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Design and the Prospects for Critical Dialogue

by Christopher R. Paparone

To the Greeks dia-logos meant a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually.

--Peter Senge, *The Fifth Discipline*

This is the fourth in a series of short *Small Wars Journal* articles on design. The previous discussions are about the prospects of a military professional renaissance, deviant leadership, and mission analysis.[1] The renaissance article speaks to the paradoxical worldviews associated with a design culture. The second involves finding the appropriate model of leadership that complements the philosophy of design. The third article demonstrates that military design science is concerned primarily with the exploring the mysteries of craftwork and emergence -- where military routinized- and engineering-type tasks and associated analytic decision processes are insufficient to cope with the unpredictability of wicked situations. The thesis of the present essay (#4) is that, especially in a military context, ***dialogue is central to the method of design***.[2] In the midst of operating in highly volatile, uncertain, complex and uncertain (high "VUCA") environmental niches we have to continuously *design meaning* and find clever ways to communicate about that unique, novel, and highly contextual, wicked situation. We have to continuously and collectively MAKE SENSE when commonsense (the presumed esoteric "science"[3] found in professional groups) does not seem to help. Dialogue is the condition that enables such collective sensemaking.

Designing Meaning

David Bohm is one of the most cited authors on the subject of dialogue.[4] He defines it as "communication from which something new emerges."[5] Peter Senge (a widely read purveyor of *systems thinking*) extends Bohm's definition by comparing discussion with dialogue.[6] Discussion is oriented on an agenda, coming to a conclusion, finding an answer, or seeking closure for decision (the present author would contrast this approach to "formulaic," one-way PowerPoint briefings that occur before the commander decides on an operational course of

[1] *Small Wars Journal*: Essay #1 Prospect of a Military Renaissance; Essay #2 Prospects for Deviant Leadership; and Essay # 3, Prospects for Mission Analysis.

[2] A secondary goal of this essay is to point out the fallacies contained in the US Army's attempt to bring design into its doctrine. The present author attempts to highlight these fallacies both in the main text and in the footnotes.

[3] The present author defines science is an organized body of knowledge predicated on a worldview or paradigm. In the US Defense community, particularly the Army, military science is called "doctrine." "Technology" or the *logic of technique* is another way to convey how social systems rely on singular views of science. In that view military doctrine is a form of technology.

[4] David Bohm, *On Dialogue*, (following the death of Bohm in 1992, Lee Nichol edited this book) (New York: Routledge, 1996).

[5] Quoted in Mary M. Gergen, Kenneth J. Gergen, and Frank Barrett, "Appreciative Inquiry as Dialogue: Generative and Transformative," (pp. 3-27) in David L. Cooperrider and Michel Avital (Eds.), *Constructive Discourse and Human Organization Volume 1, Advances in Appreciative Inquiry* (Amsterdam, NE: Elsevier, 2004), p.6.

[6] Peter Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday, 1990).

action). Dialogue, on the other hand, is about keeping group membership diverse, expertly facilitating and sustaining open conversation, and continually updating the community's appreciation of the circumstances it faces. Rather than conceptualizing decisions as a point-in-time, dialogue recognizes decision making as an unstructured and ongoing process (that may continue for generations!).[7] In many ways, dialogue is countercultural to a traditional command-centric, masculine-dominated military lifeworld, where analytic staff work and decisive orders are emphasized and even romanticized.[8]

What is Dialogue?

By Other Names. Scholars have presented different names for dialogical forms of reasoning. Here are a few: social construction of reality, grammatology, double-loop learning, appreciative inquiry, disciplined reflexivity, action learning, practical skepticism, reflective practice, hermeneutic appreciation, sensemaking, narrative revelation, communicative rationality, and discursive coordination. All of these nomenclatures attempt to portray how humans build (and can rebuild) worldviews and the knowledge that goes with them. All have one common philosophical assumption – the intersubjectivity ("social made-up-ed-ness") of being a human does not permit a singular paradigm (otherwise claimed by objectivists) to be sufficient to explain reality.[9] All (according to postpositivist Thomas S. Kuhn) are, at their core, *subjectively created by knowledge communities*; hence, can be challenged principally by using alternative paradigms to expose this intersubjective construction process.[10] If Kuhn is correct (and nonmilitary proponents of design assume he is), all knowledge is subject to criticism and can be deconstructed while exposing the paradigmatic roots of its man-made creation.

Multi-Paradigmatic. Reasoning from this assumption of intersubjectivity, designers become more aware of prevalent paradigms that guide, in a socially contrived or normative way, the use of language to describe the reality they and their community of practice face. For example, military designers may actively seeks to criticize doctrinal concepts that community members otherwise are considered authoritative. The philosophy that underpins design demands this critical approach (this point the present author accentuated in the Heraclitean-Parmenidean debate in Essay #1 of this series).

The designer is interested in having participants in the dialogue suspend disbelief while viewing situations through the lenses of other paradigms. The designer does not seek closure in finding the Parmenidean "best view" (or in the vernacular, the course of action, best practice or lesson learned).[11] All such perspectives offer insight, "triangulating" into a design that appreciates all of them, even if they seem paradoxical (Figure 1). While the obdurate Parmenidean may be frustrated at not achieving closure in order to settle on a planned course of action, the designer's hope is that even more views will emerge as time goes on. "Closure," a

[7] Henry Mintzberg, Duru Raisinghani and Andre Theoret, "The Structure of "Unstructured" Decision Processes," *Administrative Science Quarterly*, 1976, pp. 246-275.
[8] See the seminal study by James R. Meindl, Sanford B. Ehrlich, and Janet M. Dukerich, "The Romance of Leadership," *Administrative Science Quarterly*, 1985, pp. 78-102.
[9] By *paradigm*, the present author employs Kuhn's definition applicable to the social context: "the entire constellation of beliefs, values, techniques, and so on, shared by members of a given community." Thomas S. Kuhn, *The Structure of Scientific Revolutions* (3rd ed.) (Chicago: University of Chicago, 1996), p. 175. Objectivists have a different view of ontological reasoning; for example, see Ayn Rand, *Introduction to Objectivist Epistemology* (New York: New American Library, 1979).
[10] One of the founders of design thinking was Herbert A. Simon who called these creations, *The Sciences of the Artificial* – the title of his book (3d ed.) (Cambridge, MA: MIT Press, 2001).
[11] The Greeks called this purposeful suspension of complicity, *epoché*.

strong value of a traditional military culture, is not a dominant value in the Heraclitean *designing-as-you-go-, unstructured- process* enabled by critical dialogue.[12]

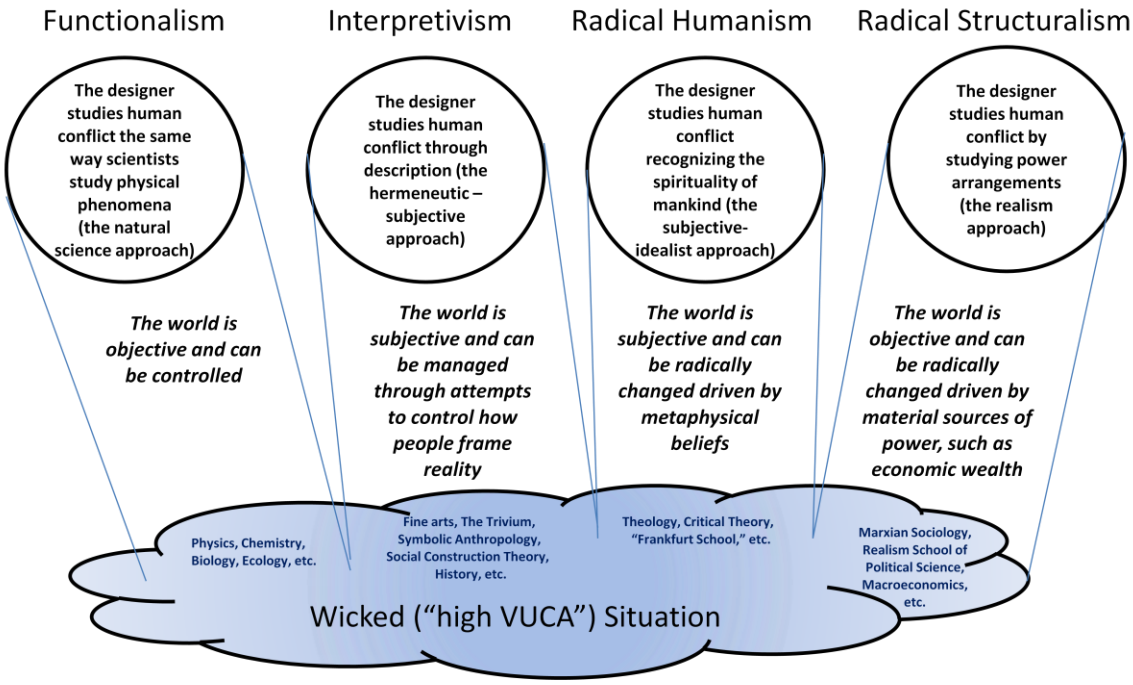

Figure 1. A Paradigm Sampler. Design philosophy calls for examining wicked situations through "multiple lenses," associated with an assortment of paradigms.[13] The *logic of explanation* changes depending on which lens is used. Design proposes that *logics of explanation* (i.e. a plurality of views) is superior to singular ones. Sample epistemologies related to the ontology of the paradigms are provided in blue font at the top of the cloud.

A Design Scenario. In practical terms, let us say a military designer wants to question the functionalist view of joint operations that dominates US military doctrine. The paradigm, functionalism, represents a Parmenidean belief that various phenomena in the world serve some sort of structured, interdependent purpose that can be studies through the scientific method (like the field of medicine studies how organs in the human body function together). The functionalist US joint planner, under the auspices of Joint Publication 3-0, *Joint Operations*, is led to believe that in combining these functions (particular activities and capabilities) the military can operate "jointly": command and control, intelligence, fires, movement and maneuver, protection, protection, and sustainment. His assumptive structure is that to plan he has to consider all of these in a synchronized way. A multifunctional view of operations demands that these functions be distributed across organizations (in the form of task assignment) to create success.

[12] For example, see Bryan Lawson, *How Designers Think: The Design Process Demystified* (4th ed.) (Amsterdam, NE: Elsevier, 2006). Lawson describes six qualities of the design process that stand in stark contrast to analytic decision or planning models: (1) The process is endless; (2) There is no infallibly correct process; (3) The process involves finding as well as solving problems; (4) Design invariably involves subjective value judgment; (5) Design is a prescriptive activity (what might be?); and, (6) Designers work in the context of a need for action (pp. 123-125).

[13] These four paradigms were adapted from the seminal book, Gibson Burrell and Gareth Morgan, *Sociological Paradigms and Organisational Analysis: Element of the Sociology of Corporate Life* (Portsmouth, New Hampshire: Heinemann, 1979). These four are not all inclusive, but are intended to give the reader a "flavoring" for the prospect of multi-paradigmatic examination in dialogue. Interested readers may also find insight in Kuhn's book (Op. cit.), in Stephen C. Pepper, *World Hypotheses: Prolegomena to Systematic Philosophy with a Complete Survey of Metaphysics* (Berkeley, CA: University of California, 1966), and, in Nicholas Rescher, *Philosophical reasoning: A Study in the Methodology of Philosophizing* (Malden, MA: Blackwell, 2001).

If operations are not successful, the joint planner may either conclude that the force either did not deduce the functions correctly in unison (i.e. misapplication of theory) or that the doctrinaires have to go back to the drawing board to inductively re-functionalize how to conceive of operations (i.e. reconstruction of theory). If we look at the history of joint doctrine, we see evidence of both. Military writers often use critical analysis to explain how principles of war were misapplied.[14] In terms of re-functionalizing, the previous portrayal of "jointness" was different from current US doctrine. In the 2001 edition of Joint Publication 3-0, *Doctrine for Joint Operations*, functions were less categorical and more oriented on how to form interdependent multifunctional command and control structures—land, air, and maritime—with respect to Service-pure, Army-, Navy-, and Air Force commands.

Armed with a broadened philosophical array of paradigms, the reflective military designer is positioned to criticize the way the community of planners normally conceives of operations and notices these doctrinal re-functionalizations are, metaphorically, not much more than "rearranging the deck chairs on the same ship." She argues to her community that the assumption of functionalized operations is not serving the effort-at-hand very well. To enable alternative views and arguments, the military designer may suggest bringing in "outsiders" to help the otherwise functionalist-based community view the situation through alternative lenses. Through critical dialogue, they together design very different forms of knowledge, uniquely formed around the novelty of the situation faced. Ideally some of those others have been educated in other "non-functionalist" fields or are immersed deeply in local situations as to have learned *tacit* forms of knowledge (i.e. knowing, intuitively, more than they can tell).[15] They tell, through differing paradigms, lucid stories about the situation at hand.

Our military designer notes that this storytelling is an important form of rich description that creates images to help participants, to include the potentially reformed functionalists, "see vicariously." Important questions (the "aha moments" and "holy Toledo's") may begin to emerge that the functionalist paradigm would not spur. From a the view of the interpretive paradigm, she notes that activities of those involved in the dialogue may be better expressed as narrative descriptions of the immersive practices of diversified, small teams that are interacting with local villages and regionally connect with others in the same valley. She hears one participant remark that US troops are paradoxically defeating a sense of security in one of the villages by driving scary monster-like, dehumanizing vehicles through them (see photo below). The dialogical participants discover that functional categories (like force protection) can become distracters from appreciating what is happening. This form of categorical thinking cannot explain the process of acting and deeper meaning needed here, *in the moment*. One of the nongovernmental participants in the dialogue may argue that functionalist categories that the military espouses in their planning doctrine may promote categorical thinking and categorical thinking is promoting categorical acting.[16]

[14] For example, see Harry G. Summers, *On Strategy: A Critical Analysis of the Vietnam War* (NY: Dell, 1982).
[15] See Michael Polyani, *Tacit Dimension* (Garden City, NY: Doubleday, 1966), p. 18.
[16] Chris Argyris, *Strategy, Change, and Defensive Routines* (Marshfield, Mass: Pitman, 1985).

Photo. "Joint Combat Patrol" Taken During Security Operations in Afghanistan. Is this a functionalist, categorical action? If this moment in time is examined through other paradigmatic lenses, such as interpretivism, the scene may seem absurdly insecure, whereas, through the functionalist view (categorically "force protection"), it seems perfectly logical.
(US Air Force photo by Tech. Sgt. Efren Lopez taken 18 Jan 2010/Released to the public domain by DOD and available online at Defense Imagery Distribution System)

Note that in this hypothetical case, the military designer is both provocative and collaborative (two important qualities of effective dialogue).[17] She provokes *meta-paradigmatic conversation* by bringing others (who distinctly perceive the world through alternative paradigms) into the conversation. **Together they seek to reframe the situation *dialogically*.** (Note, the present author is saving a related discussion of *framing* and *reframing* for the next article, Essay #5, in this series.)

The Qualities of Critical Dialogue

So what does a military designer need to consider when provoking critical dialogue?

Avoid Categories While Conversing. In many ways, design is "the antidoctrine."[18] Reducing complex reality to categories (some sort of naming conventions or taxonomies) reflects oversimplification and a false sense of understanding. Categorical thinking is taking terms and concepts associated with assumed known-knowns and applying them to other situations (an assumed Parmenidean quality also known as *generalizability* in the empirical sciences).[19] The categories are based in existing theories of action believed to have worked in the past. Categorical thinking is synonymous with *deductive reasoning* (application of existing theory). In the military sense, this would involve sizing up the situation using doctrinal terms (such as offense, defense, stability, and so on), institutionalized mnemonics (such as "METT-TC," "PMESII," and "DIME[20]), measures of effectiveness and performance (MOEs/MOPs), and standardized map symbols. There are at least two alternatives to communicating categorically: rich description and patterned thinking (using continua).

[17] Gergen, Gergen, and Barrett, p. 17.
[18] See this discussion in *Small Wars Journal*, FM 3-0: Operations on the Cusp of Postpositivism.
[19] Again, the military community calls this "doctrine."
[20] METT-TC – mission, enemy, terrain & weather, troops available, time available, and civilian considerations; PMESII – political, military, economic, social, Infrastructure and Information; and, DIME—Diplomatic, Information, Military, and Economic.

Rich Description. Karl E. Weick proposes that one substitute for categorical forms of communications is *rich description.*[21] Rich description is a grammatology often employed by cultural anthropologists and is linked to *inductive thinking* (theory-building) and *abductive reasoning* (creating more tentative explanations of what is going on).[22] Communicating richly is the ability to describe one's observations without being hampered by a Parmenidean set of theories, models, and causal assumptions about technology and production processes. The describer is aware that the latter might serve as a psychological façade that protects against the inevitable anxiety associated with being surprised and the post-hoc discovery of analytic error in mission analysis as events unfold. Weick describes a technique – called *E-Prime* (attributed to scholar E.W. Kellogg) that strives for communications that do not using any derivative of the verb "to be." For example, in lieu of describing the local activity as "there was a terrorist attack," e-prime demands that the reporting agent provides context (literally, "with text"). The rich description may include statements like:

> After speaking with several townspeople, I found 10-year old local Ishmael Taleb who told me that at around sunset yesterday, he observed two people, dressed in local garb, put something in a flower pot in the market square. This morning when the market opened, an explosive device detonated at or about the same location as the flower pot; perhaps triggered by a cell phone (I found parts of a cell phone nearby).

Weick explains that when…

> I'm forced to forego the verb to be, I pay more attention to particulars, context, and the situation. I also tend to see more clearly what I am not in a position to say....When people perceive flowing experience, those undifferentiated sensations gradually take on explicit meaning when they are named, systematized, and formalized. When people name and formalize, they move farther away from their initial impressions.[23]

Patterned Thinking. Another technique is to communicate along the continua of narrative domains rather than in categories (more common phrases are "thinking outside the box" and "patterned thinking"). For example, the Parmenidean mindset frames the idea of "critical thinking" around classical empiricist categorical values (deemed "universal intellectual standards") of clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.[24] A design thinker may reframe those qualities along continua into a pattern (see sample in Figure 2). Traditional analytic methods attempt to "define the problem" within the narrative domain along the left side of the figure.

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[21] Karl E. Weick, "The Generative Properties of Richness," *Academy of Management Journal*, Vol. 50, No. 1, 2007, pp. 14-19. For more on e-prime, see E. W. Kellogg's, Speaking in E-Prime.

[22] For example, see Clifford Geertz, *The Interpretation of Cultures*, Basic Books, 1973.

[23] Weick, p. 18.

[24] Richard W. Paul and Linda Elder, *The Miniature Guide to Critical Thinking* (4th ed.), (Foundation for Critical Thinking, 2004), pp. 7-9. This booklet is used by US Army Command and General Staff College and US Army War College to teach critical thinking in terms of what they call "universal intellectual standards."

From this Parmenidean point of view, all critical thinking is oriented on making a difficult situation into an understandable situation (with *information sharing* values constituting the validity of the narrative domain).[25] However, design thinkers may take a Heraclitean view and draw a line depicting the conditional state of the situation they are in as falling somewhere in between the domain opposites (see the hand-drawn red "line of appreciation"). Rather than expending energy analyzing "the problem" in order to get to the left side, the designer realizes that the red line represents the wicked reality at hand. Designers acknowledge that problem definition is not possible if the appreciation line is along the narrative domain on the right. In critical dialogue, the conceptualization of "wicked problems" in the midst of these narrative continua provides a form of *appreciation*, where *understanding* would be illusory.[26]

One could also make the *principles of war* into continua signifying different patterns of operations can afford different appreciations of which principles should dominate in a particular circumstance.[27] There are many more examples of employment of continua (*patterned thinking*) rather than categories.[28]

[25] In the Army's newly published FM 5-0, *The Operations Process*, the word "understanding" is used over 250 times (one of the top 10 most frequently words used in the document!). To a reflective designer, this may reveal the Parmenidean mindset of the doctrinaires. The main idea of "the operations process" is to achieve understanding. Design makes no such assertion that this is even remotely possible when facing wicked, high VUCA situations. Hence, the designer may expose the fallacy of this assertion, for example, by asking complexity scientists or chaos theorists to enter the conversation in order to poke ontological and epistemological holes into the doctrinal assertion.

[26] Herein lies the fallacy of "commander's understanding" that has malformed the US Army view of design adopted in Field Manual 5-0, *The Operations Process*, March 2010. For example, in the Foreword to the newly published manual, the writers state, "With the publication of FM 5-0, The Operations Process, and the introduction of design into our doctrine, we highlight the importance of ***understanding complex problems*** more fully before we seek to solve them through our traditional planning processes" (emphases added). To a Heraclitean-based designer, this assertion would be considered absurd—one cannot understand complexity (otherwise it's not complex)! Interestingly, in the precursor to that publication, US Army Training and Doctrine Command (TRADOC) had used the term "appreciation" (see the pamphlet Commander's Appreciation and Campaign Design, 28 January 2008). The present author sadly reports that TRADOC had it about right in their pamphlet then they got the philosophy of design patently wrong in the doctrine.

[27] See Christopher R. Paparone and James A. Crupi, "The Principles of War as Paradox," *Proceedings*, Oct 2005, pp. 39-44.

[28] See Christopher R. Paparone and James A. Crupi, "Janusian Thinking and Acting," *Military Review*, Jan-Feb 2002, pp. 38-47.

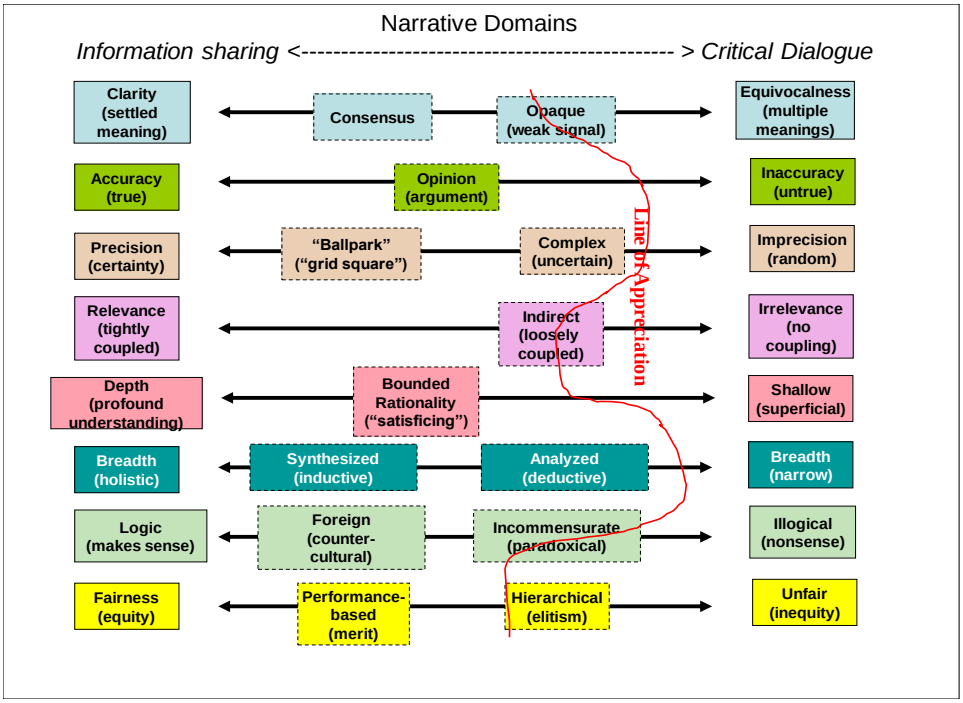

Figure 2. Some Sample Continua Between the Narrative Domains of "Information Sharing" and "Critical Dialogue" (designated with a "Line of Appreciation").

Invite a Diversity of Participants (including those who are situationally immersed). In high VUCA niches, context matters and effective dialogue is "historically and culturally situated."29 A "broad church of approaches" can prevent epistemic fallacy (that is "confusing what is with what we take it to be").30 Exploring a diversity of senses, feelings, ethics, and spirituality can constitute a strategic advantage. Seeking an inconsistent ethos (a set of histories and cultural- and psychological- value preferences) is quite a departure from the consistent normative values (such as getting the US military staffs' customarily, if not mindlessly, to singularly follow commander's guidance in a planning process). While we cannot rely on a science of selection for who should participate in critical dialogue sessions, the community of military designers can provide opportunities for self-selection and gently nudge potentially interesting people into the boundaryless design club.

Insofar as situational immersion, anthropologist Anna Simons summed up her research of history's most profound strategists that, "Without any formal training in anthropology, such disparate figures as T. E. Lawrence, Douglas MacArthur, Joseph Stilwell, George Kennan, and Edward Lansdale all proved adept at turning their insights about another culture to strategic effect. More significantly, the strategies they came up with succeeded as instruments of war."**31** Immersion into local situations, coupled with the ability to tell the story effectively, are essential to dialogue.

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[29] Gergen, Gergen, and Barrett, p. 9.
[30] Margaret Archer, "Realism in the Social Sciences," pp. 189-205, in Margaret Archer, Roy Bhaskar, Andrew Collier, Tony Lawson, and Alan Norrie, *Critical Realism: Essential Readings* (London: Routledge, 1998), p. 195.
[31] Anna Simons, *Got Vision? Unity of Vision in Policy and Strategy: What It Is and Why We Need It*, US Army Strategic Studies Institute.

Shape Social Norms for Frank and Open Dialogue. Ideally, participants subscribe to values associated with healthy dialogue. Hierarchical values are detrimental to good dialogue.**32** Participants must somehow leave rank and positional authority "at the door" and not confuse passionate argument with insubordination or disrespect. Active or reflective listening practices are important ("I heard you say… [rephrasing] …, is that about right?"). Chris Argyris suggests these additional norms:

- Advocate positions as forthrightly as possible, but do so in a way that encourages others to question them.
- Ask for a better-supported argument whenever someone states a disagreeable position, or help the arguer better assess the position.
- Use illustrative data (storytelling) and make lucid, cogent arguments when evaluating another person's argument. Clearly articulated reason, rather than authoritative response, should serve as the standard for known-knowns.
- Apologize if, in the process of dialogue, you act in ways that appear to upset others. Assure them that this was not the intention (provided that is genuinely the case) and state the intent and the reasoning behind it.
- Ask for the reasoning behind actions that you find upsetting, in order to appreciate the other's intentions.[33]

Facilitating such norms may the most important advice of all and yet it is not supported by the US Army doctrinaires who published the March 2010 version of Field Manual 5-0, *The Operations Process*. The manual reduces the philosophy of design to a methodological tool of those in the upper hierarchy where the commander exercises "decisive leadership" (a value that is antithetical to open dialogue) and develops "a thorough understanding" in order to "formulate effective solutions to complex, ill-structured problems."[34]

Don't Be so Damned Rational! Social theorist Alfred Schutz defined rationalization as the "transformation of an uncontrollable and unintelligible world into an organization which we can understand and therefore master, and in the framework of which prediction becomes possible."[35] This bears a striking resemblance to what mission analysis and other methods of analytic decision making are believed to promise. US Army doctrinaires assume that there are such things as "ill-structured problems;" however, from the Schutzian frame of reference, this presents an absurd, uncritical belief.[36] Situations cannot be conceived as problems without a useable intellectual structure to frame them; hence, the construct "ill-structured problems" is an oxymoron. When faced with wicked situations or messes, all of our shibboleths and typifications do not work; hence, there is no "problem" to define. A contemporary of Schutz, Herbert Blumer,

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[32] Many organization theorists have written support to this thesis. The most sophisticated (in my view) is those who have developed the Competing Values Framework, concisely summarized in Kim S. Cameron and Robert Quinn, *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework* (Reading, MA: Addison-Wesley, 1999).
[33] Chris Argyris, *Strategy, Change, and Defensive Routines* (Marshfield, Mass: Pitman, 1985), pp. 258-59.
[34] US Army FM 5-0, p. 3-1.
[35] Alfred Schutz, "Studies in Social Theory," *Collected Papers* Vol II, (The Hague, NE: Martiners-Nijhoff, 1964).
[36] US Army's FM 5-0 asserts that design is about placing participants in "purpose-built, problem-centric" design teams "based on their expertise relative to ***the problem***" (emphasis added, p. 3-6). The document also conveys that there can be "understanding [of] Ill-structured problems" (p. 3-2). This is absurd if only from the fallacious basis of why the design team would move to a design philosophy if it could be "problem centric" or if it were just a matter of sharing information to achieve "understanding?" This is a massive logical fallacy in the way the US Army has introduced design to the military community of practitioners. Why massive? This distorted view of design reinforces the community to see the world from a single paradigm – the Parmenidean one.

puts it this way, "…objects, events, and situations do not convey their own meanings, [rather] we confer meaning on them."[37] Practitioners invoke design when they have inadequate or no structure to place onto situations in order to "define the problem." Wrapping design into the planner's functionalist's world of rationalization (as the US Army doctrinaires attempt to do) seems ludicrous from this frame of reference. In high VUCA situations, designers must design meaning!

Encourage Irreverence. A deviant leader can be more influential while participating in critical dialogue if they make others laugh at what they thought to be true. Jokes, puns, and other forms of humor jab at established rules, norms, and even values (the latter often being "taboo"). To be deviant is to be irreverent and to be irreverent is to be creative – essential to the process of critical dialogue. As Michael Cohen and James March assert, it is hypocrisy that transforms thinking, not conformance. "Playfulness is the deliberate, temporary relaxation of rules in order to explore the possibility of alternative rules," Cohen and March continue. These observers maintain that "a little heresy can go a long way," and that "humor, play, and silliness can reduce tension and encourage irreverence." Finally these authors suggest profoundly that those involved in design should "[s]upplement the technology of reasoning with a technology of foolishness."[38]

Conclusion

From these observations on the importance of effective critical dialogue, we can now speculate on some tentative inferences concerning institutional illogic:

You Cannot Make Design into a Doctrine (i.e. *design doctrine* is oxymoronic) and rational planning methods may obstruct design. We will never get design "right" because design requires dynamic instability (through ongoing, never-ending critical dialogue) in ontology and epistemology. While Army doctrinaires describe design as a methodology for planning (to embellish the "conceptual component" of planning),[39] this essay, as have the preceding three, attempts to describe design ultimately as a philosophy. The present essay argues that critical dialogue, inherent to design, is an unstructurable methodology. Design is not part of a definable "operations process," as the US Army contends. Critical dialogue may very well call into question the efficacy of the paradigm that operational planning represents. Theories of how to approach social problems, like war, are themselves social products. Design would postulate that there can be no concept of war in general, only war as historically situated and interpreted.[40] The US Army's (and all the other military doctrine) is historically situated and interpreted. Designers become intimately critical of that historicity and those singular interpretations.

DOD Curricula are Too Parmenidean (i.e. singularly paradigmatic). The Department of Defense (DOD) colleges' and universities' mantra of "teaching students *how to think* in lieu of teaching them *what to think*" is a fallacy given the view of critical dialogue proposed in this essay. Ideally, DOD educators provide practitioners opportunities for effective forms of critical

[37] Herbert Blumer, *Symbolic Interactionism: Perspective and Method* (Berkeley, CA: University of California, 1969).
[38] Michael D. Cohen and James G. March, *Leadership and Ambiguity: The American College President*, (2d ed.) (Boston, MA: Harvard Business School, 1986), p. 223.
[39] US Army FM 5-0, p. 3-1.
[40] This is Roy Bhaskar's central argument in "Societies," (pp. 206-257) in (Op. cit.) Archer, Bhaskar, Collier, Lawson and Norrie, 1998.

dialogue. We cannot presuppose how students might think while engaged in critical dialogue (in fact, we should hope for being surprised). If this value of *being surprised* is not considered paramount in curriculum design, then DOD educational institutions are not effectively providing opportunities for critical dialogue. Related, the community of practice should stress that acting may be required before thinking (as with the deeply immersed teams operating in uniquely local situations exploring novel approaches to craftwork and emergent tasks discussed in Essay #3). The ability to richly describe what is happening (i.e. good storytelling) may be much more important than conducting analysis through the lenses of preconceived categorizations of activities and capabilities.[41]

In high VUCA operations, English language skills associated with the liberal arts' *Trivium* are more important to critical dialogue than information sharing about the military functionalist sciences. DOD schools have to find ways to import "stories from the field" into critical dialogue in the classroom or near real time in the actual field setting. For too long, the DOD classroom has become the "high ground" that is substantively disconnected from "the swamp" of the practitioner. Educators have to become career-long tutors who stay connected with their cohorts of practitioners while they are practicing. The practitioners' experiences-as-they-are-acting become case studies for critical dialogue. Traditional "canned" case studies are inappropriate to exercise critical dialogue that orients on narrating about wicked situations.

One neither Manages nor Commands Dialogue. As argued in Essay #2, this should be a call for the reform of institutionalized views on leadership. The following chart imports the dialogical qualities of *leadership* juxtaposed with the *managerial* and *command* views (Figure 3). Dialogical forms of critical reasoning require Heifetzian-style leadership and the devolution (if only temporary) of hierarchical management and command values.

Leadership ←	→ Management ←	→ Command
Dialogical	Monological	Monological (or *PowerPointological*)
Co-creation of Reality	Policy-is-Reality	Top-Down Guidance on Reality
Participative	Rule-Following	Disciplined Compliance with Intent
Emergent Tasks & Craftwork	Routine Tasks	Engineering Tasks
Ongoing Storytelling	Resource Allocation	Deciding is a Point-in-Time
Deviant Conjecture	Supervised Compliance	Authoritative Response
Open-endedness	Constraint	Closure
Multi-Paradigmatic	Single Paradigm	Single Paradigm
Immersive Acting	Planned Action	Controlled Acting ("Audibles")
Playful and Serious	Serious	Serious

Figure 3. Comparative Study of the Qualities of Design-Oriented Leadership (based in Essay #2 of this series).

Lessons Learned Aren't (i.e. the Lawrence Paradox is real). In her brilliant exposé, anthropologist Anna Simons states, "The Lawrence paradox refers to our propensity to turn unduplicable lessons into generic principles as if anyone should be able to apply them."[42] In the next essay (#5) in this series, we will examine the role of metaphoric (heuristic-based) reasoning as it relates to framing and reframing wicked situations. Experience in the complex social milieu is merely a hypothesis and more often than not a generalizable, causal story of the functionalist.

[41] For example, see "The Story is Telling: Simplicity is Complicated" in *Defense AT&L Magazine*, June 2010, pp 51-54.
[42] Simons, p. vi.

Recall senior military leaders in the 80s who aspired to the mantra that, "we'll never fight the last war; every war is different." Yet all of our formal organizational learning systems seemed geared to collecting "best practices" and "lessons learned" on how we are operating. We should not be surprised when the institution operates the same ways the next time!

To summarize, design is largely about creating meaning in the face of wicked (high VUCA) situations. The professional practitioner cannot rely solely on the Parmenidean paradigm and its questionable assumptions about knowledge. Critical dialogue is essential to the efficacy of constructing and reconstructing the reality at hand by exploring new or improved meanings.

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