

US Special Forces transformation: post-Fordism and the limits of networked warfare

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Reflecting an impressive growth in academic interest in special operations forces (SOF), numerous authors have identified their rising prominence in international security since 9/11.¹ These works have focused variously on their increasingly frequent deployment,² the growth in the relative proportions of military budgets and force size devoted to them,³ and the concentration of resources and political–military power upon them.⁴ Indeed, drawing on Arquilla and Ronfeldt’s conceptualization of network warfare,⁵ King was the first to hypothesize that the concentration of military power within the Special Air Service (SAS) might be indicative of a wider shift in military organization from hierarchies to networks.⁶ This reflects an important trend in SOF studies, whereby their organization and use have been used as evidence of an emerging change either in military organization or in the character of warfare itself. For example, the rise of SOF has been used as evidence of the onset of ‘post-modern’, ‘new Western’, ‘hybrid’, ‘chaoplexic’, ‘shadow’, ‘remote’ and ‘liquid’ forms of warfare, with ongoing debate in this journal.⁷ Lindsay has even argued that US SOF operations in Iraq

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¹ For example, Colin Gray, ‘Handfuls of heroes on desperate ventures: when do special operations succeed?’, *Parameters* 29: 1, 1999, pp. 2–24; Bernd Horn, J. Paul de B. Taillon and David Last, eds, *Force of choice: perspectives on special operations* (Montreal and Kingston: McGill–Queen’s University Press, 2004); James Kiras, ‘A theory of special operations: “These ideas are dangerous”’, *Special Operations Journal* 1: 2, 2006, pp. 75–88; Adam Leong Kok Wey, ‘Principles of special operations: learning from Sun Tzu and Frontinus’, *Comparative Strategy* 33: 2, 2014, pp. 131–44; Rory Cormac, ‘Disruption and deniable interventionism’, *International Relations* 31: 2, 2016, pp. 169–91.

² Daniel Byman and Ian Merritt, ‘The new American way of war: special operations forces in the war on terrorism’, *Washington Quarterly* 41: 2, 2018, pp. 79–93.

³ Eitan Shamir and Eyal Ben-Ari, ‘The rise of special operations forces: generalized specialization, boundary spanning and military autonomy’, *Journal of Strategic Studies* 41: 3, 2018, pp. 335–71.

⁴ Anthony King, ‘The Special Air Service and the concentration of military power’, *Armed Forces and Society* 35: 4, 2009, pp. 646–66.

⁵ John Arquilla and David Ronfeldt, ‘Looking ahead: preparing for information age conflict’, in John Arquilla and David Ronfeldt, eds, *In Athena’s camp: preparing for conflict in the information age* (Santa Monica, CA: RAND, 1997), pp. 439–99.

⁶ King, ‘The Special Air Service’, p. 661.

⁷ See, respectively, Charles Moskos and James Burk, ‘The post-modern military’, in James Burk, ed., *The military in new times* (Berkeley, CA: Westview, 1994); Martin Shaw, *The new western way of war* (Cambridge: Polity, 2004); Frank Hoffman, *Conflict in the 21st century: the rise of hybrid wars* (Arlington, VA: Potomac Institute for Policy Studies, 2007); Antoine Bousquet, ‘Chaoplexic warfare or the future of military organization’, *International Affairs* 84: 5, 2008, pp. 915–29; Steven Niva, ‘Disappearing violence: JSOC and the Pentagon’s

reconciled visions of warfare centred on the ‘revolution in military affairs’ with counter-insurgency.⁸

US Joint Special Operations Command (JSOC) and its Iraq command headquarters Task Force 714 (TF714) in particular have also received attention in the wider literature. Ford has identified how, under the command of General Stanley McChrystal in Iraq, TF714 reorganized its intelligence collection, analysis and distribution around the ‘F3EAD’ concept—find, fix, finish, exploit, analyse, disseminate.⁹ In a recent monograph using new evidence, Schultz has convincingly argued this represented nothing less than the transformation of US intelligence for irregular war, driven primarily by F3EAD and the adoption of a centralized Joint Inter-Agency Task Force (JIATF) organizational model.¹⁰ Schultz has also used the industrial organizational literature to show that TF714 was an innovative learning organization that adopted a decentralized, ‘problem solving from below’ approach to operations.¹¹ The transformation of TF714 and JSOC also attracted a lot of journalistic attention as word of their operational effectiveness spread, and numerous exposés were published that informed the arguments made in Steven Niva’s important article on the transformation of JSOC Task Forces in Iraq.¹² However, important new evidence has emerged since. Both of Schultz’s studies were published after Niva’s article, and drew on numerous interviews with TF714 and JSOC commanders, including McChrystal and the JIATF’s instigator, Admiral William McRaven. Moreover, McChrystal’s memoirs were published after Niva’s article, and in 2015 McChrystal and his TF714 aide-de-camp, Chris Fussell, published an influential business strategy book based on their experiences, *Team of teams*.¹³ In part to clarify and refine some of the organizational principles outlined in that book, in 2017 Fussell published *One mission*.¹⁴ Equally importantly, former CIA and NSA director General Michael Hayden published his detailed memoir, *Playing to the edge*, in 2016, while Sean Naylor published a history of JSOC that same year.¹⁵ Thus a wealth of valuable primary and secondary sources has appeared since 2013.

new cartography of networked warfare’, *Security Dialogue* 44: 3, 2013, pp. 185–202; Alistair McKay, Abigail Watson and Megan Karshøj-Pedersen, *Remote warfare: interdisciplinary perspectives* (London: E-Ir, 2021); Jolle Demmers and Lauren Gould, ‘An assemblage approach to liquid warfare: AFRICOM and the “hunt” for Joseph Kony’, *Security Dialogue* 49: 5, 2018, pp. 364–81.

⁸ Jon Lindsay, ‘Reinventing the revolution: technological visions, counterinsurgent criticism and the rise of special operations’, *Journal of Strategic Studies* 36: 3, 2018, pp. 422–53.

⁹ Matthew Ford, ‘Precision targeting and the industrialisation of the intelligence cycle on the battlefields of Iraq and Afghanistan’, *Inteligencia y seguridad: revista de análisis y prospectiva*, no. 13, 2013, pp. 221–43.

¹⁰ Richard Schultz, *Transforming US intelligence for irregular war: Task Force 714 in Iraq* (Washington DC: Georgetown University Press, 2020).

¹¹ Richard Schultz, *Military innovation in war: it takes a learning organization* (Tampa, FL: USSOCOM/JSOU Press, 2016), p. 2.

¹² Niva, ‘Disappearing violence’. Examples of the exposés are: Mark Urban, *Task Force Black* (New York: St Martin’s Griffin, 2010); Eric Schmitt and Thomas Shanker, *Counterstrike* (New York: Times Books, 2011); Dana Priest and William Arkin, *Top Secret America* (New York: Little, Brown, 2011); Nick Turse, *The changing face of empire* (New York: Haymarket, 2012).

¹³ Stanley McChrystal, Chris Fussell, Tatum Collins and Dan Silverman, *Team of teams* (New York: Penguin, 2015).

¹⁴ Chris Fussell, *One mission: how leaders build a team of teams* (Basingstoke: Macmillan, 2017).

¹⁵ Michael Hayden, *Playing to the edge* (London: Penguin, 2016); Sean Naylor, *Relentless strike* (London: St Martin’s Press, 2015).

Reassessing JSOC's networked warfare

Nevertheless, cited over 100 times, Niva's article is the most influential on SOF transformation in Iraq, and uses this case to make important assertions about future warfare. It is therefore worthy of detailed discussion. Niva grounds his work in the literature on networked warfare,¹⁶ and within this on the concepts, centred on information technology, of Arquilla and Ronfeldt's 'counter-net war' and Bousquet's 'chaoplexic' war—itself based on chaos and complexity theory.¹⁷ Bousquet argues that 'it is science that provides the dominant way of looking at the world'; and, reflecting the evolution of a 'scientific way of warfare', he traces how these modern scientific theories have begun to shape especially western military visions of victory and emerging doctrine.¹⁸ For Bousquet, these militaries' increasing embrace of concepts of non-linearity, feedback loops, self-organization and emergence, and the networked information exchange associated with chaotic and complex systems, indicate that future military organization will be networked and chaoplexic.¹⁹ Crucially, both he and Arquilla and Ronfeldt argue that 'swarming' and 'self-synchronization' will be key attributes of networked, emergent military units that organize from the 'bottom up' to respond to complex threats.²⁰

Rather than viewing technology as the primary driver of TF714's transformation, Niva draws on Bousquet's and Hardt and Negri's very pertinent conclusions about the remaining organizational constraints on fully networked warfare,²¹ arguing that it was precisely TF714's networked *forms of organization*, coupled with information communications technologies, that enabled its increased effectiveness.²² Niva identifies three important organizational changes to support this argument. The first was the establishment of a JSOC intranet where all members could post intelligence and access real-time battle information, and the state-of-the-art Joint Operations Centre in Balad, with digital telecoms links to 65 global stations.²³ The second was McChrystal's and TF714's efforts to break down information silos by increasingly integrating US intelligence agencies such as the CIA, NSA, Defence Intelligence Agency (DIA), National Geospatial-Intelligence Agency (NGA) and National Reconnaissance Office (NRO) into their missions, in what has since been identified by Schultz as the JIATF model.²⁴ Finally, the most important transformation was the geographic dispersion of subordinate task forces (TFs) around Iraq with their own intelligence fusion centres and clearance to launch their own operations following McChrystal's intent. For Niva, this

¹⁶ John Arquilla and David Ronfeldt, *The advent of netwar* (Santa Monica, CA: RAND, 1996); Arquilla and Ronfeldt, 'Looking ahead'; Mark Duffield, 'War as a network enterprise: the new security terrain and its implications', *Cultural Values* 6: 1–2, 2002, pp. 153–65.

¹⁷ John Arquilla and David Ronfeldt, *Networks and netwars: the future of terror, crime and militancy* (Santa Monica, CA: RAND, 2001), p. 16; Bousquet, 'Chaoplexic warfare'.

¹⁸ Bousquet, 'Chaoplexic warfare', p. 917.

¹⁹ Bousquet, 'Chaoplexic warfare', p. 929.

²⁰ Bousquet, 'Chaoplexic warfare', pp. 916–17.

²¹ Bousquet, 'Chaoplexic warfare', p. 929; Michael Hardt and Antonio Negri, *Multitude: war and democracy in the age of empire* (New York: Penguin, 2004), p. 59.

²² Niva, 'Disappearing violence', p. 187.

²³ Niva, 'Disappearing violence', pp. 191–2.

²⁴ Schultz, *Transforming US intelligence*, pp. 156–9.

'decentralization and tactical autonomy was the key organizational element that enabled TF714 to experiment with more networked and increasingly chaoplex operations in Iraq'.²⁵ Building on this evidence, his central argument is therefore that TF714's Iraq transformation represents 'the increasing emergence of network forms of organization within and across the US military and related agencies since 9/11', and that this has resulted in the emergence of a transnational 'American form of shadow warfare'.²⁶

Niva's informative article remains correct; there was a technology-driven emergence of networked forms of organization in TF714, and owing to its effectiveness, this was later replicated globally by JSOC. Niva is also wary of some of his contemporaneous sources on the grounds that they overstated the degree to which TF714 became a networked organization,²⁷ although this somewhat contradicts his general conclusions about transnational shadow war. However, there are a number of acknowledged and unacknowledged tensions in the article which suggest that a network approach was only one element of wider organizational change. Most importantly, as Niva cautions, TF714 was not transformed into a fully networked organization but rather became a 'hybrid blend of hierarchies and networks' combining 'through common information and self-synchronization' to launch operations.²⁸ Although his findings are consistent with those of Arquilla and Ronfeldt and also Bousquet, this acknowledgement of the limited extent of networked organization and continued presence of hierarchies indicates a potentially important friction with network organizational theory.

Prominent network theorists Podolny and Page 'define a network form of organization as any collection of actors ... that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange'.²⁹ Despite definitional inconsistencies in the literature and debates about the theoretical validity of non-governed or highly governed networks,³⁰ it is this absence of control and hierarchy that numerous scholars identify as the key characteristic of truly networked organizations.³¹ Indeed, Powell, another influential network theorist, has explicitly argued that truly networked forms of organization cannot be considered a blend of hierarchies.³² This is even more true of chaotically organized systems, while there also remain major debates about the extent of

²⁵ Niva, 'Disappearing violence', p. 192.

²⁶ Niva, 'Disappearing violence', pp. 185, 192.

²⁷ Niva, 'Disappearing violence', p. 188.

²⁸ Niva, 'Disappearing violence', p. 185.

²⁹ Joel Podolny and Karen Page, 'Network forms of organization', *Annual Review of Sociology* 24: 1, 1998, pp. 57–76.

³⁰ Charles Dhanaraj and Arvind Parkhe, 'Orchestrating innovation networks', *Academy of Management Review* 31: 3, 2006, pp. 659–69; J. Carlos Jorillo, 'On strategic networks', *Strategic Management Journal* 9: 1, 1988, pp. 31–41; N. Antivachis and Vasilis Angelis, 'Network organizations: the question of governance', *Procedia—Social and Behavioral Sciences*, vol. 175, 2015, pp. 584–92.

³¹ Keith Provan and Patrick Kenis, 'Modes of network governance: structure, management, and effectiveness', *Journal of Public Administration Research and Theory* 18: 2, 2008, pp. 229–52; Antivachis and Angelis, 'Network organizations'.

³² Walter Powell, 'Neither market nor hierarchy: network forms of organization', *Research in Organizational Behavior*, vol. 12, 1990, pp. 295–336.

hierarchical organization in complex systems.³³ Moreover, in this context Niva's interpretation of precisely what was networked is important. His argument that the subordinate TFs were independent nodes in the network is correct; within McChrystal's broader campaign intent, operations needed only their squadron commander's approval.³⁴ However, this way of operating was also being practised by hierarchically commanded but geographically dispersed conventional forces in Iraq and Afghanistan at that time, and had been in the past, so it was not novel.³⁵ It represents the fundamental decentralization of decision-making which forms the basis of mission command as practised since the latter stages of the Cold War. Indeed, Ford and Schultz have more accurately linked this organizational solution with the F3EAD approach.³⁶ The presence of centralized intelligence fusion cells in these TFs may also be more accurately described by another theory. Thus, while Niva is broadly correct about TF714's increasingly networked forms of organization, his acknowledged presence of hierarchies and unacknowledged presence of centralized organizational solutions in TF714 suggests another theory may more accurately describe its transformation. Moreover, this may also address a lack of theorization of SOF in general.³⁷

Finally, the manner of TF714's transformation is centrally important to Niva's argument about networked organization. He states that 'rather than a top-down transformation from hierarchies to networks ... this transformation came about through a largely self-organized and bottom-up process of military adaptation'.³⁸ Although Niva does not mention the military transformation literature, two schools of thought, broadly speaking, have developed on how militaries change. The top-down approach has focused on the importance of doctrine, civil-military relations and inter- and intra-service politics as drivers of military transformation.³⁹ In contrast, Grissom has argued that bottom-up tactical changes can be simultaneously involved in transformation.⁴⁰ Farrell later conceptualized these processes as top-down 'innovation'—a 'major change that is institutionalized in new doctrine, a new organizational structure and/or new technology'—and bottom-up 'adaptation', which represents a 'change to tactics, techniques or existing technologies to improve operational performance'.⁴¹ When Niva was writing in 2013, TF714 may have appeared an adaptation; but, as I will show below, there is new evidence of

³³ Herbert Simon, 'The architecture of complexity', *Proceedings of the American Philosophical Society* 106: 6, 1962, pp. 467–82; Paul Cilliers, 'Boundaries, hierarchies and networks in complex systems', *International Journal of Innovation Management* 5: 2, 2001, pp. 135–47.

³⁴ Personal communication, 31 July 2021.

³⁵ Patrick Bury, *Callsign Hades* (London: Simon & Schuster, 2010); A. F. N. Clarke, *Contact* (self-published, 2014).

³⁶ Ford, 'Precision targeting and the industrialisation of the intelligence cycle'; Schultz, *Transforming US intelligence for irregular war*.

³⁷ Alastair Finlan, 'A dangerous pathway? Toward a theory of special forces', *Comparative Strategy* 38: 4, 2019, pp. 255–75.

³⁸ Niva, 'Disappearing violence', p. 185.

³⁹ Barry Posen, *The sources of military doctrine* (New York: Cornell University Press, 1984); Stephen Rosen, *Winning the next war: innovation and the modern military* (New York: Cornell University Press, 1991); Deborah Avant, *Political institutions and military change* (New York: Cornell University Press, 1994).

⁴⁰ Adam Grissom, 'The future of military innovation studies', *Journal of Strategic Studies* 2: 5, 2006, pp. 905–34.

⁴¹ Theo Farrell and Terry Terriff, *The sources of military change* (Boulder, CO: Lynne Rienner, 2001), p. 6; Theo Farrell, 'Improving in war: military adaptation and the British in Helmand Province, Afghanistan, 2006–2009', *Journal of Strategic Studies* 33: 4, 2010, p. 570.

Major-General McChrystal's central leadership role in directing major top-down organizational change within, and outside, TF714, which again questions the accuracy of understanding its transformation as a primarily networked and bottom-up adaptation.

Post-Fordism and the post-Fordist military⁴²

This article uses these theoretical and evidential tensions, and the availability of valuable new primary and secondary sources, as an opportunity to conceptually reassess TF714's transformation. As Niva and others have noted, network theory originated in response to the ways in which Japanese industrial firms were successfully reorganizing themselves in response to changes in the global economic and technology environment in the late 1970s. Indeed, despite his assertion that science, not profit (as post-Fordism holds), orders the modern world, Bousquet actually uses post-Fordist principles as evidence of a shift towards chaoplexic military organization. Moreover, highlighting the links between military transformation and economic change, McChrystal and his co-authors open *Team of teams* with a detailed discussion of the scientific management and production processes of Frederick Taylor and how they influenced the hierarchical, bureaucratic military organization of the twentieth century.⁴³ Taylor's prominence has since waned, replaced by Henry Ford's. The Fordist mode of production was characterized by a reliance on mass labour forces 'employed on long term contracts, producing standardized products for stable markets under a state-interventionist system of regulation'.⁴⁴ However, this politico-economic mode of production began to be undermined in the 1970s by the pressures of rising production costs and competition. Responding to these supply- and demand-side pressures, firms in Japan, and later the United States, began to transform their organization. The central tenets of post-Fordist theory initially coalesced in the 1980s in the industrial sociology of Piore and Sabel and Atkinson, and in the later works of Womack et al., Prechel and Gomes-Casseres.⁴⁵ Collectively, these scholars identified four broad changes in industrial transformation: the centralization of management control, complemented by a simultaneous decentralization of production processes, resulting in flattened hierarchies; the replacement of mass labour with a highly skilled core and less skilled periphery; the outsourcing of non-core functions; and the development of a network approach to supply and knowledge. These solutions are most effective when combined to create new synergies. While these organizational

⁴² Parts of this section are reproduced under Open Access Licence from Patrick Bury, 'Conceptualising the quiet revolution: the post-Fordist revolution in western military logistics', *European Security* 30: 1, 2021, pp. 112–36.

⁴³ McChrystal et al., *Team of teams*, pp. 36–46.

⁴⁴ Anthony King, 'The post-Fordist military', *Journal of Political and Military Sociology* 34: 2, 2006, p. 360.

⁴⁵ Michael Piore and Charles Sabel, *The second industrial divide* (New York: Basic Books, 1984); John Atkinson, 'Recent changes in the internal labour market structure in the UK', in W. Buitelaar, ed., *Technology and work* (Aldershot: Avebury, 1988); James Womack, Daniel Jones and Daniel Roos, *The machine that changed the world* (New York: Macmillan, 1990); H. Prechel, 'Economic crisis and the centralisation of control over the managerial process: corporate re-structuring and neo-Fordist decision-making?', *American Sociological Review* 59: 5, 1994, pp. 723–45; Benjamin Gomes-Casseres, *The alliance revolution* (Cambridge, MA: Harvard University Press, 1996).

tenets represent the broad basis of post-Fordist theory, it is important to note that this theory has been contested. There is disagreement over the exact nature of its tenets and their relative importance,⁴⁶ with Piore and Sabel's 'flexible specialization' school emphasizing increasingly diverse methods of production, and the neo-Schumpeterian school emphasizing the role of information and communications technologies.⁴⁷ However, recently a consensus has emerged on the overall accuracy of post-Fordism.⁴⁸

In an important article from 2006 in which he challenged the accuracy of post-modern conceptions, King used post-Fordism to theorize ongoing transformation in western militaries. He argued that these have transformed themselves in a fashion analogous with post-Fordist industry, owing to similar supply- and demand-side pressures, namely tightening budgets and increased demand for deployments.⁴⁹ As a result, special forces represent the core, reserves the periphery; and he described the outsourcing of primarily combat roles to private security companies. Following Sabel and Prechel, he argued that the centralization of management control was evident in new joint transnational military headquarters that decentralize command decision-making, thereby increasing flexibility and flattening hierarchies. Further evidence of this trend appeared in his later book, *Command*.⁵⁰ Similarly, the development of a non-linear, dispersed operational approach, centred on 'empowered' combat brigades capable of operating independently in multinational coalitions, indicates the military's adoption of a network approach. Using this evidence, King argues that western militaries have emulated industry by Dimaggio and Powell's 'institutional mimetic isomorphism'.⁵¹ King's contribution is an accurate description of the changes occurring within western militaries and is perceptive as to why these changes are occurring. In showing how dominant modes of production and economics are important sources of western military transformation, he explicitly links military change with industrial and economic change. Following King, I have shown how militaries have transformed their logistics and reserve forces using post-Fordist principles, and how transatlantic counterterrorism (CT) has been similarly transformed.⁵²

Method and evidence

This article follows a qualitative, historical approach to analysis, acknowledged in the social sciences as a credible method for both collecting data and building

⁴⁶ For example, Prechel, 'Economic crisis'; Womack et al., *The machine that changed the world*; Paul Hirst and Jonathan Zeitlin, 'Flexible specialization versus post-Fordism', *Economy and Society* 20: 1, 1991, pp. 1–56.

⁴⁷ Carlota Perez, *Technological revolutions and financial capital: the dynamics of bubbles and golden ages* (Cheltenham: Edward Elgar, 2002).

⁴⁸ King, 'The post-Fordist military', p. 367.

⁴⁹ King, 'The post-Fordist military', p. 368.

⁵⁰ Anthony King, *Command* (Oxford: Oxford University Press, 2019).

⁵¹ Paul Dimaggio and Walter Powell, 'The iron cage revisited: institutional isomorphism and collective rationality in organisational fields', *American Sociological Review* 48: 2, 1983, pp. 147–60.

⁵² Patrick Bury, *Mission improbable: the transformation of the British Army Reserve* (Havant: Howgate, 2019); Bury, 'Conceptualising the quiet revolution'; Patrick Bury, 'Post-Fordism and the transformation of transatlantic counter-terrorism', *Studies in Conflict and Terrorism*, publ. online Jan. 2022, online.

concepts.⁵³ It applies an existing theoretical framework to a new case (TF714) to better understand its context, and then to aid conceptual clarity about current and future warfare. To do so, it principally relies on the wealth of new primary sources unavailable at the time of Niva's research, including memoirs, books and media interviews with TF714 personnel, as well as new secondary sources such as Schultz's detailed studies. Between 2020 and 2021, I also interviewed a former JSOC commander and serving military intelligence personnel, all under conditions of anonymity. To triangulate the evidence and refine the arguments, early drafts were circulated to participants for critical feedback.

Understanding TF714's transformation: the centralization of management control and decentralization of decision-making

Supporting Niva, McChrystal and other TF714 commanders have repeatedly stressed that the task force adopted a network approach to defeat the threat from Al-Qaeda in Iraq (AQI).⁵⁴ For McChrystal: 'Over time, "it takes a network to defeat a network" became a mantra across the command and an eight-word summary of our core operational context."⁵⁵ Clearly, TF members perceived their structure as more networked than their counterparts' in conventional forces. While this may in part reflect a professional desire to differentiate themselves from those conventional forces (and, as Niva acknowledges, others' uncritical acceptance of this), in many respects that perception does at first appear correct. But, with new evidence and a closer attention to the chosen organizational solutions, it is possible to offer a potentially more accurate, post-Fordist explanation. Indeed, recently McChrystal's aide-de-camp, Chris Fussell, has reflected on TF714's true structure. Decisively, he notes that

a pure network structure remains a poor, or at least yet unproven, way of organizing large networks for the long term. Networks defy centralized control, lack the efficient operation of functional silos and remove the positive aspects of authority offered by bureaucratic hierarchies. They are complex and everchanging in their structure and produce nonlinear outcomes as a result ... the weakness of a pure network structure as an organizational model is clear.⁵⁶

Fussell uses figure 1 to highlight the reality of TF714's 'hybrid' structure and relationships. It is striking how similar this is to the traditional visualization of post-Fordism shown in figure 2. Clearly, TF714 was not fully networked, but displayed some organizational characteristics of a network.

It is also clear that the principal source of this organizational transformation was not bottom-up adaptation. Schultz has shown how TF714's professionalized systems allowed them to learn and adapt tactics, techniques and procedures from

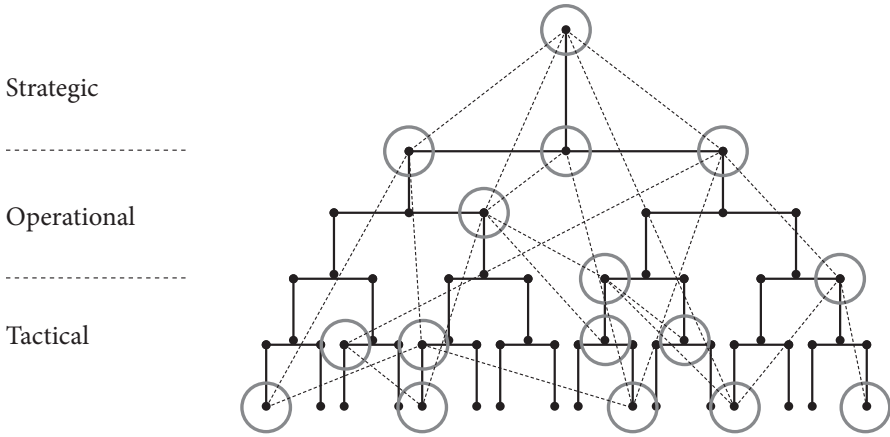
⁵³ Cameron Thies, 'A pragmatic guide to qualitative historical analysis in the study of International Relations', *International Studies Perspectives* 3: 4, 2002, pp. 351–72.

⁵⁴ Stanley McChrystal, 'It takes a network', *Foreign Policy*, March–April 2011, pp. 1–6; Stanley McChrystal, *My share of the task* (New York: Portfolio Penguin, 2014); McChrystal et al., *Team of teams*; Fussell, *One mission*.

⁵⁵ McChrystal, *My share of the task*, p. 148.

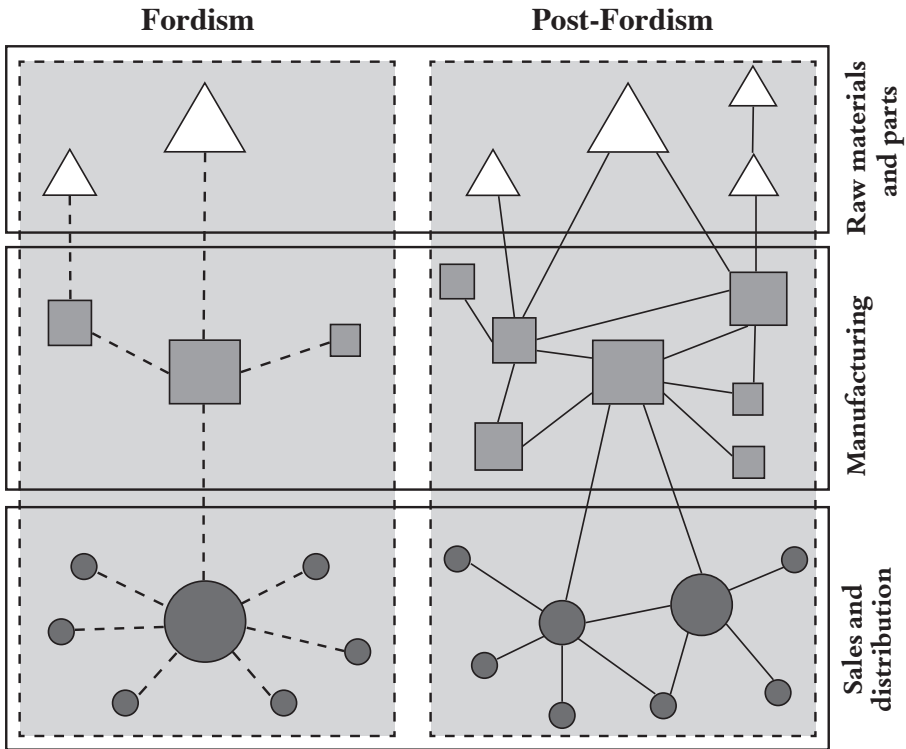
⁵⁶ Fussell, *One mission*, pp. 45–6.

Figure 1: Fussell's 'hybrid' TF714 structure



Source: Chris Fussell, *One mission: how leaders build a team of teams* (Basingstoke: Macmillan, 2017), recreated for *International Affairs* with permission.

Figure 2: Post-Fordism



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their experiences of the enemy. However, and as Schultz recognizes, the primary source of the transformation was a top-down assessment of TF714's effectiveness by its commander, the then Major-General McChrystal. McChrystal, at that point the equivalent of a divisional commander, notes that this was an assessment of both the task force's internal structure and its external environment. McChrystal's primary internal concerns were that his intelligence picture was rudimentary, the intelligence cycle too slow and fragmented; that his dispersed forces lacked the necessary bandwidth to improve interconnectivity; and that their tempo of operations was too slow to degrade AQI. Seeing intelligence 'chokepoints' as the primary cause of this slow tempo, and 'convinced ... that I needed to leverage technology to exercise full command', McChrystal gradually coalesced around an organizational vision of 'small nodes, tightly linked together, and with an unprecedented ability to act locally'.⁵⁷ This commander's assessment of TF714's organizational limitations was reinforced by intelligence assessments of AQI which reported that, enabled by new information communication technologies, it was adopting a much more flexible and networked organizational approach compared to previous terrorist organizations, such as the hierarchical and bureaucratic Al-Qaeda Central of Osama bin Laden.⁵⁸ Crucially, McChrystal realized that he needed to instigate a much faster, networked approach to *information-sharing* in TF714. This was the first, and potentially the most important, driver of his reforms, aimed at eventually delivering shared situational awareness, leading to 'intelligence dominance' over AQI.⁵⁹ For McChrystal, the increasing velocity and volume of information associated with the information revolution and the unpredictable complexity of the human interactions facilitated by it 'had rendered our environment in Iraq incompatible with the vertical and horizontal stratification that maintained military order for centuries'.⁶⁰ Making TF714 capable of defeating AQI would 'involve a complete reversal of the conventional approach to information sharing, delineation of roles, decision-making authority, and leadership'.⁶¹

How did McChrystal—and it was he who led this process—do this? First, he read and consulted widely, including with the Israeli intelligence services. He 'began to see that, in addition to rewiring our force, we had to make our relationship with the intelligence agencies, particularly the CIA, deeper and broader'.⁶² One important influence was Admiral Bill McRaven, who suggested he adopt a JIATF organizational solution. This was relatively new at the time and involved the centralized fusion and analysis of intelligence held by the CIA, NSA, FBI, DIA and NGA, often in a single location. Following a major meeting with these agency leaders in Tampa in 2004 where McChrystal persuaded them to send their analysts closer to the front line and examine ways of better integrating their intel-

⁵⁷ McChrystal, *My share of the task*, pp. 102–108, 108–109.

⁵⁸ McChrystal, *My share of the task*, pp. 112–16; Michael Chertoff, Patrick Bury and Daniela Richterova, 'Bytes not waves: information communication technologies, global jihadism and counterterrorism', *International Affairs* 96: 5, 2020, pp. 1305–25.

⁵⁹ Schultz, *Transforming US intelligence*, p. 158.

⁶⁰ McChrystal, *My share of the task*, p. 83.

⁶¹ McChrystal et al., *Team of teams*, p. 131.

⁶² McChrystal, *My share of the task*, p. 117.

ligence collection capabilities with his forces, the first JIATF was set up beside TF714's Joint Operations Centre (JOC) in Balad airbase.⁶³ In order to create trust, one of the first—and unprecedented—steps McChrystal took was to make the whole of the JIATF and JOC compounds 'Top Secret' areas so there could be no compartmentalization and hierarchies of intelligence—with the required operational assurances everything was open to being shared between cleared personnel, either verbally or on the TF's intranet. This enabled the gradual development of a trusting culture that McChrystal sought as the precursor to timely intelligence exchange. For him, the JIATF centralized solution would 'become a transformative step for TF714'.⁶⁴

As this top-down centralization and fusion of intelligence 'close to the fight' helped TF714 to begin to remove some of its intelligence chokepoints and increase its tempo of operations, the intelligence value of participation in the JIATF became clearer, and it expanded as it drew in more personnel from the intelligence agencies both in theatre and in the US, eventually spanning multiple locations and time zones. To maintain management control of an increasingly disparate and dispersed organization of military, intelligence and diplomatic service staff and contractors, McChrystal's most important command and control tool became his Operations and Intelligence (O&I) video teleconference, a widely practised tool: 'As the core heartbeat of our battle rhythm and the nucleus of each day, the O&I ran six days a week and was never cancelled'. From modest beginnings, 'by 2007 it was a worldwide forum of thousands of people associated with our mission'. The O&I was essentially an information-sharing and operational confirmation brief across all agencies involved in TF714's counter-AQI mission, and according to McChrystal: 'the best moments came when a briefing sparked a conversation among multiple people at different agencies that disclosed information that was known but had not been shared across the community'.⁶⁵ However, crucially, the O&I became much more significant than just an information exchange mechanism. McChrystal

quickly saw... that beyond its value for the information shared, the O&I was the single most powerful tool I had at my disposal in leading a dispersed force ... decentralizing did not mean disengaging ... Critically, the O&I fostered decentralized initiative and free thinking while maintaining control of the organization and keeping the energy at the lowest levels directed toward a common strategy.⁶⁶

Thus, and as Fussell notes, clearly there was centralized control of TF714 by its commander, even if this was more hands off than previously.

Indeed, decentralization of decision-making was another of the key organizational solutions McChrystal followed. Looking at his SOF units, he realized that their small team ethos encouraged trust, adaptability and better performance,

⁶³ McChrystal, *My share of the task*, p. 116.

⁶⁴ McChrystal, *My share of the task*, p. 117.

⁶⁵ McChrystal, *My share of the task*, p. 163.

⁶⁶ McChrystal, *My share of the task*, pp. 163–4.

and he sought to scale this by reorganizing the TF into a ‘team of teams’.⁶⁷ The concept of emergent intelligence informed this—the idea that ‘order can emerge from the bottom-up, as opposed to being directed, with a plan, from the top down.’⁶⁸ Thus, McChrystal sought to increase situational awareness and create intelligence dominance by decentralizing operational decision-making to the subordinate TFs within his broader intent. Based around highly capable and trusting teams, McChrystal practised true mission command, pushing ‘authority down until it made us uneasy’. For McChrystal, this contrasted markedly with the ‘corseted centralization’ of JSOC’s prior organization.⁶⁹ The adoption of the F3EAD intelligence cycle, coupled with the establishment of fusion cells within the subordinate TFs heightened this sense of connectivity and autonomy. But, despite McChrystal’s dislike of centralization and hierarchies, it is clear that this process of decentralization was accompanied by some very important centralized organizational management control solutions, like the JIATF and the O&I, which do not fit well with true conceptualizations of networked organizations. Put simply, true networks do not consist of commanders who hold daily coordinating conferences.

Integrating the core and the periphery

I have identified how the implementation of post-Fordist organizational solutions in wider CT efforts have produced their own mutually enhancing synergies. How the centralized JIATF ultimately led to the increased integration of core and periphery agencies in the fight against AQI provides another example. Within the context of the mission to defeat AQI, TF714’s special forces represent the core functional organization with direct responsibility for mission delivery around which, following King,⁷⁰ political will and resources were concentrated. While they would traditionally represent the core US intelligence agencies, in the context of the counter-AQI mission the CIA, NSA, DIA, FBI and NGA were actually peripheral agencies, with responsibilities for CT but not direct mission delivery. Thus the JIATF provided an initial means through which the core special forces and the supporting peripheral intelligence agencies could be better integrated. An excellent example of this is the gradual development of the intelligence fusion cells in each subordinate TF. Once the success of the JIATF became apparent, the next step for McChrystal was to decentralize intelligence fusion out to the teams on the ground to increase their operational tempo and autonomy. Integration of core and periphery assets and analysis at the lowest level was the organizational objective. This represented a major change in how the previously siloed agencies worked with each other and SOF to produce fused intelligence and more effective intelligence-based operations.

⁶⁷ McChrystal et al., *Team of teams*, pp. 96–8.

⁶⁸ McChrystal et al., *Team of teams*, p. 105.

⁶⁹ McChrystal et al., *Team of teams*, p. 155.

⁷⁰ King, ‘The Special Air Service’.

For example, in close consultation with McChrystal, the NSA director, General Hayden, realized: ‘We needed a living breathing operational intimacy with the people we used to call customers. We had to ramp up the forward deployment of our knowledge, skills and abilities.’⁷¹ To do so, by 2006 the NSA’s new Geocell (which fused NSA and NGA capabilities) had trained TF714 in their capabilities and given them access to its databases and the highly classified NSA.net. This meant that TF714 could fuse signals intelligence (SIGINT) and drone video feeds on target in real time. The NSA also embedded small teams in the subordinate TFs’ fusion cells. This took time; but, according to Hayden, ‘when we really got going, front line soldiers were tuning orbiting satellites to home in on targets to their immediate front, while folks ... at Fort Meade and Fort Gordon ... were tuning antennas on tactical vehicles’.⁷²

Similarly, the CIA, FBI and DIA also sent personnel to work with the subordinate TFs, as the previously siloed collection and analysis functions became much more integrated both with each other and with operations. For example, the DIA established specialist exploitation teams in Balad alongside TF operators, and these teams were also linked by excellent bandwidth capabilities to experts at its National Media Exploitation Center in Washington. For McChrystal, this meant that ‘intelligence [was] analysed downrange, close to the fight, making the process faster and the information potentially more relevant’.⁷³ Such increased integration marked an important step towards changing the intelligence–operations relationship, too. Traditionally, SOF had demanded ‘actionable intelligence’ from supporting agencies to inform operations: the latest intelligence was briefed, operations executed and the intelligence cycle restarted to inform the next operations. But with the much greater fusion of intelligence collection and analysis in TF714 as a result of the integration of the peripheral agencies, now operations could themselves be used to generate new intelligence. As Hayden remarked to SOCOM Commander Charlie Holland early on in the Iraq War: “‘You give me a little action and I’ll give you a lot more intelligence’ ... Over time we more and more settled into this pattern.”⁷⁴

This was complemented by the better integration of TF714’s efforts with other, peripheral organizations such as conventional forces in their battlespace, itself based on the realization, which emerged during preparations for the Second Battle of Fallujah in November 2004, that shared intelligence and operational awareness were needed. McChrystal details how informal Friday dinners with his TF714 staff and senior Marine commanders sharing their battlespace were crucial to developing the interpersonal trust upon which rested an increasingly coordinated and integrated approach to operations. For McChrystal,

between these Friday-evening dinners throughout September and October, [subordinate] TF16 commanders went to Camp Fallujah to coordinate their targeting with the

⁷¹ Hayden, *Playing to the edge*, p. 57.

⁷² Hayden, *Playing to the edge*, p. 58.

⁷³ McChrystal, *My share of the task*, p. 117.

⁷⁴ Hayden, *Playing to the edge*, p. 57.

Marines, who lent key support—providing cordons, putting doctors and triage hospitals on standby, and offering spare barracks for our operators. This level of coordination and cooperation eventually became routine, but in the fall of that year it was not.⁷⁵

Clearly, the better integration of core and peripheral organizations involved in the CT mission against AQI was a major contribution to TF714's increased effectiveness.

Outsourcing

According to Aldrich, international intelligence 'has privatised at a remarkable rate' since 9/11.⁷⁶ Tim Shorrock and, more recently, Damien van Puyvelde have examined the rise of contracting in the US intelligence community in particular. In 2010, 70 per cent of the US intelligence budget was spent on contracts, with the NGA for example outsourcing \$1.4 billion in 2006. Even in the CIA's most sensitive unit, the Directorate of Operations (formerly the National Clandestine Service), up to 50 per cent of the workforce are contractors.⁷⁷ This increasing reliance on outsourced workforces reflected a number of factors, including the layoffs associated with the post-Cold War peace dividend, greater demand for intelligence after 9/11, and the time and financial costs of recruiting vetted government personnel.⁷⁸ It also emerged in an ad hoc fashion as intelligence demands themselves shifted, and contractors offered a more flexible and timely way of adjusting capabilities and capacities to meet them. Hayden has detailed how US intelligence was therefore very heavily reliant on contractors at the time of TF714's transformation in Iraq.⁷⁹ Although details remain classified on the exact extent of outsourcing in TF714, McChrystal does note that its transformation occurred in this context of increasing contractor support and greater sharing in the US intelligence community in general after 9/11. By 2015, 854,000 personnel held top secret clearance, a third of whom were contractors.⁸⁰ By this measure, it is likely that a similar—or, based on the figures for the CIA's Directorate of Operations—an even higher percentage of intelligence personnel deployed with the JIATF or subordinate TFs were contractors. This overlooked fact provides more evidence of the presence of post-Fordist organizational principles within TF714.

A network approach to information-sharing

So what exactly was networked in TF714's organizational structure? Clearly its commanders and members thought it was more networked than what existed before. There is substantial evidence to suggest that, following post-Fordism, it

⁷⁵ McChrystal, *My share of the task*, p. 160.

⁷⁶ Richard Aldrich, 'Globalisation and hesitation?', unpublished paper, 2008, p. 5.

⁷⁷ Tim Shorrock, *Spies for hire* (New York: Simon & Schuster, 2009); Damien van Puyvelde, *Outsourcing US intelligence: contractors and government accountability* (Edinburgh: Edinburgh University Press, 2019), p. 94.

⁷⁸ van Puyvelde, *Outsourcing US intelligence*, p. 94.

⁷⁹ Hayden, *Playing to the edge*, pp. 287–8.

⁸⁰ McChrystal, *My share of the task*, p. 170.

was a more networked approach to *information-sharing* that was the key organizational innovation. Schultz has correctly identified that the JIATF and TF714 were among the earliest and most effective adopters of a new intelligence analysis technique called social network analysis (SNA).⁸¹ SNA is a quantitative method that measures the interactions between members of a network to reveal network behaviour and the most important nodes. SNA's potential utility was proved after its major contribution to Task Force 12's capture of Saddam Hussein in 2003, but its power was really unleashed with the greatly enhanced data collection tools and data-mining algorithms brought to bear against AQI as more and more US intelligence agencies were integrated into the fight. Driven by the intelligence demands of the TFs, this shift to analysing terrorist groups as networks rather than hierarchical organizations marked a profound change in how CT analysis was conducted.

A network approach is also evident in the intelligence collection supporting TF operations. For Hayden, in the Cold War, 'the enemy was pretty easy to find. Just hard to kill. This was different. The enemy was relatively easy to kill. He was just very, very hard to find.'⁸² To support TF714, the NSA transformed their Cold War practice of passive SIGINT—waiting for an enemy to transmit and then intercepting the signal—to active SIGINT, or commuting to the target and extracting information. This was done by re-optimizing collection platforms to focus on terrorist networks and, within TF714 itself, introducing new ones such as the M9-Reaper drone, capable of providing 'persistent surveillance' of the enemy. TF714 used multimode collection, including IMINT, MASINT, SIGINT, HUMINT, OSINT⁸³ and law enforcement intelligence. The data thus collected could eventually be fused in near real time between JIATF and TF members and the supporting agencies, and be subjected to further distributed analysis including dynamic baselining (a technique to compare real response times against historical averages), fingerprinting, anomaly recognition, identification and tracking, and association and significance.⁸⁴ A complete transformation of TF714's intelligence capabilities occurred when these methods were combined with new mass SIGINT and Communications Intelligence (COMINT) collection and algorithmic sorting techniques that revealed terrorist networks. For Hayden, 'this was all about going to the endpoint, the targeted network rather than trying to work the mid-point of a communication with a well-placed antenna.'⁸⁵ For the first time, vast amounts of metadata were collected, stored, analysed and, if need be, interrogated. According to Aldrich, the result 'was a whole new world of intelligence. Indeed, it was not really intelligence as we have traditionally understood it ... it was seen as the jump to light speed.'⁸⁶ Schultz has argued that these networked-focused intelligence collection and analysis techniques were first proved by the JIATF, and resulted in

⁸¹ Schultz, *Transforming US intelligence*, pp. 122–4.

⁸² Hayden, *Playing to the edge*, p. 134.

⁸³ Respectively, image-, measurement- and signature, signals-, human- and open-source intelligence.

⁸⁴ Schultz, *Transforming US intelligence*, p. 133.

⁸⁵ Hayden, *Playing to the edge*, p. 32.

⁸⁶ Richard Aldrich, *GCHQ* (London: HarperCollins, 2019), pp. 517, 520.

the transformation of US intelligence.⁸⁷ This may be the case with TF714; but, examining non-JSOC US SOF in Iraq, Lindsay has also shown how ad hoc, even amateur, data practices and cultural biases created data friction in the intelligence network, confirming important questions about the socio-technical aspects of networked data targeting and tracking enterprises.⁸⁸

Nevertheless, if JIATF and subordinate fusion cells were critical to the genesis and exploitation of networked information-sharing, equally important was the posting of TF714 informal liaison officers (LOs) across the globe. McChrystal understood that creating a network of trusting interpersonal relationships between TF714, US government departments and allies was key to the rapid intelligence exchange he sought: 'I learned early on that our influence in the embassies and agencies we were wooing often depended on the simple charisma, integrity and competence of our liaisons.'⁸⁹ Breaking tradition, he sent only his best operators and analysts to represent JSOC, a major decision given the operational pressures on his TFs. For McChrystal, over time, 'ideally an LO would develop such a fantastic relationship with the NSA or NGA ... that when we really needed sensitive SIGINT or IMINT on a target urgently, it would come quickly, fully and without any bureaucratic friction, on a phone call'.⁹⁰ This approach was then repeated at embassies around the region: 'the trust they had earned toiling away by themselves in isolated embassies—far away from the tight-knit units and the comparative glory of the fight—was vital'.⁹¹ Crucially, when tasked with a difficult decision whether to use sensitive intelligence when asked not to, McChrystal took the long view: 'The maintenance of the long term relationship was more important than the immediate operation.' The integrity of the information-sharing network was prioritized over the utility of specific intelligence. Indeed, McChrystal notes that this network was not without its frictions: 'Much of my and my command team's time was spent solidifying the partnerships with the half dozen agencies involved in a single cycle of F3EA'—especially the CIA. Ultimately, McChrystal credits this networked intelligence-sharing enterprise with turning TF714 'from a collection of niche strike forces into a network able to integrate diverse elements of the US government into a unified effort' that enabled the defeat of AQI.⁹²

Clearly, parts of TF714 represented a network. It is understandable that commanders whose core operating concept is networked organization, and those below them seeking to deliver this mission, would perceive their organization as networked. Certainly, it was more networked than what preceded it. But as has been shown, what was networked was in fact intelligence and information exchange. And it must be recognized that the establishment of this networked intelligence enterprise was fundamentally based on the centralization of manage-

⁸⁷ Schultz, *Transforming US intelligence*, pp. 3–6.

⁸⁸ Jon Lindsay, *Information technology and military power* (Ithaca, NY: Cornell University Press, 2020); Lucy Suchman, Karolina Follis and Jutta Weber, 'Tracking and targeting: sociotechnologies of (in)security', *Science, Technology and Human Values* 42: 6, 2017, pp. 983–1002.

⁸⁹ McChrystal, *My share of the task*, p. 169.

⁹⁰ McChrystal et al., *Team of teams*, p. 180.

⁹¹ McChrystal, *My share of the task*, p. 169.

⁹² McChrystal, *My share of the task*, pp. 139, 155, 119.

ment control in the JIATF, the decentralization of decision-making to TFs, and the much closer integration of the US intelligence agencies peripheral to the anti-AQI mission. Following the post-Fordist literature, it was the synergy of these solutions that increased effectiveness. The JIATF centralized solution provides a good example here. Once personnel were co-located and began sharing intelligence on the TF714 intranet, over time a networked information-sharing platform was established, better integration of core operations and peripheral analysis and collection could occur, and more liaison officers were posted to harvest intelligence. Post-Fordist principles were at the heart of the development of the networked information-sharing system in TF714. Indeed, the clear mission of TF714 allowed other agencies to contribute effectively, and it is interesting to note that the centralized JIATF model is now often copied in contexts where there is a need for increased cross-governmental information control, information exchange and integration. TF714 was united around McChrystal, a focus which allowed its sub-units and the different agencies to cooperate with each other more effectively—precisely because the direction from the centre was so tight. It was therefore more of a closely integrated organization than a fully networked one.

A top-down transformation

Niva claims that, ‘rather than a top-down transformation from hierarchies to networks ... this transformation came about through a largely self-organized and bottom-up process of military adaptation at the centre of which was the evolution of JSOC’.⁹³ Yet, as Niva himself describes, McChrystal was the key source of the three most important organizational changes he identifies in TF714.⁹⁴ It is clear that McChrystal instigated the assessment of TF714’s organizational weaknesses in the context of its operating environment and enemy; the networked information-sharing operating concept; the introduction of the centralized JIATF and its critical buy-in from supporting agencies; the use of the O&I as a management control tool; the increased decentralization of operational decision-making; the integration of collection and analysis closer to the front line and the adoption of F3EAD processes; and the purchasing of more bandwidth and new technologies—coupled with the posting of LOs—to facilitate the emergence of a networked information-sharing enterprise. Despite McChrystal’s humility and collaborative command style, this was not a bottom-up adaptation but major top-down organizational and doctrinal change.

Of course, as in any military force, some adaptation did occur. Schultz has identified how McChrystal’s ‘Eyes on. Hands off’ empowering leadership style and TF714’s professionalized lessons-learned processes enabled them to adapt tactics, techniques and procedures and share them globally (for example, F3EAD was initially developed by a subordinate TF16 commander, and front-line operators developed the ‘Stingray’ box for impersonating mobile phone masts to collect

⁹³ Niva, ‘Disappearing violence’, p. 187.

⁹⁴ Niva, ‘Disappearing violence’, pp. 191–2.

local data).⁹⁵ However, there is no evidence that the operational teams perceived the strategic-level organizational solutions to why they were losing to AQI in 2003. They certainly did not have the access or political clout to gather inter-agency heads to discuss establishing a JIATF in response; nor did they instigate a pan-organizational O&I of their own accord. Yet for Niva's argument that TF714's transformation is evidence of a self-organizing bottom-up adaptive network to be correct, this would have had to have occurred. The teams would have had to provide the source of transformation. They did not. McChrystal was the innovative and inspirational leader who led these changes, and understanding TF714's transformation as a primarily bottom-up process is inaccurate. It was, rather, the top-down innovation of a highly competent divisional-level commander who empowered his command teams to find their best ways of meeting his clear vision. McChrystal and his command team were the primary source of TF714's transformation, as Schultz also recognizes.⁹⁶ As King has demonstrated, this is exactly the type of empowered command practised in post-Fordist militaries by other successful generals of McChrystal's cohort—Petraeus, Mattis and Carter—based on trust, and on clarity between commander and highly competent command teams in the face of increasingly complex operations. Indeed, the recognition of McChrystal's centrality to TF714's post-Fordist transformation is further evident in his stellar career trajectory after that command.

Future military organization and warfare

It seems clear, then, that post-Fordism may be a more pertinent theory for accurately describing the hybrid nature of TF714's organization in Iraq. It captures the different but mutually supporting elements of centralized management control, decentralized decision-making, and integration of core and periphery organizations in a way that network theory struggles to. And, as has been shown, it more accurately describes what was networked about TF714: its *information-sharing*. This conclusion is reinforced by recent applications of post-Fordism to other military and CT transformations, and the fact that senior military and intelligence figures have confirmed their use of broadly post-Fordist principles. For Hayden, 'the playbook was coherent centralized planning [with] decentralized execution, a networked information sharing enterprise; [leveraging] an unprecedented level of collaboration'.⁹⁷ For former chairman of the Joint Chiefs of Staff, Admiral Mike Mullen, 'it's been the synergy, it's been the integration that has had such an impact'.⁹⁸ Even McChrystal has reflected that TF714 'restructured our force from the ground-up on the principles of extremely transparent information sharing (what we call "shared consciousness") and decentralized decision-making ("empowered execution")'.⁹⁹ The more limited extent of networking in TF714

⁹⁵ Schultz, *Transforming US intelligence*, pp. 182–93.

⁹⁶ Schultz, *Transforming US intelligence*, pp. 182–93.

⁹⁷ Hayden, *Playing to the edge*, p. 58.

⁹⁸ Joby Warrick and Robin Wright, 'US teams weaken insurgency in Iraq', *Washington Post*, 6 Sept. 2008.

⁹⁹ McChrystal et al., *Team of teams*, p. 20.

centred on intelligence exchange is also evident in the fact that US SOF and elite forces continue to experiment with more networked organizational designs, with varying success.¹⁰⁰ Ultimately, in the words of one military intelligence officer familiar with SOF: ‘They like to say they “Yeah, we’re a network and the army is a hierarchy”, but it’s not really as simple as that. Yes, they’re more horizontal and have a high level of interagency integration, but they’re still in a hierarchy. They are not a network.’¹⁰¹ As such, the reassessed evidence from this important case suggests that net-centric and chaoplexic visions of military organization have not yet fully materialized. In the most networked military force in the world to date, post-Fordism is clearly the more accurate theory. Thus far in the twenty-first century, western military organization still remains predominantly post-Fordist.

Understanding exactly how TF714 was transformed, and what was or was not networked, is important given Niva’s claim that its transformation indicates a wider change, reaching beyond organization to the character of warfare. For Niva, TF714’s evolution represents ‘a form of shadow warfare in which hybrid blends of hierarchies and networks combine through common information and self-synchronization to mount strike operations across transnational battle spaces’.¹⁰² Aside from the evidence that post-Fordism better explains TF714’s transformation, this claim conflates concepts of warfare with TF714’s and JSOC’s specific CT mission. As Niva notes, TF714’s mission in Iraq was eventually linked with an emerging population-centred counter-insurgency campaign. But this was only one important part of a wider war effort which included the US military ‘surge’ and fostering alliances with Iraqi tribal leaders against AQI, as well as non-military elements such as supporting democratic transition. Niva cites JSOC’s operations in Afghanistan as further evidence of warfare as a ‘global and possibly permanent policing operation that is focused on managing risk and pre-empting potential challenges through continuous surveillance and strike operations’.¹⁰³ Yet in Afghanistan, JSOC operations were the CT element of a wider, and much less networked, counter-insurgency (COIN) war strategy. Of course, other US CT operations, in Yemen, Libya and Somalia to name a few, have been conducted without COIN links; but again, it is important to be accurate about what they are or are not. Ultimately, they are highly integrated and capable post-Fordist CT missions, not the exemplar of new forms of wider fully networked conventional warfare that Bousquet, Arquilla and Ronfeldt predicted.

While these CT missions may continue in nations with little capacity to resist, the increased friction associated with future net-based conventional war has major implications for networked and chaoplexic visions of warfare. Following primarily US doctrine, Bousquet views chaoplexic military organization as a way to reduce the chaos and friction still present on the increasingly technological battlefield. While he admits friction will not be eliminated, chaoplexic organiza-

¹⁰⁰ J. Stanczak, Peyton Talbott and Ben Ethan Zweibelson, ‘Designing at the cutting edge of battle: the 75th Ranger Regiment’s Project Galahad’, *Special Operations Journal* 7: 1, 2021, pp. 1–16.

¹⁰¹ Personal communication, 20 July 2021.

¹⁰² Niva, ‘Disappearing violence’, p. 185.

¹⁰³ Niva, ‘Disappearing violence’, p. 199.

tion remains quite technologically determinant; networked military units will be better able to deal with battlefield chaos. It must be acknowledged that even if JSOC proves western military organization is not there yet, the trend towards more IT-networked military units continues. But it is not at all clear whether the IT-enabled self-organizing networked units Bousquet and others envisage will be able to maintain their connectivity and cohesion on the future conventional battlefield and hence completely change the character of future warfare. Indeed, as Demchak, Lindsay and Arquilla have noted, reliance on networked information technology systems creates new vulnerabilities with their own potential for increased chaos.¹⁰⁴ As the West orientates itself towards state-centric and hybrid threats, given the development by Russia, China and others of cyber, anti-access area denial and electronic warfare capabilities, it is highly unlikely that it will be able to fully rely on uncontested persistent surveillance techniques and information dominance against these adversaries. A number of the intelligence platforms and procedures so useful to effective global CT missions are either redundant or need to be re-optimized to deal with near-peer state-based threats, while more networked information systems, sensors and robots create new opportunities for disruption and—worse—exploitation.¹⁰⁵ The result is that SOF, and by extension conventional forces, may not always be able to rely on information networks to give them an edge in combat. Chin has recently argued in this journal that the diffusion of technology may return warfare and the nation-state to a dystopian, ‘Mad Max’-like future.¹⁰⁶ Supporting Kilcullen, recent evidence from Fallujah, Mosul, Sirte and Ukraine has shown that warfare is increasingly concentrating in urban areas, where technological superiority can be negated by dense terrain and siege tactics.¹⁰⁷ King has recently shown how, in these environments, swarming—indeed, any kind of manoeuvre—is much, much more difficult.¹⁰⁸ Western military leaders and scholars have pointed out that China’s testing of anti-satellite missiles and its training of ground forces in navigating and communicating without GPS-enabled information technologies, among other counter-measures to undermine information superiority, point to future warfare in which the fight to maintain networks will be highly contested.¹⁰⁹

In such contested space and cyber domains, pulses of data flows may be restored, giving forces temporary windows of superiority before the next round of satellite- and/or sensor-based strikes returns them to relative darkness and inferiority.

¹⁰⁴ Chris Demchak, ‘Complexity and theory of networked militaries’, in Farrell and Terriff, eds, *The sources of military change*, p. 221; Lindsay, *Information technology and military power*; John Arquilla, *Bitskrieg* (Cambridge: Polity, 2021).

¹⁰⁵ Patrick Bury and Michael Chertoff, ‘New intelligence strategies for a new decade’, *The RUSI Journal* 165: 4, 2020, pp. 42–53; Arquilla, *Bitskrieg*, p. 80.

¹⁰⁶ Warren Chin, ‘Technology, war and the state: past, present and future’, *International Affairs* 95: 4, 2019, pp. 765–83.

¹⁰⁷ David Kilcullen, *Out of the mountains* (London: Hurst, 2013).

¹⁰⁸ Anthony King, *Urban warfare* (Cambridge: Polity, 2021).

¹⁰⁹ Mark Milley and Bill Hix, comments at RUSI Land Warfare Conference, 19 July 2017, available at <https://rusi.org/events/conferences/rusi-land-warfare-conference-2017> and https://www.youtube.com/watch?v=_EcrrD1dBhg&list=PLFAgO2TZWpwDKqsQVYBj37kbUizOkBsBE&t=4383s; Patrick Bury, ‘Multi domain battle: welcome to the jungle’, *The Wavell Room*, 19 Sept. 2017.

Given these developments, those in artificial intelligence, and recent experiences of the gritty, attritional and slow urban environment, it seems much more likely that future warfare will be dominated by unstable episodes of both high-tempo, technologically enabled networked operations and low-tempo, lower-tech operations conducted by dispersed and un-networked forces operating within their own immediate situational awareness. In such a situation, military units will struggle to communicate, let alone coordinate swarming attacks. Thus, mirroring the coding of the IT systems they will be unable to fully rely on, and the on-off nature of their resulting situational awareness pulses, 'binary warfare' may be a more useful term for understanding the dual realities of network-enabled warfare. Lindsay has noted that these changes and their countermeasures are highly unlikely to remove, and may actually increase, battlefield friction,¹¹⁰ while Schmitt has also recently identified that 'speed can no longer be the dominant feature of the overarching paradigm designed to achieve battlefield superiority'.¹¹¹ In this context, it is difficult to predict exactly how post-Fordism will apply to future warfare. However, its general emphasis on certain organizational principles to produce efficiencies, its integration, and its accommodation of network approaches to information arguably give the theory more nuance and longevity than others. Moreover, the demands of an urbanized binary battlefield appear to confirm the continuing importance of post-Fordist organization. In recent battles, core special forces units have been integrated with outsourced proxy local forces, and more peripheral drone teams.¹¹² Thus, with the benefit of hindsight, it is an overstatement to suggest that JSOC's transformation represented a change in the character of war towards 'shadow' or chaoplex visions. It was post-Fordist. And moving beyond the JSOC case to consider the forms of future conventional warfare, more networked forms do not fully capture its likely binary character.

¹¹⁰ Lindsay, *Information technology and military power*, pp. 136–79.

¹¹¹ Olivier Schmitt, 'Wartime paradigms and the future of western military power', *International Affairs* 96: 2, 2020, pp. 401–18

¹¹² M. C. Elish, 'Remote split: a history of US drone operations and the distributed labor of war', *Science, Technology and Human Values* 42: 6, 2017, pp. 1100–31.