# Design and the Prospects of a US Military Renaissance

## Christopher R. Paparone

To the US Army's and Marine Corps' credit, their doctrinaires have been busy at work trying to incorporate aspects of *design* into field manuals (design was institutionalized in FM 3-24/MCWP 3-33.5, *Counterinsurgency*). Framed around how to deal with highly volatile, uncertain, complex and ambiguous (high "VUCA") situations, design is becoming attractive as a complementary or perhaps an alternative for a military staff culture that is deeply rooted in the analytic-planning paradigm. While *design-as-praxis* is a relative newcomer to military professionals, it has conceptual ties to ancient Greek philosophical debates and a decades-long history in the areas of architecture, urban studies, public policy, and more recently, business management. The purpose here is to offer some additional perspective on design – its philosophical underpinnings, its eclectic nature, and its potential significance toward a renaissance (cultural rebirth) of military profession practice.

**The Competing Philosophies of Design**

The "H-School." To embrace the significance of design philosophy is to appreciate the ancient debates associated with ontology (answering the question "what is real?") and epistemology ("how do we know it's real?").[1] Heraclitus (circa 4th century BC) saw the universe in constant change and if he were alive today he would likely claim that you could never step into the same military operation twice – that is, *ontologically*, reality is fleeting to the point where our knowledge of it has to be tentative and subjective.[2] In philosophical terms, the H-school paradigm represents contextualism, or using language to reframe meanings as old frames seem not to work. A Heraclitean view would argue that to gain a better appreciation for the truth about the ever-changing world, an eclectic or pluralistic approach to interpreting reality is better than seeking a monistic view. Heraclitean ontology would stress that high VUCA is always present – there were no "cold wars," "eras of persistent conflict" or other such monistic categories to describe what happens over time. There are only temporary ways to make sense of reality that is continuously transforming in-the-now or interpreted through sensemakings about

---

[1] The author adapted the following ideas from Robert Chia, "Process Philosophy and Management Learning: Cultivating 'Foresight' in Management Education," pp. 71-88, Chapter 4 in John Burgoyne and Michael Reynolds (Eds.) *Management learning: Integrating Perspectives in Theory and Practice* (London: Sage, 1997).

[2] In philosophy, ontology is the sense of being. The logic of being answers the question, "What is real?" Others might call this worldview, paradigm, schema, cultural interpretation, or institutional perspective. Epistemology (literally, the logic of knowledge) answers the question, "How do we know it is real?" Together these logics form the bases of reality and the reasoning that goes with it.

the past.  The more people from all walks that are involved in these sensemakings, the more there are multiple realities.  The H-school encourages multiple perspectives to at least provide a better chance of describing an emergent reality.

Heraclitean epistemology (i.e. knowledge structures) suggests that since we cannot sense the world objectively, we have to invent the world as it unfolds – we are making sense of it as we go along.   In that regard, H-school knowledge is typically articulated using verbs -- speaking to reciprocal relationships and modeling the concept of homeorhesis (i.e. fluctuating instability, where causality is impossible to pin down).  In the military context, we must critically reflect on the operations we are in as they are happening (in ontological terms, *becoming*) and creatively revise our sensemakings.[3]  Indeed, according to the Heraclitean worldview, theories are tentative explanations, to-be-replaced by new ones without necessarily throwing the old ones away.  We use the old theories as heuristics and creatively displace and extend them into reformed meanings.

The "P-School."  An opposing philosophy, suggested by a contemporary of Heraclitus, Parmenides, is that ontologically there is but one, objective reality; hence, seeking monistic knowledge is always the way to truth.  In philosophical terms, the P-school paradigm represents nomotheticism, or the seeking of irrefutable laws.  Parmenidean reasoning would see military operations as opportunities to learn more about war, and the progressive accumulation of knowledge about it would be possible.  The epistemological belief is that the truth will be known; hence, what seems confusing now will eventually transcend into the understandable.  As time goes on, that accumulation and convergence will take us closer to the truth about settling human conflict.  Parmenidean theories about reality focus not on verbs, but on nouns -- states of stability.

The Design School: The Unity of Opposites.  The underpinnings of design seem to treat these otherwise cosmological polarities as a continuum, or perhaps a meta-philosophy.[4]  In more of an Eastern philosophical sense, considering these paradigms together constitute a transcendence of opposites (e.g., the Ying and Yang) of existence and knowledge about that existence.[5]  More contemporary philosophical debates seem to bear this out: *religiosity* with respect to the *enlightenment*; *postmodernism* with regard to *positivism*; and, perhaps more relevant to the military context of this discussion, *irregular warfare* juxtaposed with *conventional operations*.[6]

---

[3] Sensemaking is a form of imagination, characterized by using, modifying, rejecting and creating new paradigms or mental models when dealing with situations of incoherency and disorderliness.  Adapted by the author from Karl E. Weick, *Sensemaking in Organizations* (Thousand Oaks, CA: Sage, 1995).

[4] Nicholas Rescher has covered the idea of meta-philosophy in his writings, particularly in *Philosophical Reasoning: A Study in the Methodology of Philosophizing* (Malden, MA: Blackwell) 2001.

[5] The present author spoke to this is in his short article, "Thinking in Fours" in the Jan-Feb 2010 issue of *Defense AT&L Magazine*, accessed on 14 January 2010, http://www.dau.mil/pubscats/ATL%20Docs/Jan-Feb/paparone_jan-feb10.pdf .  Called "Janusian Thinking" by Albert Rothenberg, *The Emerging Goddess: The Creative Process in Art, Science and Other Fields* (Chicago, IL: University of Chicago, 1979).  See also Christopher R. Paparone and James A. Crupi, "Janusian Thinking and Acting," *Military Review*, Jan-Feb 2002, pp. 38-47, accessed 14 January 2010. http://www.au.af.mil/au/awc/awcgate/milreview/pap_janus.pdf.

[6] See evidence of H- and P-School philosophies in two versions of the Capstone Concept for Joint Operations. Effects-based operations are implied in Parmenidean logic as "actions taken by the joint force" in order to "establish, expand, and secure reach, acquire, refine, and share knowledge, and Identify, create, and exploit effects" (August 2005 version 2.0, accessed from the worldwide web on 15 January

The meaning of the word design is a displaced, now multifaceted concept borrowed from the field of architecture.[7]  Implied in this root metaphor is that architecture brings the natural sciences of engineering (based in Parmenidean scientific reproducibility and predictive certainty) and the humanities (artfulness based more in Heraclitean philosophy of uniqueness, locality, contextuality, and novelty).   In other words, design represents the root metaphor by transcending the differences in ontological and epistemological assumptions of the sciences and the arts.  The metaphor has been increasingly extended and now design is commonly in the lexicons of various disciplines -- urban studies, public policy, business, and more recently, military science.

The renaissance of the military professional involves transcendence that is associated with the utilitarian arts (see Figure below).  The ingredients of a renaissance are deciding and acting while reflecting on a multitude of competing ontological and epistemological viewpoints.  The author admits this chart makes questions of ontology and epistemology seem neat and orderly, yet that is intended only to provide a temporary view from the intellectual "high ground."  In "the swamp" of complex human interaction, these are all mixed up in a very messy way.
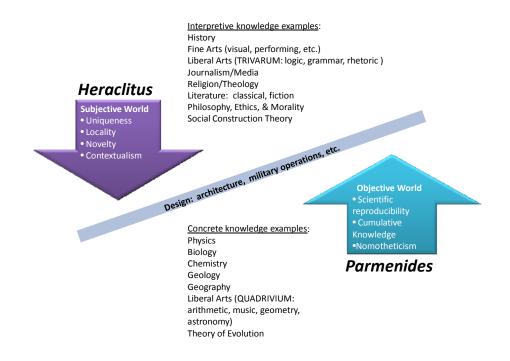


**Figure.  The Ontological and Epistemological Balance of "Design"**

---

2010, http://www.au.af.mil/au/awcgate/dod/ccjov2.pdf, p. 12).  "Narrative battle," associated with irregular warfare, comes from the version 3.0, 15 January 2009 (accessed from the worldwide web on 15 January 2010, http://www.jfcom.mil/newslink/storyarchive/2009/CCJO_2009.pdf, p. 5)  Also in version 3.0, irregular warfare is described in Heraclitean terms as, "...the ultimate futility of trying to describe warfare in terms of definitive categories" (p. 38).

[7] Donald A. Schön, *Displacement of Concepts* (London: Butler & Tanner, 1963).  Also see the present author's summary in a forthcoming issue of *Defense AT&L Magazine*, "Learning to Swim in the Ocean: Creativity as a 'Zone of Analogy.'"

Such an eclectic view challenges the efficacy of traditional military doctrine. For example, doctrinal categories (like offense, defense, etc.), functionalized variables (such as METT-TC, DIME, and PMSII), and scientific-like taxonomies (e.g., tactical, operational and strategic levels of war) apply in the relatively stable Parmenidean world. As a function of that perceived stability in the environment, these reusable meanings can economically represent reality. However, when we face novel situations, we seek to catalogue them through heuristic devices (or "artificial science" – that includes such categories, variables, and taxonomies) until we believe that we understand.[8] At the risk of fallacious reasoning, we retrospectively conceptualize the present conditions around the borrowed meanings from the past, believing them to be Parmenidean "lessons learned" in the every growing accumulation of knowledge.

Rather than accepting them as proofs, we should instead mitigate ontological risk (acknowledging the tentativeness of our knowledge constructions) through critical reasoning – finding balance between the Heraclitean and Parmenidean sources of knowledge. While we can purposefully and creatively extend and displace those "lessons" and shift meanings to adapt to the present condition, we can only *infer* meaningful relationships from the past to the present— this is a Heraclitean undertaking. In that inference we have to remain mindful of the limits of analogous reasoning – recognizing that these are metaphors and not literal meanings – and our framing in complex, novel situations is like finding "family resemblances." [9]

In recent texts of contemporary military debate, we find unpleasant circumstances where we cannot surmise solutions from past experiences and, following Herbert A. Simon's lead, we label these situations "ill-structured problems."[10] Even upon deeper reflection, we can find no context to make sense of them, that is, we cannot find "solutions" (better defined as Parmenidean-rooted technologies) that we could use to define these "problems."[11] As we perceive ill-construction because we cannot find structure in our existing nouns (like, "offense" and "defense"), Heraclitean philosophy suggests that we should artfully promote meaning creation. This involves a broadened and persistent exploration for heuristics that tentatively work (re-framings, adapting rules of thumb, finding historic analogies, use metaphors, and so on). With a more open search strategy, we may collaborate with others with varying views, call upon the unfamiliar arts and sciences, merge heuristics, and, extend and displace concepts until we discover new meaning in the situation. (Recall Archimedes' naked excitement shouts of *"Eureka!"* that is from the Greek verb, *heuriskein* -- to find out.)[12] We surprise ourselves as we linguistically design our emergent reality.

---

[8] Herbert A. Simon, *The Sciences of the Artificial* (3d ed.) (Cambridge, MA: MIT, 2001).

[9] Mary Hesse, "Theories, Family Resemblances and Analogy" (pp. 317-340) in David H. Helman (Ed.), *Analogical Reasoning: Perspectives of Artificial Intelligence, Cognitive Science, and Philosophy* (Doderecht, Netherlands: Kluser Academic, 1988). Hesse uses the metaphor of "family resemblance" to signify the process of analogical reasoning.

[10] Simon, Herbert A. (1973). "The Structure of Ill Structured Problems," *Artificial Intelligence* Vol. 4, March 1972, pp.181-201. For military examples, see: Stefan J. Banach, and Alex Ryan, "The Art of Design: A Design Methodology," *Military Review*, March-April 2009, pp. 105-115; and, Department of the Army, TRADOC Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design*, January 2008.

[11] Michael D. Cohen, James G. March and Johan P. Olsen, "A Garbage Can Model of Organizational Choice," *Administrative Science Quarterly*, Vol. 17, No. 1, 1-25.

[12] Joseph Agassi, "Analogies Hard and Soft," (pp. 401-419) in David H. Helman (Ed.), *Analogical Reasoning: Perspectives of Artificial Intelligence, Cognitive Science, and Philosophy* (Doderecht, Netherlands: Kluser Academic, 1988). Agassi sees metaphors as "vague in their limits of applicability, they are suggestive, they are not

In a practical sense, perhaps the concept of *irregular warfare* is best interpreted primarily through the Heraclitean subjective ontology.   H-school assumptions of irregularity and ephemeral meanings supplant the implausibility of "understanding" with the idea of *appreciation* (an ongoing, never-ending process).[13]   Military doctrinaires have historically based warfare in the objective world of nouns and descriptive states that reflect a Parmenidean worldview.   Being in a state of *regular warfare* exemplifies P-school codification.   Ends-based rationality (the prominent hallmark of contemporary military strategy and doctrine) is arguably rooted in the Parmenidean paradigm.[14]   The future of the military profession may depend on finding a unity of opposites.

**Implications for a Professional Renaissance**

As the philosophy of design grows in the ranks of a re-professionalized military so shall the need to acknowledge a cultural rebirth that will affect the way the military practitioner conceives of reality and serves to promote eclectic views of knowledge.   The unifying questions are tripartite: *How is our world constructed?  Are accumulations of knowledge about warfare possible?  What should we feel about- and relate to- the human conflict?*   Synthesis and evaluative judgment based in the possibility of multiple realities and sources of sensemaking must overcome the traditional monistic search for Parmenidean "best practices."   Melding with a more Heraclitean view would also call for "reflective practicing" in the never ending *becoming* of a professional.[15]

We already a witness a movement toward this idea with the accompanying US Army metaphor "full spectrum operations" signifying the visible (Parmenidean objectivity) and the invisible (Heraclitean subjectivity) ebbs and flows of an interactively complex world (bringing to mind the physics quandary -- is light a wave or a particle?).   Yet the military still seems to want to view doctrine with the Parmenidean lens (e.g., we would rather understand particles than merely appreciate that operations are in constant flux – signifying a wave <u>and</u> a particle).   Perhaps this proposition indicates a potential ontological shift underway in the military culture – that occurs when, according to science historian Thomas Kuhn, "an existing paradigm has ceased to function adequately in the exploration of an aspect of nature to which that paradigm had previously led the way."[16]   Kuhn's philosophical treatise on the "structure of scientific revolutions" and the possibility of "paradigm shifts" may well apply here.

---

simply vague and indefinite, they stimulate one's thinking, [and] they offer possibilities which scintillate between promise and disappointment" (p. 404).  Also see Schön, *Displacement of Concepts* (London: Tavistock, 1963).
[13] In Army Field Manual 3-0, *Operations*, defines "battle command" includes "understanding" (February 2008, p. Glossary-2).  Interestingly, the term "appreciation" has been dropped in the latest (January 2010) drafts of FM 5-0; whereas, it was included in the US Army training and Doctrine Command Pamphlet 525-5-500 , *Commander's Appreciation and Campaign Design* – the precursor to doctrine.  This may reflect a cultural proclivity toward the Parmenidean paradigm.
[14] Christopher R. Paparone, "Beyond Ends-based Rationality," Chapter 11, in Gabriel Marcella, *Teaching Strategy: Challenge and Response* (Carlisle, PA: US Army Strategic Studies Institute, 2010).
[15] As George Reed and the present author made the case in "The Reflective Military Practitioner: How Military Professionals Think in Action," *Military Review*, Mar-Apr 2008, pp. 66-76.
[16] Thomas S. Kuhn, *The Structure of Scientific Revolutions* (3d ed.) (Chicago: University of Chicago, 1996), p. 92.

Kuhn also warns that the metaphor "revolution," borrowed from political science, is a stretch in that only those whose worldview is affected considers it revolutionary which is why "renaissance" may be the better term for the US military in the midst of such a transcendental shift. For example, those who are endeared by the incremental advancement of military doctrine (arguably a P-school preference) may not be able to argue effectively with those who embrace a more eclectic H-school worldview. Indeed, Kuhn maintained that paradigms cannot cross-talk, yet, as proposed here, one can be subsumed and transcended into each other. In that regard, those who might argue that we are operating in a post-Parmenidean frame of mind and heart may actually experience a kind of excommunication and even risk institutional punishment depending on the organizational power structures at hand. *How should we feel about- and relate to- the prospect of a born again military profession?*

*Christopher R. Paparone, Colonel, U.S. Army, Retired, is an associate professor in the Army Command and General Staff College's Department of Logistics and Resource Operations at Fort Lee, Virginia. He holds a B.A. from the University of South Florida; master's degrees from the Florida Institute of Technology, the U.S. Naval War College, and the Army War College; and a Ph.D. in public administration from Pennsylvania State University. On active duty he served in various command and staff positions in the continental United States, Panama, Saudi Arabia, Germany, and Bosnia.*