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The Military Interest in Narrative

> *"So we must be ready to fight … but the ultimate victory will depend on the hearts and minds of the people who actually live out there."*
>
> *Lyndon B. Johnson, 1965*

> *"To win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill."*
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> *Sun Tzu, 500 B.C.*

The study of narrative has broad appeal across the humanities, social sciences, and cognitive sciences. It is not, however, a topic traditionally associated with the military. Recently, however, there has been a flurry of interest in military circles, especially in the United States, in the use of narrative in military contexts. This includes an interest in narrative by soldiers, commanders, and doctrine writers for its use in the execution of normal military duties, as well as an interest by military funders in narrative as a front for research and development[1]. This interest seems curious to some academics, especially those in European countries that perhaps do not have a strong tradition of military funding (e.g., Germany). Here we seek to explain the military interest in narrative, especially to academics, and especially to those in Europe. Our explanation is two-pronged. First, narrative is a cognitive tool that has many beneficial cognitive effects and, when applied properly, can improve effective and efficient execution of common military tasks. Second, narrative is critical to the strategic communications that are used to shape, guide, and influence the outcome of military operations: in effect, *to win wars not with weapons but with words*. Strategic communication becomes ever more useful, and indeed necessary for victory, as one transitions from conflicts between the large professional armies of two major powers toward asymmetric or ideological clashes such as civil wars, insurgencies, and terrorism.

The article proceeds as follows. We first emphasize our two-pronged explanation, distinguishing between the operational and strategic uses of narrative (§ 1). Next we

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1   Examples include R&D workshops and programs funded through the U.S. Defense Advanced Research Projects Agency (DARPA), such as the Experience-based Narrative Memory workshop (EN-MEM) held in 2009, and the Narrative Networks program (N2) 2011–2014. Narrative has also received attention from doctrine writers, for example, the U.S. Army's Asymmetric Warfare Group (AWG).

note how narrative and culture are intimately bound together, and how effective strategic communication must engage directly with cultural narrative (§ 2). Next we identify two implicit definitions of narrative in use in the academic literature (effectively defining the term *narrative* for the purposes of this article), which sets the stage for applications of narrative in the military context (§ 3). We then enumerate the known cognitive and communicative effects of narrative (§ 4). Building on these ideas we then give six examples of domains of military action in which narrative can have a beneficial effect: influence, leadership, training, intelligence, interaction, and health (§ 5). These examples are by no means exhaustive, but rather are intended to show the broad utility of narrative in a military context. We would be remiss, also, if we did not touch on the ethical considerations of the use of narrative by the military (§ 6). We conclude with some thoughts on future integration of narrative into the military toolkit, and point out some directions that may be fruitful for future research (§ 7).

1   Why narrative?

Scholars typically define *narrative* as a combination of *story* and *discourse* (for example, see Abbott 2008). A *story* is an account of a causally related set of people, actions and events, grounded in desire stemming from a conflict, deficiency, or need and ending in a resolution or projected resolution. Whereas *story* comprises these abstract elements, *discourse* is the expression of the story by a particular storyteller in a particular time/ place using a particular medium of communication. Something that is often overlooked is that narratives are not stand-alone: They typically share themes and story elements, thereby forming a complex system that can be difficult to predict and control. Narrative is related to, but distinct from, two other concepts in this paper. It is an important aspect of culture (and a form of intercultural communication), but culture is more than a narrative system. It is a technique of influence (sometimes known as "psychological operations"), but there are non-narrative forms of influence as well.

There are two broad reasons for a military interest in narrative. The first is to improve the effective and efficient execution of military duties. It has been demonstrated, time and again, that narrative has beneficial cognitive effects when used to package information (see later references). This is presumably because narrative is a cognitive tool that has co-developed with human language and culture: it is tailor-made to communicate complex constellations of actors, motivations, plans, goals, actions, causes, and effects in a succinct, easily-digestible format. As we will discuss in more detail below, use of narrative has been shown to improve comprehension, memory, logical thinking, enthusiasm for learning, and mastery of languages. These improvements naturally translate to improvements in the execution of tasks such as training, planning, and intelligence analysis, all of great concern to the military.

The second broad reason for a military interest in narrative is narrative's role in strategic communication to influence the outcome of conflict. It is generally recognized that narrative has its own rationality, involving *coherence* and *fidelity* (Bruner 1986;

Fisher 1984; see § 4). This gives it a unique role when uncertainty is high and the future is unpredictable, i.e., where traditional rational methods of understanding and deciding fail. Narratives can also be especially persuasive because they uniquely involve an audience: "By engaging the audience's narrativity, storytellers draw the audience into the story because the connections being made are the product of the reader/listener's mind and not simply a perception of what is written or heard" (Davis 2002, p. 16). Finally, as we discuss below, narratives tap significant cultural resources, and in the hands of a skilled communicator can be used to frame events in strategically useful ways. This makes narrative an important tool not only in interpreting "local" events (Corman 2013) but in broader political arenas as well (Antonaides, O'Loughlin & Miskimmon 2010).

Note that influencing a conflict with strategic communication is distinct from, and does not replace, diplomacy. Clausewitz said that "War is merely the continuation of policy by other means." (Clausewitz 1976, p. 87): when diplomacy fails, actors often resort to coercive force. Nonetheless, the utility of words in convincing your adversary to retreat, surrender, or return to the negotiating table does not end when hostilities begin, and the use of words to effect strategic communication is not the sole province of diplomats and politicians. By way of example, individual soldiers engage face-to-face with the adversary on a daily basis, and so in the aggregate their words and actions can carry heavy weight as strategic communications, whether they were intended as such or not. This is especially true in counterinsurgency (COIN) or stability, security, transition, and reconstruction (SSTR) operations, which have been characteristic of (but by no means unique to) the wars of the last decade.

In sum, more effective strategic communication, of which narrative is a key part, serves the admirable goals of bringing conflicts to an end more quickly, more decisively, with less loss of life on both sides, and with less lingering resentment that can block the restoration of normal relations.

2   The importance of culture

Given its cognitive utility and role in strategic communications, narrative might still properly have been relegated to a secondary, minor role in military operations, if it not for one fact: that narrative is intimately bound up with culture. When one moves away from clashes between two large, professional, well-matched armies—war classically conceived—toward conflicts that are asymmetric or ideologically-driven, culture becomes an ever more important consideration. In these sorts of conflicts, winning hearts and minds is just as important as winning the shooting battle, and the majority of a soldier's time in these conflicts is not devoted to kinetic operations. Rather, soldiers spend much of their time interacting with the local population, serving in effect as carriers and reinforcers of the narrative that will drive, or undermine, cooperation. As has been shown time and time again, the will to victory and the assurance of having justice on one's side—both narratively driven—can overcome a great disparity in physical military might.

This fact is not lost on present-day insurgents. The late Omar Hammami, a leader of al-Shabaab, declared in his autobiography that "the war of narratives has become even more important than the war of navies, napalms [sic], and knives" (al-Amriiki 2012, p. 2). Islamist extremists of all kinds routinely use narratives from Muslim history and Islam in a strategy of vertical integration (Halverson, Goodall & Corman 2011), portraying present-day conflicts as continuations of the Crusades or other grand conflicts, with modern contests as analogs to ancient battles. Such narrative framing is difficult for Westerners to counter, because cultural knowledge and religious credibility are asymmetries that favor the extremists.

With respect to culture, we consider narratives to be of primary utility to strategic communications. Despite this, narrative and culture have a secondary importance to a key military task: intelligence analysis. Military intelligence works to knit together disparate, fragmentary information into a unified view of the operational or strategic situation. This synthesis can be thought of as "storytelling", producing an explanation with clear actors, events, and motivations that follow a coherent storyline. While there is a certain amount of universal leverage that derives from rational actor calculations, and the constraints of the physical world, if an adversary is appealing to cultural narratives to find motivations and make decisions, then intelligence analysts must be aware of these narratives, and understand them, to fully and successfully predict the relevant actions.

3   Two levels

We have identified two broad areas in which narrative may be of use to the military: strategic communication and what we might call *cognitive amplification*. Later we will identify specific cognitive and communicative effects that showcase the utility of narrative. To properly understand the military uses of these effects, however, it is important to distinguish between two different conceptions of narrative that are prevalent in the academic literature.

As has been noted before (van Dijk 1980, p.14), much of the work in cognitive science on *narrative* or *story* use those terms somewhat loosely, and the results that are demonstrated are applicable to what we might call *action discourses* in general, and not just to a more narrow definition of narrative. The distinction is one of specialization, in that all narratives are action discourses, but not all action discourses are narratives. An action discourse, which could also easily be called an *event discourse* (see Hamilton & Breithaupt, this volume, for a discussion of the concept of *event*) but here called by us a *Level I* narrative, is, roughly speaking, a report of a sequence of actions or events that are locally coherent and connected, with clear chains of cause and effect concerning a set of agents and their goals and motivations (Toolan 2014). These discourses may be written text (as is often conceived), but they may be communicated in other modes, say, audio, images, video, or some combination thereof. Action discourses may have a global coherence, in that the action sequence is the realization of one or more plans being carried out by the agents in question. Most work on the *computational* understanding of

narrative focuses on this type of narrative. Examples of Level I narratives are detailed description of one's commute home from the office, or a news article reporting a mundane set of events such unfolding of the local fair. What a Level I narrative lacks, however, is something extra, a "narratable quality", so to speak, in that it isn't necessarily about something particular, interesting, disturbing, funny, or unexpected. It is a story, but it is bland and relatively unengaging.

A Level I narrative rises to what we will call a *Level II* narrative, when it is an action discourse that has narrative structure in addition and supplementary to any global coherence of the action discourse *per se*. This narrative structure adds things like narrativity (Abbott 2014; Simon-Shoshan 2013), conflict or suspense, or eventfulness (Huhn 2014; Labov 1997, 2006), involving constructs such as narrative arcs (a complication-resolution structure), stereotypical characters, metaphors, or cultural tropes. Literary theorists and narratologists are generally concerned with Level II narratives. Those scholars are concerned with features of the narrative beyond that of the action discourse alone, special features that are the special trade of novelists and other artists of the written word.

(Note that this two-level distinction is intended to be very rough, and it does not draw a precise line between two sets of artifacts. There will be, naturally, some degree of disagreement over narratives that sit near the boundary, but this fuzziness does not diminish the utility of the distinction.)

4   Narrative effects

This two-level distinction allows us to come to a clearer view of the military import of various results described in the psychological, artificial intelligence, and communication science literatures. On the one hand, we have effects of narratives that stem primarily from their Level I properties, a result of the narrative being a report of a sequence of actions with local and global coherence. Other effects, or enhancement of the previous effects, stem from Level II properties, such as conflict, drama, literariness, emotional intensity, presence of cultural tropes, and so forth.

What then are these effects that make narrative so useful? Narrative is primarily a cognitive and social tool, so its primary effects are to be found in its effect on human psychology, and in the management of human social relationships. From the point of view of psychology, there has been a significant amount of work investigating the cognitive effects of both Level I and Level II narratives. The work is actually quite extensive, and we don't have space to do the field justice. Interested readers can refer to (Haven 2007, Chapter 9) for an excellent recent review of the results. Here we draw heavily on that review to summarize what we see as the key cognitive effect of narrative.

Comprehension. Much work on the cognitive benefits of narrative has focused on reading and listening comprehension. Armbruster *et al.* (1987), for example, showed that students comprehended and retained information about the building of the transcontinental railroad better if the information were presented in story form. Cooper et al. (2014), as another example, showed that student comprehension scores of all sorts

of information, across a variety of metrics, were up to 50 percent higher when information was presented in story form. Numerous other studies show similar effects. Why is this? One major reason is that stories are much more effective at engaging our rich prior knowledge in several important ways. It is well known that when new knowledge is embedded in a rich network of previous knowledge, it is much more likely to be understood and retained. Receivers are forced, by the many implicit linkages in a story, to draw on their understanding of the world and the social environment to connect that information to information they already know. Stories also have a structure that people know, understand, and expect; this narrative structure gives people a set of slots to look for and fill in when digesting information in a story making it easier for them to understand (Maria 1998). Surprisingly, not only do stories increase comprehension of the specific information being communicated, but they actually improve the ability of poor readers and listeners to comprehend information *in general* (Griffey 1988). This effect seems to come about by readers being forced to process stories in a more sophisticated manner, a skill that is then reinforced and carried over to other, non-story texts.

Memory. For many of the same reasons that stories improve comprehension, they also improve memory for information (e.g., Caine & Caine 1994). This link between memory and narrative has been known since ancient times, going back at least to Aristotle's *On Memory*. Stories provide a context to connect information in stories to previous knowledge, through rich sensory detail, story structure, and appeals to basic emotional motivations. These linkages make the information in stories easier to retain. But, Level II stories have additional beneficial effects on memory. Good stories make a receiver empathize with their characters, which creates a strong emotional association, which improves retention (see Gerrig & Foy, this volume). Level II narratives also must violate the receiver's expectations in ways large and small: this leads to the conflict of the story, but also to its "narratibility", in that it is a story worth telling. These violations make the information stick out, make it salient, and make us pay more attention. This increased attention and salience also improve retention.

Thinking. Fisher (1984) argues that narrative carries its own form of rationality, where "good reasons" for action are a matter of narrative validity, composed of *coherence* (how well a story hangs together) and *fidelity* (how well it resonates with other stories we already know). This is distinct from traditional rationality, which is based on arguments and evidence, and this form of reasoning—narrative reasoning—actually may be the most common reasoning strategy there is. Therefore, presenting information in story form naturally engages this narrative reasoning ability, making a good "impedance" match with people's normal way of processing information.

Interestingly, however, stories improve a receiver's ability to reason *logically* about sequences of events when they are cast in story form (e.g., Miller & Moore 1989). Story structure provides a successful framework that allows reasoners to structure, understand, and create meaning from sequential events (Trousdale 1990). It provides support for making inferences and deducing effects, because it brings the information in line with

our natural, social, story-understanding ability. Stories, in effect, remove some of the cognitive work involved in connecting causes and effects, and reasoning about how the parts relate to the whole. Finally, narrative has been implicated in brain processes known as "Theory of Mind" (Herman, 2007). These processes are key to attributing mental states to others and assessing how they are similar to or different from one's own. As such they are critical enablers of social interaction, and important factors in (for example) engagements between military personnel and civilians.

Enthusiasm for Learning. All the cognitive effects above combine to generate great improvements in learning in general. On the basis of eighteen years of college testing data, Coles observed that "Stories enhanced and accelerated virtually every measurable aspect of learning" (Coles 1989). Aside from these effects that contribute to learning of information, casting information in narrative form increases one's *enthusiasm* for learning, which again enhances comprehension, memory, learning, and engagement. Good stories are fun to read, they are relevant to our lives, and they create empathy with their characters that makes us want to *find out what will happen* (Holt 1983). All of these effects increase enthusiasm for digesting, understanding, and retaining the information in story form.

Mastery of Languages. Interestingly, narratives also have beneficial effects when it comes to language learning (and literacy more generally). Telling and understanding stories forces a language learner to develop those skills that present themselves as language fluency at later stages (e.g., Trostle 1998). Receiving and generating stories forces a language learner to develop the vocabulary and general grammar skills that mirror how we use language in real life. So much of communication is already storytelling, and so, naturally, practicing with stories improves one's ability to communicate in the language being learned.

Interpretation. Finally, narratives also have important effects from the point of view of social relations. Narratives provide schemata that help individuals understand how agents and objects relate to one another and go together in a given situation (Branigan 1992; Schank & Abelson 1995). For example, a schema helps us interpret what is going on when someone walks into a classroom, stands in front of the class and starts talking authoritatively. These interpretive effects are also important at more aggregate social levels. As Davis points out, "interpretive communities come together around stories, constituting and reaffirming themselves as groups with particular attributes. Collective memory is directly tied to story emplotment." (Davis 2002, p. 19). History, the grandest form of collective memory, is *essentially* narrative, with stories about the past making events meaningful (Zerubavel, 2003).

5   Use of narrative in a military context

With a clear idea of two narrative levels, and a collection of demonstrated narrative effects, we proceed to outline a selection of applications of narrative to improving the effective and efficient execution of a number of common military tasks.

5.1   Influence

To our minds, the main use of narrative in military conflicts is to effect influence at the strategic, social, and individual level. Over the last decade or so in particular, military organizations have rediscovered the limits of kinetic operations, especially during asymmetric, ideological, or insurgent conflicts. Kinetic operations can antagonize non-combatant populations whose support is crucial for denying insurgents an operating base in the local community. Because of its effects on thinking and interpretation, described above, narrative plays a crucial role in persuading non-combatants not to support insurgents, and in making them understand why kinetic operations are necessary.

At the individual level, psychologists have demonstrated the power of narrative to persuade. Studies show that when people are transported into narratives they identify with characters in the story, engage in less counter-arguing, and have more story-consistent attitude change (Green & Brock 2000, 2002). This is because narrative involvement leads people to judge a persuasive message more on the basis of its context than its logical merits (Slater 1997).

At the social level, narratives are important in influencing people to take social action because they establish a virtuous future to which members of a movement can orient themselves (Cuoto 1993). As a case in point, stories can be involved in nearly every stage of the lifecycle of violent non-state groups (VNSGs). Casebeer (2006), for example, outlined a list of four stages of the VNSG lifecycle (genesis, growth, maturity, and transformation), across which there are at least 19 different ways that narratives can be involved. These range from justifying the *raison d'être* of the group, to creating and maintaining group-relevant identities, to inspiring and indoctrinating group members. If a military is to successfully apply counter-narratives to interfere with and undermine these groups, the military must clearly understand the functions of narratives in these group's lifecycles.

5.2   Leadership

Narrative is not only important in strategic communication to external audiences; it also plays a role in strategic communication to internal audiences, such as military units and allied organizations. Nissen argues that narrative has important strategic and leadership functions in military contexts, as "there is an increased need for being able to continuously legitimize and compellingly convey (communicate) the reasons for state's or coalition's actions" (Nissen 2013, p. 67). He advocates "narrative led operations" where narrative is at the heart of operational planning, informs both kinetic and non-kinetic activities, and implements a strategic narrative formed at the political level. This has been recognized in U.S. Joint Doctrine on counterinsurgency, where it has been stated that strategic narratives are "the central mechanism through which [insurgents] ideologies, policies, and strategies are expressed and absorbed. Counterinsurgents should also develop a strategic narrative both to contrast and counter the insurgent narrative." (Joint Chiefs of Staff 2013). Schade, Heib, Frey and Rein (2010) go so far as to propose a command and

control grammar for organizations, with building blocks consisting of entities, actions, temporal and spatial factors, and purposes—all components of the canonical narrative arc (see Corman, 2013).The current war in Afghanistan is good illustration of narrative's role in leadership of modern military operations—and the dangers of not taking it into account. The narrative of the war was clear enough at the beginning. The U.S. and its allies invaded to pursue al-Qaeda and unseat its hosts in the Taliban-led government. But around 2004-2005 the narrative disintegrated, and it was no longer clear to the Western forces, their publics back home, or the Afghans why the war was continuing. That narrative uncertainty has persisted, and public support for the war has eroded. Today it is likewise unclear, from a narrative point of view, why the Western forces are now leaving (Corman 2013). Meanwhile, the Afghan insurgents have maintained a clear and effective narrative portraying themselves as the inevitable victors in the conflict, who will expel the Crusaders and return to power once they are gone (Johnson & Steele 2013).

5.3   Training

The military spends a majority of its time training, preparing for conflicts where their soldier's lives, and those of civilians, are put at risk. As U.S. General George S. Patton said, "The more you sweat in peace, the less you bleed in war." Training is a key military task. Although naturally there is much physical and manual training, such as physical fitness, weapons training, or hand-to-hand combat, much of it is communicated in written or oral form, for example, the details of the strategic or combat theatre; the characteristics of the enemy troops or the local population; or the specifics of an assigned mission or task. As previously discussed, narrative has numerous benefits for comprehension, retention, and analysis of information. Finding a way of transmitting this information in narrative form, even in small part, would take advantage of these cognitive benefits and lead to more effective and efficient training. The use of stories in this way is nothing new. The Roman *Strategemata* is essentially a collection of brief stories about how commanders undertook effective actions on the battlefield. For example: "While Hannibal was lingering in Italy, Scipio sent an army into Africa, and so forced the Carthaginians to recall Hannibal. In this way he transferred the war from his own country to that of the enemy." (Frotinus 1925)

Narratives are also important to organizational culture (Peirano-Vejo & Stablein, 2009), the formation of members' organization-centered identity (Ibarra & Barbulescu, 2010), and institutional memory (Boje 1991). A primary military training task is enculturating soldiers, both when fresh recruits, and when being trained to take on higher levels of responsibility, to the high ideals and professionalism of a modern military. Narratives engender empathy and identification, which makes them a natural vehicle for transmitting morals, ideals, and laudable examples. You can give a trainee an explicit ideal, such as *be courageous in battle*, but the impact of this direct statement pales in comparison to telling stories of actual courage in battle, which not only communicate the ideal itself, but the salient details, context, and actions that allow a trainee to imagine,

and in small part re-live and re-experience the bravery of soldiers in dire circumstances. As Boje explains, stories are recounted "to formulate recognizable, cogent, defensible, and seemingly rational collective accounts that will serve as precedent for individual assumption, decision, and action" (Boje 1991, p. 106). Here the U.S. Army provides an excellent example: in *Field Manual FM 6-22: Army Leadership*, stories abound to illustrate cases of bravery under fire, courage in combat, resilience, commitment to professionalism and the laws of war, and other ideals envisioned for a modern soldier.

5.4   Intelligence

Narrative is a natural format for capturing succinct, causal relationships between sequences of events, and explaining the goals, motivations and plans of actors. This leads to the utility of narrative in intelligence gathering and analysis. Human action, while not completely predictable, is neither completely random. The actions of adversaries are not only shaped by the narratives that form their culture, but also shaped the narratives they have with regard to the appropriate way of conducting a particular conflict. These narratives, which are often more of the Level I type, have influence on adversary action from the micro to the macro level, and extracting these narratives from data is a major aim of military intelligence. Analysts spend much time trying to construct the "story" behind the fragmentary bits to which they have access. How to best explain what has been observed? If we know the story, or have a guess at the possible stories, we can infer the missing pieces, or where to look for them to confirm or deny our hypotheses.

5.5   Interaction

Narrative has an important role in boots-on-the-ground interaction with local populations in conflict situations. As the foregoing discussion makes clear, narrative has an important role in thinking, comprehension, memory, and interpretation, all of which are crucial elements of communicative exchanges. Narrative has a distinct form of rationality that is especially important in situations of high uncertainty. Where the data needed for rational decision making is unavailable, leaders can rely on narrative rationality (Fisher, 1984) to make choices based on analogies to past situations. Narrative's role in leadership, when properly executed, provides means of making sense of what military personnel are doing in a given area for that area's inhabitants. On the listening side, it is important to allow for the legitimacy of others' narratives to establish rapport and defuse conflict (Cobb 2013). The stories locals tell carry a wealth of information about what they consider important, how they interpret events, and how they are being positively or negatively impacted, all from their own cultural perspective.

An illustration of the difficulties interacting without a solid narrative foundation comes from Afghanistan. In 2010 the International Council on Security and Development interviewed 1000 people from Helmand and Kandahar provinces. They asked "why do you think the foreigners are here?" Half of the respondents said they did not know or were present for reasons including committing violence and destruction, oc-

cupying the country, making money, and destroying Islam. It is hardly surprising then that some Afghans would be unforthcoming or refuse to cooperate with Western forces. Lack of cultural awareness, including a failure to understand the narratives that motivate groups, may have been the single greatest weakness of the NATO effort in Afghanistan (Beljan 2013).

5.6   Health

Finally, there is a place for narrative off the training grounds, and away from headquarters and the battlefield, and that is in the healing of the psychological wounds of war. There has been a great deal of increased awareness of the psychological damage conflict has on soldiers. Improvements in medical technology mean that we are better able to bring back soldiers from the battlefield, even if they sustain grievous physical injury. Our ability to treat and cure the psychological wounds of battle, however, significantly lag our abilities in the physical medical domain.

The major tool for addressing psychological wounds, aside from treatment with drugs, is through therapy. It has been noted time and time again that narrative, when used as a medium or mode in psychological therapy, can have significant beneficial effects (Fireman et al 2003; Harter et al. 2005). While the root mechanisms underlying these benefits are not yet well understood, it is likely they have much to do with the increased accessibility of narratively-delivered information (leading to increased success in treatment), as well as the ability of narratives to engage and draw out emotions and beget empathy for and identification with characters in the stories, leading to patients being able to apply the lessons learned from the stories to their own lives and wounds.

6   Ethical considerations

The use of new tools in military contexts always raises ethical questions. The use of cognitive or psychological tools, as narrative is, are further fraught because of the potential for Orwellian-style abuse, and we would be remiss if we did not touch upon those issues here.

We will restrict the scope of these comments just to the ethical considerations of using narrative or leveraging narrative effects in a military context. This means we will not deal with the ethics of warfare or military pursuits in general—this is far beyond the scope of this article and our expertise. Nor will we deal with the ethics of accepting military funding for scientific research, or academic engagement in military contexts. There are major differences between individuals, fields, and cultures on this matter, and again, this is beyond our scope. We, the authors of this article, are not neutral in the matter, and we have engaged with the military and taken military funding for our research, and, indeed, the funding that supported the writing of this article came from military sources (see the Acknowledgements section). But arguing for or against military funding of academic research *per se* is not our aim.

We will limit our considerations, rather, to the ethical use of narrative by the military to achieve military aims. We will assume that militaries will be engaging in military actions involving acts of warfare and violence, and these militaries will endeavor to develop and use all the tools at their disposal, including narrative. Given these assumptions, we ask: what are the ethical dangers of using narrative in the contexts, above and beyond the ethics of warfare in general?

We first note that, as with all things, there is potential for misuse. This is not in itself an ethical problem, but merely raises an ethical danger. From our list of potential applications above there are obviously clearly benign uses of narrative (e.g., improving training, which allows soldiers to learn their skills more effectively) and so merely using narrative in a military context does not necessarily imply an ethical breach.

We see the main ethical danger of narrative in the military context to be when narrative is used to achieve aims through deception or propaganda, especially with regard to strategic communication. This use raises the specter of the military lying and deceiving its way to victory, using narrative to convince a local population to lay down their arms or acquiesce, against their own better interests.

This argument is a clear parallel here with the development of early views of logical reasoning and rhetoric. For example, Francis Bacon was known to have an ambivalent opinion of rhetoric, as the art of convincing other people and communicating scientific results (Rossi 1978). On the one hand, seen as the art of sophists and demagogues, concerned with style and verbal dexterity aimed at convincing an audience against reason, rhetoric was a dangerous tool and could be used unethically. On the other hand, seen as a way of adapting discourse to the purpose at hand, and matching up the needs of the speaker and the audience, it is a tool of the greatest value. So too with narrative.

How do we guard against the ethical dangers of propaganda and deceit? One argument is that little needs to be done beyond standard military considerations of ethics. Under this argument, if we take the ethicality of the military enterprise in question as given, then the use of narrative for deception is ethical under all the main normative theories (virtue, duty, consequentialism; see Fieser 2014) if it permits the military to accomplish their objectives without killing people (or killing fewer people), and isn't intended to lead innocent people to harm. If the enterprise is not ethical, then no use of narrative to support the enterprise is ethical either.

On the other hand, there are those who would like to see greater ethical controls on the use of deception in military contexts. For these we have three comments which we hope will encourage honesty and a desire to communicate the truth via narrative, as well as help distinguish drawing the appropriate ethical boundaries. First, we would argue that it is in a military's best interest not to be deceptive in the application of narrative tools for strategic communication. The effectiveness of a narrative in convincing the audience depends in large part on the audience believing and trusting the narrator. In today's highly connected world, off-message content can spread like wildfire, and once it is revealed that the narrator is lying or deceptive, their credibility is almost irrevocably

damaged and the narrative tool becomes useless. This loss of utility not only applies to the external consumers of a strategic narrative (the population of which you are trying to win the hearts and minds), but also the internal consumers, the soldiers themselves, who have to believe the narrative if they are going to successfully propagate it.

Second, the military user of narrative must always keep the overall goal in mind: to end conflict more quickly, with less loss of life and with a quicker return to normal relations. Deception and manipulation may further some of these goals in the short term, but in the overall effect will be counter-productive, and will result in longer, bloodier conflicts with more protracted recovery periods.

Third, having argued that honesty is truly the best policy, we think it is important to note that, regardless, the military must have a very clear idea of how narrative and propaganda operate. This is because, no matter how ethical one is oneself in the application of these tools, one's adversary won't always be ethical as well (especially in the case of insurgencies and asymmetric warfare). Therefore it is important for the military to understand propaganda so that they may formulate *anti-propaganda narrative strategies*. These strategies explicitly acknowledge the potentially deceptive nature of narrative information, and seek to counter truth-obscuring narrative strategies of the opponent. These strategies, through their understanding of the potential deceptive use of narrative, should help to reveal, rather than obscure, an interpretation of the situation which is in the joint best interests of both the target population and the military force.

7   Future directions

We have outlined a number of areas where narrative can improve the effectiveness and efficiency of military operations, and also serve more successful resolution of conflicts via strategic communication. Despite this, there are numerous unknowns with regard to these applications. In what directions should research and development endeavor further enhance the utility of narrative in the military space? We identify a handful of future directions here.

Narrative Adaptation As noted above, strategic communication is perhaps the most important domain in which narrative can be useful. Much more needs to be done, however, to institute procedures, training paradigms, and computer assistance to help soldiers craft strategic narratives and bring them into alignment with target cultural narratives. One missing capability is the capacity to recognize and track narrative effort by opponents. This is true on the most basic level: One Military Information Support Operations (MISO) practitioner told us that most of his colleagues "wouldn't recognize a narrative if it slapped him in the face." Thus training in even simple narrative concepts and the fundamentals of analysis is important for military strategic communication personnel who need to recognize and respond to narrative persuasion attempts. Adversaries draw on a stock of cultural knowledge in executing these attempts. So it is also important to have basic background knowledge for narrative adaptation because of its role in vertical integration, as discussed above. On the theater or regional scale, military organizations

lack means to produce narrative intelligence—the ability to recognize, classify and track narrative communication by adversaries and associate it with different groups. This is a critical capability because narrative is closely associated with ideology (Phelan, 1986) and identity (McAdams & McLean, 2013), and can therefore reveal where threats are emerging or receding, especially in insurgency situations.

Narrative Extraction Although there has been significant work in artificial intelligence and computational linguistics on the automatic extraction and understanding of narratives, much remains to be done. We have only a limited ability to automatically knit together disparate, fragmentary information into a coherent narrative. While our technological ability to gather and deliver data to soldiers has increased dramatically in recent years, we have lagged in our ability to automatically interpret that data (i.e., construct a coherent narrative) so as to help soldiers overcome information overload. A major challenge right now is to connect information that is represented in fine-grained detail with more abstract representations that would appropriate for creation of a narrative explanation. How do we translate precise sensor information or detailed after-action reports into predicates that could be integrated into a constructed narrative? Given a large set of potential predicates, the identification of which may depend on the

The ability to extract narratives automatically will lead to systems that can help intelligence analysts and battlefield commanders recognize and respond to complex, developing situations in real time. On the intelligence end of the spectrum, a narrative extraction system would help analysts form hypotheses about potential explanations for observed intelligence, and connect the dots between seemingly disconnected information; on the battlefield the same process can play out at a faster rhythm, where a commander is presented with disparate information of the enemy's movements and actions, and must infer a story of what is going on and why.

Narrative Retrieval As we have noted above, narratives are a rich repository of procedural, organizational, and cultural information. Those interested in using narrative (or case studies more generally) for leadership, training, and analysis would benefit from systems that capturing narratives for later use. Capturing a narrative need not be a complex task, and there has been much work by anthropologists and other social scientists on methods for eliciting and capturing this sort of data. Despite this extensive ability to capture useful narratives, however, we have lagged in our ability to index those narratives by important features, and then retrieve those narratives so that they are presented to a recipient at the right time. With any non-trivial database of narratives, it is a significant challenge to identify the appropriate narrative for the task at hand for a particular user (be they a commander, an instructor, or an intelligence analyst). Right now we are limited to keyword search, which, while useful, does not go nearly far enough for finding relevant cases. Questions here include: For a particular domain, how do we automatically extract features or structures that capture relational similarities that are useful for reasoning-by-precedent? How do we index narratives by these features or structures? Indeed, how do

human experts do this retrieval from their own internal "narrative database", and how can we replicate that ability in computers?

With a clear understanding of how to index and retrieve the right narrative for the job, we will be able to use narrative databases to support military operations in a real-time, responsive fashion. Suppose, for example, an analyst suspects a sneak attack is being planned by the enemy, and wants to examine narratives bearing on the planning of sneak attacks in similar operational situations. The words "sneak attack" will not necessarily be present in the most helpful cases in the library. Similarly, consider a trainer seeking to present cases that illustrate the idea of, say, a "war of attrition". Those exact keywords will not necessarily be present in the narratives that may be most useful to training under this circumstance.

Training with Narrative Right now, integration of narrative into military processes is haphazard. It is noted as important for some tasks (e.g., Joint Chiefs of Staff 2013), but its use is all but ignored for other useful purposes. More work needs to be done on how to train soldiers to use narrative as a cognitive tool at all levels where it would be useful. This includes answering question such: How narrative should be integrated into current military procedures? What information in current training programs might be better cast in narrative form? How can narrative thinking be used for analysis by soldiers to do their jobs more effectively?

Knowledge and procedures for incorporating narrative into training will lead to improvements in soldier effectiveness, reduced training times, and more efficient use of military resources.

Psychological Underpinnings of Narrative From training we are led to more basic science concerns. There has been significant work on the psychological underpinnings of narrative, but our understanding is still fragmentary and in some cases quite poor. While much work so far has focused on the presence or absence of narrative Level I or II features to demonstrate cognitive utility, there has been little work on varying specific aspects of narratives to see what parts of the narrative contribute, in what way, to the observed cognitive effect. As an example, studies have been suggested that the presence of narrative structure improves comprehension, learning, and retention; but no studies have examined modulations of the narrative structure and their effects on learning. Is a simpler narrative structure more effective than a complex structure? Do certain complexes of character roles result in better comprehension or retention outcomes?

This lack of psychological work on these more subtle questions of narrative's effectiveness has much to do with lack of theoretical and computational work that allows us to describe and measure subtle narrative structures. We are unable, for example, to reliably identify culturally-dependent character roles or narrative structure automatically; without the ability to identify these structures, they cannot be used in experiments to test their effect.

Neurological Correlates of Narrative Even more so than work in psychology, neuroscientific work on the effect and neural correlates of narrative is in its infancy.

Neuroscience suffers from the same lacks as psychology (i.e., an inability to identify the independent variables for study, such as subtle changes in narrative structure); but it also lacks procedures for integrating the complex, in-depth stimuli that are narratives into the labor-intensive and quite programmatically sensitive techniques such as fMRI, EEG, and ERP. Neuroscientists, when they work with language data, often drive to the lowest common denominator, because of the complexity and cost of studying subjects. How do we scan fMRI subjects and examine the neural correlations of complex natural language texts such as narratives? How do we separate out the neural effects of narrative from all the other neural activity that supports it? What networks in the brain are responsible for narrative processing, for both the Level I and Level II narratives?

8   Conclusion

Here we have made an argument that narrative should and must be integrated as an important tool in the military toolkit. Narrative is an effective cognitive tool, having been used by humans almost certainly since the dawn of language. It has numerous demonstrated beneficial cognitive effects, which we have shown here could be applied to improving the efficiency and effectiveness of the execution of military tasks. More importantly, however, narrative is a key component of strategic communication, which allows the military to influence the outcome of conflicts in a positive way, resulting in achieving military objectives with less fighting, less loss of life, and more effective outcomes.

9   Acknowledgements

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