the expense of strategy, which is again a persistent flaw of Western strategic thinking.[92] Reflecting this emphasis, cognitive warfare often fixates on particular activities, and enabling technologies, while neglecting to explore how they translate into strategic effects and political consequences.[93] This tactical focus hinders threat prioritisation, as without considering consequences, it is difficult to determine which actions warrant immediate response. Likewise, developing meaningful 'theories of victory' becomes challenging if attention centres on implementation rather than instrumentality.[94]

## Affective science

Affective science, as a broad field of research, refers to 'the empirical study of emotional responding and affective experience',[95] especially *sentiments, moods, emotions, attitudes, affective styles*, and *temperaments*.[96] Its prominence has grown over recent decades due to neuroscientific and psychological findings demonstrating the central role of affect in human life.[97] Accordingly, the study of affect has become a central line of effort even in the traditional cognitive sciences, such as cognitive neuroscience[98] and cognitive psychology,[99] and in related fields, such as behavioural economics.[100] A recent article published in *Nature Human Behavior* and authored by sixty-four leading scholars from a variety of disciplines discusses the emergence of 'affectivism', a paradigm in which affective explanations enunciate those derived from the previously dominant cognitivism.[101] While affective science brings forward countless interesting themes,[102] of particular relevance to discussions

[90]Sullivan, 'Reconsidering Sun Tzu'; John F. Sullivan, 'Sun Tzu's Fighting Words', Strategy Bridge (15 June 2020), available at: {https://thestrategybridge.org/the-bridge/2020/6/15/sun-tzus-fighting-words}.

[91]Hasík, 'Beyond the briefing'.

[92]Antulio Echevarria, 'Principles of war or principles of battle?', in Antony D. McIvor (ed.), *Rethinking the Principles of War* (Naval Institute Press, 2005), pp. 58–78; Dan G. Cox, Thomas Bruscino, and Alex Ryan, 'Why hybrid warfare is tactics not strategy: A rejoinder to "future threats and strategic thinking"', *Infinity Journal*, 2:2 (2012), pp. 25–9.

[93]Even some of the concept's proponents acknowledge this oversight; see Hung and Hung, 'How China's cognitive warfare works' pp. 3–4.

[94]William C. Martel, Victory in War: Foundations of Modern Military Policy (Cambridge, Cambridge University Press, 2006), p. 3.

[95]Michelle N. Shiota, Linda A. Camras, and Ralph Adolphs, 'The future of affective science: Introduction to the special issue', *Affective Science*, 4:3 (2023), p. 429.

[96]Richard J. Davidson, Klaus R. Scherer, and H. Hill Goldsmith (eds), *Handbook of Affective Sciences* (Oxford University Press, 2003), p. xiii.

[97]Elaine Fox, 'Perspectives from affective science on understanding the nature of emotion', *Brain and Neuroscience Advances*, 2 (2018), pp. 1–8; Jennifer S. Lerner, Ye Li, Piercarlo Valdesolo, and Karim S. Kassam, 'Emotion and decision making', *Annual Review of Psychology*, 66 (2015), pp. 799–823; Elizabeth A. Phelps, Karolina M. Lempert, and Peter Sokol-Hessner, 'Emotion and decision making: Multiple modulatory neural circuits', *Annual Review of Neuroscience*, 37 (2014), pp. 263–87.

[98]Nasir Naqvi, Baba Shiv, and Antoine Bechara, 'The role of emotion in decision making: A cognitive neuroscience perspective', *Current Directions in Psychological Science*, 15 (2006), pp. 260–4.

[99]Keith Oatley and P. N. Johnson-Laird, 'Cognitive approaches to emotions', *Trends in Cognitive Sciences*, 18:3 (2014), pp. 134–40.

[100]George Loewenstein, 'Emotions in economic theory and economic behavior', *The American Economic Review*, 90 (2000), pp. 426–32.

[101]Dukes et al., 'The rise of affectivism'.

[102]Dacher Keltner and Jennifer S. Lerner, 'Emotion', in Susan T. Fiske, Daniel. T. Gilbert, and Gardner Lindzey (eds), *Handbook of Social Psychology* (Wiley, 2010), pp. 317–52.

of cognitive warfare are findings that emphasise the integrative role of specific emotions in cognition, the primacy of emotional motivation in explaining human behaviour, and the ambivalence of emotional influence in individual and collective contexts. As discussed below, the cognitive warfare literature has yet to sufficiently engage with these themes.

First, affective science holds that specific emotions, and to some extent moods, permeate and shape cognitive processes in predictable ways. While the scholars of affect have struggled to agree on an authoritative definition of emotion,[103] they largely agree that emotions involve bodily systems that flexibly, though temporarily, integrate cognitive, motivational, and physiological mechanisms[104] whenever people encounter stimuli relevant to their concerns.[105] Moods resemble emotions in most aspects, except they last longer and lack association with any particular stimuli.[106] The general purpose of these affective states, especially of emotions, is to help individuals navigate the uncertainties of their lives.[107] In line with this purpose, emotions enable decision-making,[108] deploy attention,[109] alter perception,[110] modify judgements,[111] affect both the 'content' and the 'depth' of thought,[112] permeate belief formation processes,[113] and play an important role in both the storing and the retrieval of memories.[114] This literature suggests that cognitive processes rarely, if ever, occur without emotional influence because emotions and moods, whether experienced or merely anticipated,[115] accompany us practically constantly.[116]

[103]Izard, 'The many meanings/aspects of emotion: Definitions, functions, activation, and regulation', *Emotion Review*, 2:4 (2010), pp. 363–70.

[104]Lisa F. Barrett, *How Emotions Are Made: The Secret Life of the Brain* (Houghton Mifflin Harcourt, 2017); Paul Ekman, 'Basic emotions', in Tim Dalgeish and Mick Power (eds), *The Handbook of Cognition and Emotion* (John Wiley & Sons, 1999), pp. 45–60; Nico H. Frijda, 'Emotion experience', *Cognition and Emotion*, 19:4 (2005), pp. 473–97; James J. Gross, 'Emotion regulation: Current status and future prospects, psychological inquiry', *International Journal for the Advancement of Psychological Theory*, 26:1 (2015), pp. 1–26; John Tooby and Leda Cosmides, 'The evolutionary psychology of the emotions and their relationship to internal regulatory variables', in Michael Lewis, Jeannette M. Haviland-Jones, and Lisa F. Barrett (eds), *Handbook of Emotions*, 3rd ed. (The Guilford Press, 2008), pp. 114–37.

[105]Tobias Brosch, Gilles Pourtois, and David Sander, 'The perception and categorisation of emotional stimuli: A review', *Cognition and Emotion*, 24:3 (2010), pp. 377–400.

[106]Matthias Siemer, 'Mood experience: Implications of a dispositional theory of moods', *Emotion Review*, 1 (2009), pp. 256–63.

[107]Tooby and Cosmides, 'The evolutionary psychology of the emotions and their relationship to internal regulatory variables'.

[108]Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain*, 2nd ed. (Penguin Books, 2005).

[109]Rebecca J. Compton, 'The interface between emotion and attention: A review of evidence from psychology and neuroscience', *Behavioral and Cognitive Neuroscience Reviews*, 2:2 (2003), pp. 115–29.

[110]Raymond J. Dolan, 'Emotion, cognition, and behavior', *Science*, 298 (2002), pp. 1191–4; Jonathan R. Zadra and Gerald L. Clore, 'Emotion and perception: The role of affective information', *Wiley Interdisciplinary Reviews: Cognitive Science*, 2:6 (2011), pp. 676–85.

[111]Amanda D. Angie et al., 'The influence of discrete emotions on judgement and decision-making: A metaanalytic review', *Cognition and Emotion*, 25:8 (2011), pp. 1393–422.

[112]Lerner et al., 'Emotion and decision making', pp. 806–7.

[113]Nico H. Frijda, Antony S. R. Manstead, and Sacha Bem (eds), *Emotions and Beliefs: How Feelings Influence Thoughts* (Cambridge University Press, 2000).

[114]Gordon H. Bower, 'Mood and memory', *American Psychologist*, 36:2 (1981), p. 129; Tony W. Buchanan, 'Retrieval of emotional memories', *Psychological Bulletin,* 133:5 (2007), pp. 761–79; Elizabeth A. Kensinger and Jaclyn H. Ford, 'Retrieval of emotional events from memory', *Annual Review of Psychology*, 71 (2020), pp. 251–72; Kevin S. LaBar, 'Beyond fear: Emotional memory mechanisms in the human brain', *Current Directions in Psychological Science*, 16 (2007), pp. 173–7.

[115]Hand Baumgartner, Rik Pieters, and Richard P. Bagozzi, 'Future-oriented emotions: Conceptualization and behavioral effects', *European Journal of Social Psychology,* 38 (2008), pp. 685–96.

[116]Madeline L. Pe and Peter Kuppens, 'The dynamic interplay between emotions in daily life: Augmentation, blunting, and the role of appraisal overlap', *Emotion*, 12:6 (2012), pp. 1320–8.

In the context of information aggression, focusing on specific emotions helps anticipate the character of emotional influence on cognitive processes.[117] For instance, fear deploys attention to dangerous stimuli,[118] renders people more pessimistic in their judgements,[119] increases people's perception of further danger,[120] encourages deeper thinking about the threatening stimulus,[121] and makes it easier to remember the stimulus as threatening.[122] Anger, in contrast, deploys attention to the rewarding aspects of the relevant stimuli,[123] makes us perceive other people as responsible for negative situations,[124] encourages shallower thinking,[125] promotes optimistic judgements of risk,[126] and makes us better at remembering details related to the pursuit of particular objectives.[127] Affective science now recognises dozens of emotions, such as joy, sadness, awe, disappointment, resentment, nostalgia, and others,[128] and has developed unique cognitive profiles for each.[129] This diverse yet internally coherent emotional landscape enables using specific emotions as analytical bundles for studying cognition with a unified focus and a shared vocabulary. Underlying this utility, even leading scholars who introduced cognitivism to the study of international security, such as Robert Jervis and Janice Gross Stein, now acknowledge affective sciences' immense potential for improving our understanding of cognitive processes in political conflicts.[130]

In its current state, the cognitive warfare literature remains largely grounded in cognitivism rather than affectivism. This is evidenced by not only the label itself but also by the observations of some proponents who explicitly acknowledge this oversight and admit that traditional cognitive science tends to neglect the importance of affect.[131] It is further evidenced by frequent attempts of

[117]Heather C. Lench, Sarah A. Flores, and Shane W. Bench, 'Discrete emotions predict changes in cognition, judgment, experience, behavior, and physiology: A meta-analysis of experimental emotion elicitations', *Psychological Bulletin*, 137:5 (2011), p. 834.

[118]Elizabeth A. Krusemark and Wen Li, 'Do all threats work the same way? Divergent effects of fear and disgust on sensory perception and attention', *The Journal of Neuroscience*, 31:9 (2011), pp. 3429–34; Anne M. Finucane, 'The effect of fear and anger on selective attention', *Emotion*, 11:4 (2011), pp. 970–4; Vanessa LoBue and Judy S. DeLoache, 'Detecting the snake in the grass: Attention to fear-relevant stimuli by adults and young children', *Psychological Science*, 19 (2008), pp. 284–9.

[119]Jennifer S. Lerner, Roxana M. Gonzalez, Deborah A. Small and Baruch Fischhoff, 'Effects of fear and anger on perceived risks of terrorism: A national field experiment', *Psychological Science*, 14:2 (March 2003), pp. 144–50; Jennifer S. Lerner and Dacher Keltner, 'Fear, anger, and risk', *Journal of Personality and Social Psychology*, 81:1 (2001), pp. 146–59.

[120]Krusemark and Li, 'Do all threats work the same way?'; Joseph LeDoux, 'Emotion circuits in the brain', *Annual Review of Neuroscience*, 23 (2000), pp. 155–84.

[121]Larissa Z. Tiedens and Susan Linton, 'Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing', *Journal of Personality and Social Psychology*, 81:6 (2001), pp. 973–88.

[122]Elizabeth A. Phelps, 'Emotion and cognition: Insights from studies of the human amygdala', *Annual Review of Psychology*, 57 (2006), pp. 27–53.

[123]Brett Q. Ford et al., 'Keeping your eyes on the prize: Anger and visual attention to threats and rewards', *Psychological Science*, 21 (2010), pp. 1098–105.

[124]Dacher Keltner, Phoebe C. Ellsworth, and Kari Edwards, 'Beyond simple pessimism: Effects of sadness and anger on social perception', *Journal of Personality and Social Psychology*, 64 (1993), pp. 740–52.

[125]Deborah A. Small and Jennifer S. Lerner, 'Emotional policy: Personal sadness and anger shape judgments about a welfare case', *Political Psychology*, 29:2 (2008), pp. 149–68; Tiedens and Linton, 'Judgment under emotional certainty and uncertainty'.

[126]Lerner et al., 'Effects of fear and anger on perceived risks of terrorism'.

[127]Linda J. Levine and Stewart L. Burgess, 'Beyond general arousal: Effects of specific emotions on memory', *Social Cognition*, 15 (1997), pp. 157–81.

[128]Dacher Keltner, 'Toward a consensual taxonomy of emotions', *Cognition and Emotion*, 33:1 (2019), pp. 14–19; Dacher Keltner and Alan Cowen, 'A taxonomy of positive emotions', *Current Opinion in Behavioral Sciences*, 39 (2021), pp. 216–21.

[129]Klaus R. Scherer, Angela Schorr, and Tom Johnstone (eds), *Appraisal Process in Emotion: Theory, Methods, Research* (Oxford University Press, 2001); Jennifer Yih, Leslie D. Kirby, and Craig A. Smith, 'Profiles of appraisal, motivation, and coping for positive emotions', *Cognition and Emotion*, 34 (2020), pp. 481–97.

[130]Robert Jervis, *Perception and Misperception in International Politics*, 2nd ed. (Princeton University Press, 2017), preface; Janice Gross Stein and Morielle I. Lotan, 'Disabling deterrence and preventing war: Decision making at the end of the nuclear chain', in Anne I. Harrington and Jeffrey W. Knopf (eds), *Behavioral Economics and Nuclear Weapons* (University of Georgia Press, 2019), pp. 56–77.

[131]Rand Waltzman, 'Future Challenges to Cognitive Security', Irregular Warfare Center (2025), available at: {https://irregularwarfarecenter.org/publications/perspectives/future-challenges-to-cognitive-superiority/}.

the relevant works to formally define cognition (without doing the same for affect or emotion),[132] and by common focus on one or multiple cognitive processes, such as attention, perception, judgement, decision-making, or memories.[133] In line with the cognitivist approach, many works centre on cognitive biases and heuristics.[134] By contrast, only a few have seriously engaged with the findings from affective science.[135] While these latter works highlight the importance of taking affective science into consideration, and provide some steps in that direction, they only engage with affective science in a limited manner, as discussed in more detail below.

The cognitivist foundation offers little basis for a focused research programme. The literature's fragmentation is evidenced by not only the above-mentioned tendency of individual authors to focus on different cognitive processes but also disagreements about what counts as a cognitive process in the first place. For instance, some authors see belief as separate from cognition,[136] others view belief as integral to cognition,[137] and still others separate cognition from attention,[138] a position that contradicts the majority of the literature. Admittedly, this problem is not unique to the cognitive warfare literature; scholars in other disciplines also struggle to clearly define cognition as a standalone concept, though they generally agree on at least some of the processes that can be usefully characterised as cognitive.[139] This research fragmentation is not inherently harmful, and one could argue that no unified concept of cognition is necessary for individual scholars to focus on particular cognitive processes. This view, however, overlooks the importance of understanding the relative significance of particular processes and their relationships. Without such synthesis, fragmented research cannot illuminate the broader workings of the human mind, which is essential for understanding the potentials and limitations of information aggression.

Consequently, the cognitive warfare framing seems unfit to provide coherent guidance regarding what professionals should focus on. It remains unclear whether they should seek to manipulate, or to defend against the manipulation of, attention, perception, judgement, thinking, decisions,

[132]Bernard Claverie, 'What is cognition? And how to make it one of the ways of the war?', in Bernard Claverie, Baptiste Prébot, Norbou Beuchler, and François du Cluzel (eds), *Cognitive Warfare: The Future of Cognitive Dominance* (NATO Collaboration Support Office, 2022), ch. 4, p. 2; Henschke, 'Cognitive warfare', pp. 16–17; NATO ACT, 'Cognitive Warfare: Strengthening and Defending the Mind' (5 April 2023), available at: {https://www.act.nato.int/article/cognitive-warfare-strengthening-and-defending-the-mind/} (19 March 2026).

[133]Individual authors tend to prioritise different cognitive processes. See David Pappalardo, '"Win the War Before the War?": A French Perspective on Cognitive Warfare', War on the Rocks (1 August 2022), available at: {https://warontherocks.com/2022/08/win-the-war-before-the-war-a-french-perspective-on-cognitive-warfare/}; Claverie, 'What is cognition?'; Bugayova and Stepanenko, *A Primer on Russian Cognitive Warfare*, p. 1; Szde Yu 'Cognitive warfare: A psychological strategy to manipulate public opinion', in N. Chitadze (ed.), *Cyber Security Policies and Strategies of the World's Leading States* (International Black Sea University, 2023); Lea Kristina Bjørgul, 'Cognitive Warfare and the Use of Force', Stratagem (3 November 2021), available at: {https://www.stratagem.no/cognitive-warfare-and-the-use-of-force/}; Paul Ottewell, 'Defining the Cognitive Domain', Over the Horizon: Multi-Domain Operations & Strategy (7 December 2022), available at: {https://overthehorizonmdos.wpcomstaging.com/2020/12/07/defining-the-cognitive-domain/?ref=stratagem.no}; Chiriac, 'Cognitive warfare in the 21st century great power competition'; Pastor, 'Cognitive warfare', pp. 17–21.

[134]Claverie and du Cluzel, 'Cognitive warfare'; Claverie, 'What is cognition?'; Orinx and Swielande, 'China and cognitive warfare'; Pappalardo, 'Win the War Before the War?'; Pijpers, 'On cognitive warfare'; Michael J. Cheatham, Angelique M. Geyer, Priscella A. Nohle, and Jonathan E. Vazquez, 'Cognitive warfare: The fight for gray matter in the digital gray zone', *Joint Force Quarterly*, 114 (2024), pp. 83–91.

[135]Hung and Hung, 'How China's cognitive warfare works'; Pastor, 'Cognitive warfare'; Waltzman, 'Future Challenges to Cognitive Security'.

[136]Claverie and Du Cluzel, 'Cognitive warfare', p. 4.

[137]Naomi Silverstein, 'The new geopolitical space in the information era: A neuroscientific approach to national security', *Independent Study Project (ISP) Collection,* 3044 (2019), pp. 1–32.

[138]Andreea Stoian Karadeli and Daniel-Gabriel Dinu, 'Securing the mind: The emerging landscape of cognitive warfare?', *International Conference RCIC: Redefining Community in Intercultural Context* 11 (2023), pp. 26–32.

[139]Tim Bayne et al., 'What is cognition?', *Current Biology*, 29:13 (2019), pp. 608–15; C. Allen, 'On (not) defining cognition', *Synthese*, 194 (2017), pp. 4233–49; Luiz Pessoa, 'On the relationship between emotion and cognition', *Nature Review of Neuroscience*, 9 (2008), pp. 148–58.

or memories.[140] Measures and efforts designed to alter perception of contemporary events may be inadequate to influence the development of memories. Belief formation is a long-term process that takes years, while attention can shift in seconds. Accordingly, one study found that even authoritarian regimes, despite tight control over information spaces, struggle to reshape certain beliefs, though they can easily redirect immediate public attention.[141] Importantly, attempting to influence, or defend against influence, without a clear idea of what mental effect is sought risks not only failure but also counterproductive outcomes. For example, the very act of trying to influence someone's judgements may inspire a belief that the perpetrator of such influence efforts is doing something bad,[142] and thus is overall untrustworthy. Alternatively, well-intentioned attempts to promote sceptical thought, and therefore reduce the spread of false information, may backfire by making people distrust most subsequent bits of information, including the accurate ones.[143]

Second, affective science suggests that emotions are the prime cause, and usually the necessity, for human behaviour.[144] Cognitive processes alone do not predict behaviour.[145] Instead, a growing body of literature highlights the importance of motivation, the state of 'wanting change',[146] as an essential interfering variable between cognitive processes and behaviour.[147] Affective science posits that emotions, in combination with basic human needs, provide everyday motivation[148] across a broad variety of human endeavours.[149] Accordingly, pre-eminent Dutch psychologist Nico Frijda famously described emotions as 'states of action readiness'.[150] Admittedly, not every emotional motivation translates into behavioural change.[151] People often do not act out particular emotional motivations because they either regulate those emotions or get overwhelmed by the motivational urge from other emotions.[152] Yet since the very desire to regulate emotions often stems from prior

[140]For a thoughtful critique highlighting this point, see Alessia Dorigoni, 'Beyond Cognitive Warfare: Differentiating Cognitive Battles for Cognitive Security', Small Wars Journal (19 March 2026), available at: {https://smallwarsjournal.com/2026/03/19/beyond-cognitive-warfare-cognitive-battles-for-cognitive-security/}.

[141]Selim E. Aytaç, 'Effectiveness of incumbent's strategic communication during economic crisis under electoral authoritarianism: Evidence from Turkey', *American Political Science Review*, 115:4 (2021), pp. 1517–23.

[142]Kathleen E. Powers and Dan Altman, 'The psychology of coercion failure: How reactance explains resistance to threats', *American Journal of Political Science*, 67:1 (2022), pp. 221–38.

[143]Katherine Clayton et al., 'Real solutions for fake news? Measuring the effectiveness of general warnings and fact-check tags in reducing belief in false stories on social media', *Political Behaviour*, 42 (2019), pp. 1073–95.

[144]Jan Panskepp, *Affective Neuroscience: The Foundations of Human and Animal Emotions* (Oxford University Press, 2004).

[145]Julius Kuhl and Jiirgen Beckmann, 'Introduction and overview', in Julius Kuhl and Jiirgen Beckmann (eds), *Action Control from Cognition to Behavior* (Springer, 2012), pp. 1–2.

[146]Johnmarshall Reeve, 'A grand theory of motivation: Why not?', *Motivation and Emotion*, 40:1 (2016), p. 31.

[147]Roy F. Baumeister, 'Toward a general theory of motivation: Problems, challenges, opportunities, and the big picture', *Motivation and Emotion*, 40:1 (2016), pp. 1–10; Todd S. Braver et al., 'Mechanisms of motivation–cognition interaction: challenges and opportunities', *Cognitive Affective and Behavioral Neuroscience*, 14:2 (2014), pp. 443–72.

[148]Carroll E. Izard, 'Basic emotions, natural kinds, emotion schemas, and a new paradigm', *Perspectives on Psychological Science*, 2 (2007), pp. 260–80; Peter J. Lang, 'Emotion and motivation: Toward consensus definitions and a common research purpose', *Emotion Review*, 2:3 (July 2010), pp. 229–33; Alec T. Beall and Jessica L. Tracy, 'Emotivational psychology: How distinct emotions facilitate fundamental motives', *Social and Personal Psychology Compass*, 11:2 (2017), pp. 11–17; Ira S. Roseman, 'Motivations and emotivations: Approach, avoidance, and other tendencies in motivated and emotional behavior', in Andrew J. Elliot (ed.), *Handbook of Approach and Avoidance Motivation* (Psychology Press, 2008), pp. 343–66; Marcel Zeelenberg, Rob M. A. Nelissen, Seger M. Breugelmans, and Rik Pieters, 'On emotion specificity in decision making: Why feeling is for doing', *Judgment and Decision Making*, 3:1 (2008), pp. 18–27.

[149]Jonathan Haidt, 'The moral emotions', in Richard J. Davidson, Klaus R. Scherer, and H. H. Goldsmith (eds), *Handbook of Affective Sciences* (Oxford University Press, 2003), pp. 852–70; Peter D. MacIntyre, Jessica Ross and Richard Clément, 'Emotions are motivating', in Martin Lamb, Kata Csizér, Alastair Henry, and Stephen Ryan (eds), *Handbook of Motivation for Language Learning* (Palgrave Macmillan, 2020), pp. 183–202; Debra K. Meyer and Julianne Turner, 'Discovering emotion in classroom motivation research', *Educational Psychologist*, 37 (2002), pp. 107–14.

[150]Nico H. Frijda, 'The laws of emotion', *American Psychologist*, 43:5 (1988), p. 351.

[151]Nico H. Frijda, 'Emotions and action', in Antony S. R. Manstead, Nico H. Frijda, and Agneta Fischer (eds), *Feelings and Emotions: The Amsterdam Symposium* (Cambridge University Press, 2004), pp. 158–73.

[152]Ira J. Roseman, 'Emotional behaviors, emotivational goals, emotion strategies: Multiple levels of organization integrate variable and consistent responses', *Emotion Review*, 3:4 (2011), pp. 434–43.

emotional motivation,[153] emotions generally explain both how cognitive processes translate into behaviour and how that translation can fail.

Moreover, just like with cognitive processes, the motivational and behavioural aspects of specific emotions seem remarkably consistent, not only within particular populations but also across different cultures.[154] This is because each emotion brings forward a broad overarching goal that is to be pursued, along with a spectrum of behaviours that may be contextually useful in the pursuit of that purpose.[155] Fear motivates the search for security through fleeing, freezing, or fighting,[156] humiliation motivates search for revenge, often through aggression,[157] and pride motivates long-term goal pursuit despite it being costly in the short term.[158] Therefore, despite emotional motivation not always manifesting in behaviour, and the contextual variance of specific actions, emotions still provide solid grounds for anticipating human behaviour.

The principal benefit of affective science in this context lies in its ability to help practitioners anticipate strategically relevant behaviours through the study of specific emotions. For example, if hatred towards minorities dominates a society's emotional landscape, it is reasonable to expect intensification of divisive actions, including internal violence.[159] Conversely, if the adversary successfully inspires emotions that are unlikely to translate into meaningful disruptive behaviour, countering such attempts can be deprioritised to conserve resources. The Russian–Ukrainian war illustrates that a society sharing a strong unifying emotion, such as national pride, does not easily succumb to fear's potential to sap away the original motivation to keep up resistance.[160] Moreover, understanding the motivational profiles of specific emotions is also crucial for offensive purposes, as it enables the deliberate cultivation of emotions most likely to generate behavioural change within the adversary's society.

In contrast with affective science, the cognitive warfare literature seems to contain a notable gap in its theorisation of the relationship between cognition and behaviour. Admittedly, some works only speak about influencing cognitive processes, paying little attention to behavioural outcomes.[161] Yet it remains unclear how an effective disruption of the adversary's society is to be achieved if people's minds change, but their behaviour, such as voting, remains the same. Others tie cognitive warfare to the aspiration to shape behaviour but do not convincingly explain how exactly cognition and behaviour interact.[162] For instance, Oliver Backes and Andrew Swab define cognitive warfare as 'a strategy that focuses on altering how a target population thinks – and through that how

[153]Michael Inzlicht, Bruce D. Bartholow, and Jacob B. Hirsh, 'Emotional foundations of cognitive control', *Trends in Cognitive Science*, 19:3 (2015), pp. 126–32; Maya Tamir, 'Why do people regulate their emotions? A taxonomy of motives in emotion regulation', *Personality and Social Psychology Review*, 20:3 (2016), pp. 199–222.

[154]Roseman, 'Emotional behaviors, emotivational goals, emotion strategies'.

[155]Ira J. Roseman, Cynthia Wiest, and Tamara S. Swartz, 'Phenomenology, behaviors, and goals differentiate discrete emotions', *Journal of Personality and Social Psychology,* 67:2 (1994), pp. 206–21.

[156]Thierry Steimer, 'The biology of fear- and anxiety-related behaviors', *Dialogues in Clinical Neuroscience*, 4:3 (2002), pp. 231–49.

[157]Maartje Elshout, Rob M. A. Nelissen, and Ilja van Beest, 'Conceptualising humiliation', *Cognition and Emotion*, 31:8 (2017), pp. 1581–94; Victoria Fontan, 'Polarization between occupier and occupied in post-Saddam Iraq: Colonial humiliation and the formation of political violence', *Terrorism and Political Violence*, 18:2 (2006), pp. 217–38; Edwin A. Locke, 'Motivation, cognition, and action: An analysis of studies of task goals and knowledge', *Applied Psychology*, 49:3 (2000), pp. 408–29; Deirdre O'Shea, Finian Buckley, and Jonathon Halbesleben, 'Self-regulation in entrepreneurs: Integrating action, cognition, motivation, and emotions', *Organizational Psychology Review*, 7:3 (2017), pp. 250–78.

[158]Lisa, A. Williams and David DeSteno, 'Pride and perseverance: The motivational role of pride', J*ournal of Personality and Social Psychology*, 94:6 (2008), pp. 1007–17.

[159]Ruthie Pliskin and Eran Halperin, 'The promise of adopting an emotional approach to understanding and reducing political intolerance', in Eugene Borgida, Christopher M. Federico, and Joanne M. Miller (eds), *At the Forefront of Political Psychology: Essays in Honor of John L. Sullivan* (Routledge, 2010), pp. 79–98.

[160]Pippa Norris and Kseniya Kizlova, 'What Mobilises the Ukrainian Resistance?', London School of Economics (2022), available at: {https://blogs.lse.ac.uk/europpblog/2022/03/03/what-mobilises-the-ukrainian-resistance/}.

[161]Hoffman, 'Four faces of war', pp. 112–16. Interestingly, Hoffman includes behavioural influence in his more recent work; see Hoffman, 'Assessing cognitive warfare'.

[162]Bugayova and Stepanenko, *A Primer on Russian Cognitive Warfare*, p. 1; Søndergaard, *Cognitive Warfare*.

it acts',[163] assuming linear progression from thinking to behaviour. Since the cognitive warfare literature neglects emotions, and by extension the motivations tying cognition to action, it generally struggles to offer a meaningful and systematic account of how cognitive influence translates into behavioural consequences. Even the few works that do engage with some findings from affective science do not explore the nuances of behavioural motivations associated with specific emotions in much detail.[164]

Failing to theorise the relationship between cognition and behaviour further constrains NATO's ability to prioritise threats and develop its own 'theories of victory'. Since it is actual behaviour, rather than individual cognitive processes, that usually tears societies apart, information aggression that provokes behavioural change can be considered more dangerous than that which merely changes cognition. Yet without understanding which adversarial efforts translate into disruptive behaviour, practitioners lack a meaningful basis for prioritisation and are forced to counter everything indiscriminately. This approach is inherently inefficient, as hostile actors can launch extensive propaganda campaigns against NATO members frequently and at minimal cost. Treating all this information aggression as potentially equally harmful thus wastes the Alliance's resources. Conversely, when NATO conducts its own information aggression, it must understand how its attempts at influencing cognition translate into behavioural change; otherwise, it risks only affecting the former. For these reasons, focusing on specific emotions appears to be a more promising avenue for both defensive and offensive purposes.

Third, affective science suggests that emotions and moods can have both beneficial and detrimental effects, individually and collectively. At the individual level, emotions seem to be necessary to make any decisions at all,[165] because they help people choose among multiple options at any given moment.[166] Beyond this general observation, the literature suggests that emotions can be beneficial or detrimental to our decision-making, depending on the context. Some situations may require deep thought and rumination conveyed in emotions such as sadness, while others may call for swift and bold decisions facilitated by anger.[167] It seems that emotions generally benefit our navigation of the world if their character, intensity, and stimulus correspond proportionally to the situations we engage with.[168] Obviously, emotions that are too intense or otherwise inappropriate to the situation may impair our ability to think clearly and act appropriately.[169]

Furthermore, findings from social and political psychology indicate that emotional influence is equally ambivalent at the collective level. Emotions maintain social cohesion while also being a potent force in social disruption.[170] They sustain social cohesion by making individuals care about others, but they can equally easily promote hostile attitudes and motivate antagonistic behaviour, thus tearing societies apart.[171] Generalising about specific emotions is again difficult because much

[163]Backes and Swab, *Cognitive Warfare*, p. 8.

[164]Hung and Hung, 'How China's cognitive warfare works'. However, Pastor does acknowledge the difficulties of predicting behaviour based on cognition alone; see Pastor, 'Cognitive warfare', p. 23.

[165]Lerner et al., 'Emotion and decision-making'; Phelps et al., 'Emotion and decision making'.

[166]Damasio, *Descartes' Error*; Oatley and Johnson-Laird, 'Cognitive approaches to emotions'.

[167]Heather C. Lench, Thomas P. Tibbett, and Shane W. Bench, 'Exploring the toolkit of emotion: What do sadness and anger do for us?', *Social and Personality Psychology Compass*, 10:1 (2016), pp. 11–25.

[168]Antoine Bechara, 'Human emotions in decision making: Are they useful or disruptive?', in Oshin Vartanian and David R. Mandel (eds), *Neuroscience of Decision Making* (Psychology Press, 2011), pp. 73–90; Klaus R. Scherer, 'On the rationality of emotions: Or, when are emotions rational?', *Social Science Information*, 50:3–4, (2011), pp. 330–50; Myeong-Gu Seo and Lisa F. Barrett, 'Being emotional during decision making: Good or bad? An empirical investigation', *The Academy of Management Journal*, 50:4 (2007), pp. 923–40.

[169]Baba Shiv, George Loewenstein, and Antoine Bechara, 'The dark side of emotion in decision-making: When individuals with decreased emotional reactions make more advantageous decisions', *Cognitive Brain Research*, 23 (2005), pp. 85–92.

[170]Bert N. Bakker and Yphtach Lelkes, 'Putting the affect into affective polarisation', *Cognition and Emotion*, 38:4 (2024), pp. 418–36.

[171]Agneta H. Fischer and Antony S. R. Manstead, 'Social functions of emotion and emotion regulation', in Lisa F. Barrett, Michael Lewis, and Jeannette Haviland-Jones (eds), *Handbook of Emotions*, 4th ed. (Guilford Press, 2016), pp. 424–39.

depends on the context, especially on the stimulus towards which the emotion is felt.[172] Fear felt towards an out-group can certainly unite the in-group,[173] while fear directed towards individuals inside one's own group may be disruptive.[174] Still, some emotions do seem to be more 'prosocial' while others are likely to more easily fragment societies.[175] For instance, love, gratitude, awe, and adoration have evolved primarily to sustain in-group cohesion.[176] In contrast, disgust or hatred are well designed to promote conflict, and as such can be considered generally disruptive.[177] Dissapointment may be the core emotional cause of social polarisation,[178] while loneliness makes Westerners particularly vulnerable to foreign interference efforts.[179]

To the extent the cognitive warfare literature discusses emotions at all, it largely portrays them as detrimental, both individually and collectively.[180] At the individual level, emotions are generally associated with poor decision-making and increased susceptibility to believing falsehoods.[181] Multiple works contrast emotional decision-making as being in opposition to rational decision-making,[182] which, according to the reviewed affective science literature, is a false dichotomy.[183] Collectively, emotions are typically framed as vulnerabilities that adversaries can exploit to manipulate the public in Western societies.[184] Even the few studies that try to engage with findings from affective science focus solely on the detrimental aspects of emotional influence. For instance, Tzu-Chieh Hung and Tzu-Wei Hung's article draws on affective science to illustrate how emotions distort belief formation, perception, and decision-making.[185] However, the article's proposed

[172]Samuel Zilincik, 'Emotions and social cohesion', in Pavol Kosnac and Hugo Gloss (eds), *Cohesion in Slovakia* (DEKK Institute, 2023), pp. 60–83.

[173]Blake M. Riek, Eric W. Mania, and Samuel L. Gaertner, 'Intergroup threat and outgroup attitudes: A meta-analytic review', *Personality and Social Psychology Review*, 10:4 (2006), pp. 336–53.

[174]Pliskin and Halperin, 'The promise of adopting an emotional approach to understanding and reducing political intolerance'.

[175]For a more comprehensive discussion of specific emotions, see Zilincik, 'Emotions and social cohesion'.

[176]Fischer and Manstead, 'Social functions of emotion and emotion regulation'; Dacher Keltner and Jonathan Haidt, 'Approaching awe, a moral, spiritual, and aesthetic emotion', *Cognition and Emotion,* 17:2 (2003), pp. 297–314; Ines Schindler, Veronika Zink, Johannes Windrich, and Winfried Menninghaus, 'Admiration and adoration: Their different ways of showing and shaping who we are', *Cognition & Emotion*, 27:1 (2013), pp. 85–118.

[177]Eran Halperin, *Emotions in Conflict: Inhibitors and Facilitators of Peace Making* (Routledge, 2015); Pliskin and Halperin, 'The promise of adopting an emotional approach to understanding and reducing political intolerance'; Fischer and Manstead, 'Social functions of emotion and emotion regulation'.

[178]Mabelle Kretchner, Julia Elad-Strenger, Sivan Hirsch-Hoefler, Tal Orian-Harel, and Eran Halperin, 'The Disappointing (Not Hateful) Divide: Uncovering the Negative Emotions That Underlie Affective Polarization', OSF preprint, available at: {https://osf.io/preprints/osf/x5mqd} (19 March 2026); Eran Halperin, Mabelle Kretchner, Sivan Hirsch-Hoefler, Julia Elad-Strenger, 'The affective gap: A call for a comprehensive examination of the discrete emotions underlying affective polarization', *Cognition and Emotion*, 38:4 (2024), pp. 442–50.

[179]Albin Östervall and Charlotte Wagnsson, 'How Russian malign information influence exploits and exacerbates Western loneliness', *The RUSI Journal*, 169:6 (2024), pp. 30–8.

[180]The only exception seems to be an article by Amber Britain-Hale, which highlights the positive side of emotions but does so only in vague terms and without any specificity with regard to particular emotions. See Amber Britain-Halle, 'Clausewitzian theory of war in the age of cognitive warfare', *The Defence Horizon Journal* (14 December 2023), available at: {https://tdhj.org/blog/post/clausewitz-cognitive-warfare/}.

[181]Pastor, 'Cognitive warfare'; Bârgăoanu and Durach, 'Cognitive warfare: Understanding the threat'.

[182]NATO Review, 'Countering cognitive warfare: awareness and resilience' (Johns Hopkins University, 2021), available at: {https://archives.nato.int/nato-review-countering-cognitive-warfare-awareness-and-resilience} (19 March 2026); Arnaud Paquet, 'A brief overview of cognitive warfare in light of the emerging information age', *The College Series* (NATO Defense College, 2022), available at: {https://www.ndc.nato.int/download/a-brief-overview-of-cognitive-warfare-in-light-of-the-emerging-information-age/} p. 5; Chiriac, 'Cognitive warfare in the 21st century great power competition', p. 60; Benjamin J. Knox, 'Cognitive and behavioral science (psychological interventions)', in Yvonne R. Masakowski and Janet M. Blatny (eds), *Mitigating and Responding to Cognitive Warfare* (NATO STO Report 2023), ch. 5, p. 1.

[183]See also Samuel Zilincik, 'Emotional and rational decision-making in strategic studies: Moving beyond the false dichotomy', *Journal of Strategic Security*, 15:1 (2022), pp. 1–13.

[184]Chiriac, 'Cognitive warfare in the 21st century great power competition'; Danyk and Briggs, 'Modern cognitive operations and hybrid warfare'; Pastor, 'Cognitive warfare'.

[185]Hung and Hung, 'How China's cognitive warfare works', p. 8.

'counter-measures' contain no mention of emotions, instead arguing for 'structural' and 'cognitive' 'intervention'.[186]

Understanding the harmful aspects of emotions is necessary, but disproportional focus on this subject makes it difficult to appreciate the utility of emotions in national security. Viewing emotions as inherently harmful naturally leads to efforts to suppress them and discourages professionals from their cultivation. Practitioners are often advised to rely on purely technocratic approaches such as 'debunking' or, at best, developing 'positive narratives', the latter recommendation being so abstract as to be largely devoid of specific emotional content.[187] This sterile approach obscures the nuances of specific emotions, particularly the potential of negative ones, such as fear, to foster social cohesion under certain conditions. In this sense, cognitive warfare signifies a continuation of the long-term Western neglect of emotional manipulation in the context of adversarial interactions.[188] This approach is especially problematic to embrace at a time when at least some NATO members, such as the United States or Slovakia, suffer from dangerously low levels of social cohesion and declining trust.[189] By disregarding the constructive potential of specific emotions, Western practitioners deprive themselves of opportunities to increase social cohesion through emotional regulation.[190] Rather than suppressing emotions altogether, they could differentiate between those that fracture societies and those that bind them together, suppressing the former and cultivating the latter. Interpreting information aggression through the prism of specific emotions thus enables a more creative approach to national security, one that seeks to make the most of emotions, rather than treating them as something inherently undesirable.

## A way ahead

The preceding analysis has shown that mainstream conceptualisations of cognitive warfare are problematic when assessed through the perspectives of general strategic theory and affective science. Yet some aspects of the phenomena the cognitive warfare literature describes are strategically significant. What is needed, therefore, is a reconceptualisation of the subject, one that integrates the strengths of both traditions. This section outlines a draft of such a concept. It argues that contemporary attempts at social disruption are best understood as attempted subversion, and that placing specific emotions at the centre of analysis offers a more coherent and practically useful way to grasp the dynamics of this contest.

First, and most obviously, a change in terminology is needed. The preceding analysis suggests that a more useful vocabulary should centre on *subversion* and *emotions*.[191] Indeed, it is tempting to coin *emotional subversion* as a fresh and marketable term. However, we should resist the temptation to simply switch cognition for emotion, since both terms are equally vague and provide shaky grounds for a focused study or practical guidance. The term emotional subversion would then obscure rather than clarify our understanding of the challenges facing NATO, offering poor ground for developing effective counter-measures. Besides, any subversion worth the label is bound to be emotional simply because it is emotions that tear societies apart, as Thucydides explicitly states and vividly illustrates in his commentary on internal conflicts in Ancient Greece.[192] Therefore, the general term emotional is redundant and can be left out entirely.

[186]Ibid., pp. 13–15.

[187]Backes and Swab, *Cognitive Warfare*, p. 29.

[188]M. L. R. Smith, 'Politics and passion: The neglected mainspring of war', *Infinity Journal*, 4:2 (2014), pp. 32–6.

[189]Henry E. Brady and Thomas B. Kent, 'Fifty years of declining confidence & increasing polarization in trust in American institutions', *Dædalus, the Journal of the American Academy of Arts & Sciences*, 151:4 (Fall 2022), pp 43–66; DEKK Institute, *Trends of [Dis]trust 2023* (DEKK Institute, 2023).

[190]Gross, 'Emotion regulation'.

[191]For a previous attempt to partially incorporate findings from affective science to the study of subversion, see Krieg, *Subversion*, pp. 27–30.

[192]Thucydides, *History of the Peloponnesian War*, pp. 82–4.

For these reasons, it is more useful to link subversion to specific emotions. Instead of relying on a broad, generic label, we should adopt a more precise terminology, speaking of *fear-*, *anger-*, or *hatred-based* subversion, for instance. There is no theoretical limit to specific emotions that can serve as analytical lenses for subversion, though some are likely to prove more common and relevant than others. Analytically, this terminology allows for multiple forms of subversion to coexist, which often happens in practice, and to explore the interactions of specific emotions. Its key practical value lies in clarity; identifying a particular information aggression as an attempt at fear-based subversion immediately signals the nature of the threat and the contours of the response. Practitioners who recognise they are facing fear-based subversion can anticipate how fear may shape collective cognition and behaviour and employ targeted emotion regulation approaches to mitigate the harmful consequences.

In accord with the change in terminology, a slight adjustment of meaning is also required. Subversion centred on specific emotions can be understood as attempts to disrupt society by inspiring or cultivating those emotions. The meaning of each term should then correspond directly to the emotion in question. For instance, anger-based subversion refers to attempts to destabilise society by inspiring or cultivating anger, while hatred-based subversion connotes efforts to do the same through hatred. This formulation remains close enough to the meaning associated with cognitive warfare to facilitate adoption by its proponents, yet it also offers flexibility to adapt the concept to different contexts.

This revised meaning clarifies the range of phenomena that scholars and practitioners should focus on. Since subversion works through specific emotions, analytical attention should primarily focus on two aspects: the emotion-inspiring potential of the means employed, and the actual emotional states or moods within the targeted societies. Examining the emotion-inspiring potential of particular means helps anticipate the kind of emotions that could emerge in the affected society. The methods for this kind of study vary with the specific means, social media campaigns being especially relevant in the contemporary world. Although techniques for assessing emotional potential keep evolving, existing research already offers useful tools for the relevant phenomena, such as narratives or messages appealing to specific emotions.[193]

A related but distinct question concerns whether such campaigns in fact succeed in eliciting the intended emotions. Addressing this question requires studying the emotional dynamics in relevant societies, with an emphasis on specific emotions.[194] This can be achieved through a variety of methods, from computational analysis of emotional reactions on social media[195] to large-scale surveys that regularly measure emotions and moods on national scales.[196] Based on this monitoring, practitioners can attempt to regulate the existing emotions, decrease the intensity of the undesired emotions, and promote the emergence of the desired ones. In doing so, they may draw on insights

[193]Ugochukwu Etudo, Christopher Whyte, Victoria Yoon, and Niam Yaraghi, 'From Russia with fear: Fear appeals and the patterns of cyber-enabled influence operations', *Journal of Cybersecurity*, 9:1 (2023), pp. 1–18; Agniete Pocyte, 'From Russia with fear: The presence of emotion in Russian disinformation tweets' (diploma diss., Charles University, 2019).

[194]For a similar call encouraging research of specific emotions in political contexts, see Eran Halperin, Mabelle Kretchner, Sivan Hirsch-Hoefler, and Julia Elad-Strenger, 'The affective gap: A call for a comprehensive examination of the discrete emotions underlying affective polarization', *Cognition and Emotion*, 38:4 (2024), pp. 442–50.

[195]Valentina Dragos, Delphine Battistelli, and Emmanuelle Kelodjoue, 'Beyond sentiments and opinions: Exploring social media with appraisal categories', *Fusion* (2018), pp. 1851–8; Hannah Metzler, Max Pellert, and David Garcia. 'Using Social Media Data to Capture Emotions Before and During COVID-19', World Happiness Report, available at: {https://worldhappiness.report/ed/2022/using-social-media-data-to-capture-emotions-before-and-during-covid-19/} (19 March 2026).

[196]YouGov, 'Britain's Mood, Measured Weekly', Yougov.co.uk, available at: {https://yougov.co.uk/topics/science/trackers/britains-mood-measured-weekly} (19 March 2026).

from political science and conflict studies literature, which have already explored the nuances of emotion regulation in adversarial contexts.[197]

## Conclusion

Cognitive warfare is a problematic concept. It obscures the nature of adversarial interactions, provides a weak foundation for strategic analysis, engages inappropriately with existing strategic thought, relies on an increasingly outdated understanding of how the human mind works, fails to sufficiently explain how cognitive influence translates into behavioural influence, and promotes a simplistic view of emotions as inherently harmful. As shown throughout the analysis, some of these deficiencies present merely the most recent manifestation of trends that have long impaired NATO's thinking about security challenges. Others seem especially pronounced with cognitive warfare. Taken together, however, these shortcomings render the concept of cognitive warfare analytically troubling and undermine NATO's ability to understand and navigate contemporary and future conflicts.

Accordingly, it is more analytically and practically useful to view contemporary information aggression through the prism of subversion grounded in specific emotions. Focusing on subversion enables a more proportional treatment of the challenge, clarifies its place within the broader strategic effort, and allows practitioners to draw on the rich legacy of relevant strategic thought. At the same time, analysis rooted in specific emotions facilitates a more focused exploration of the associated cognitive effects, improves anticipation of strategically relevant behaviour, and fosters appreciation of the ambivalent roles particular emotions can play in national security. This reconceptualisation highlights that the challenge at hand is neither strictly cognitive nor warfare. Instead of worrying about exaggerated dangers associated with a supposed new kind of warfare, the Alliance should concentrate on its adversaries' capacity to create emotional effects, deepen its understanding of the actual emotional dynamics within its own societies, and develop appropriate measures grounded in the logic of emotional regulation. Equally importantly, if NATO aspires to use information offensively, it should ask what specific emotions it can and seeks to generate, whether any of them can be generated and sustained in practice, and how they are supposed to contribute to the Alliance's political objectives.

This reconceptualisation gives scholars of international security an opportunity to conduct practically relevant research grounded in the most up-to-date science of human mind and behaviour. The potential avenues for further research are manifold. One promising direction concerns exploring the subversive potential of a broader spectrum of specific emotions. Another is to test the effectiveness of specific emotions, and alternative emotion regulation approaches, in sustaining social cohesion. These research efforts could be further complemented by attempts to identify the specific conditions under which particular emotions are more likely to disrupt or increase cohesion. Together, such lines of research will not only yield immediately useful insights but also provide academic value by deepening our knowledge about the potentials and limitations of specific emotions in political conflicts.

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[197] Halperin, *Emotions in Conflict*; Moshe Maos and James Gross, 'Emotion Regulation: Implication for Politics', Panel on the Politics of Non-Proportionate Policy Response, ECPR Joint Sessions of Workshops (Warsaw, 2015), available at: {https://ecpr.eu/Events/Event/PaperDetails/22670}.

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