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PPBE: A RED OR A BLUE PILL? CAN DEFENSE SENSEMAKERS REALLY BE RATIONAL IN A HYPERTURBULENT WORLD?

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The author applies social construction theory to reveal potential blind spots associated with the technical rationality paradigm rooted in the Defense Department's Planning, Programming, Budgeting and Execution (PPBE) process. Drawing heavily on Karl E. Weick's (1995) version of sensemaking (i.e., using, modifying, rejecting, and creating new paradigms or shared mental models when dealing with situations of incoherency and disorderliness), this article reveals the paradoxical qualities along three socially constructed schemes: the Pentagon world of PPBE, the world of political reasoning, and the hyperturbulent world described as our contemporary operating environment (COE). Ultimately, the author argues that Defense resource management professionals could be living in a dream world not unlike that imagined by the character, Neo, in the popular movie, *The Matrix*©.

"Rationality, of course, is a moot issue when causality is poorly understood."

—Russ Marion, The Edge of Organization

For almost half a century, the Department of Defense (DoD) has enjoyed the reputation of being accountable and responsive to both the Executive Branch and Congress by presenting rational solutions to well-defined requirements. The DoD's Planning, Programming, Budgeting and Execution process (PPBE for short) has evolved into one of the most sophisticated and regimented examples of comprehensive strategic planning in the world (Roberts, 2000; McCaffrey & Jones, 2005).

However, the efficacy of the strategic planning paradigm as a method for allocating resources (e.g., Gulick, 1937; Ansoff, 1979; Bryson, 1995; Kaplan & Norton, 1996; Lewis, Brown, & Schrader, 1999) has been under considerable attack for decades (e.g., Lindblom, 1959; Allison, 1969; Mosher, 1969, Rittel & Webber, 1973; Steinbruner, 1974; Senge, 1990; Mintzberg, 1994; Kingdon, 1995; Michael, 1997; Stone, 1997; Downs, Durant & Carr, 2003). This article addresses this dichotomy by presenting the case for higher order sensemaking—shorthand for the phenomenological view[1] of how human beings can purposefully use, modify, reject, create, and share paradigms when dealing with complex or chaotic situations.

This is an argument for sensemaking, centering the discussion on transforming how to think about managing DoD resources. It highlights the limits of technical rationality (the philosophical basis of PPBE), the logic of political reasoning, and the complexities of the contemporary operating environment (COE). The phenomenological proposition is that by presenting thoughts about collaborative inquiry from a social constructionist perspective, DoD professionals (both civil servants and military officers) and their clients (political appointees or elected officials) can make better shared sense of managing resources under complex and chaotic conditions.[2]

SENSEMAKING WITHIN THE PPBE CONTEXT

The modern concept of rationality is a relatively new one in the scheme of world history. René Descartes (1596–1650) was an important framer of the enlightenment associated with the idea that the world can be objectified through the emerging positivist philosophy of Newtonian science.[3] The central idea of scientific (or technical) rationality is that objectivity can be verified with the content of a positivistic body of knowledge (Hacking, 1982). Recently, post-Newtonian scientists (i.e. postpositivists) have challenged the Cartesian assumptions associated with the belief in objective reality—that the world is separate from us and our conceptualizations of it (e.g., Weick, 1995; Hatch, 1997; Kilduff & Mehra, 1997; Whipp, 1999). The common sense (prevalent social-psychological disposition) associated with René Descartes' *I think therefore I am*, is replaced with the less common sensemaking premise of, *I think therefore I imagine.*

Sensemaking, a form of imagination, is characterized by individuals and groups using, modifying, rejecting, and creating new paradigms or mental models when dealing with situations of incoherency and disorderliness (Weick, 1995). Sensibility is about reaching a condition of open receptiveness to emergent and sometimes counterintuitive and countercultural mindfulness as contrasted with a taken-for-granted mindlessness. The idea of mindfulness is oriented on being wholly engaged in scrutiny, a continuous refinement of expectations based on new experiences, and a willingness to invent new expectations (Weick, 1998). For example, the positivist-based assumptions of strategic planning include a belief that predicting pathways to achieving goals will bring certain finality to solving problems. Incommensurate with that logic, sensemaking implies there is no finality because humans socially construct a reality that they can never be certain about (Berger & Luckmann, 1967; Searle,

1995). The challenge in sensemaking is to treat experience and prior learning repositories (such as planning habits, doctrines, and rules) as theories for action that should be tried and tested continuously in search of new mental models (Argyris and Schön, 1978).

This phenomenological approach allows us to step back in a metaphysical way to examine the Pentagon-created world of PPBE.[4] As such, PPBE (based in the logical positivism of operations research and systems analysis) has become something akin to a cultural ideology in the DoD; witness where alternative types of decision making are disdainful if not incomprehensible (Paparone & Crupi, 2006). This ideology reflects an unquestioned belief, especially in numeric values or metrics, associated with an isolatable, predictable, and reproducibly testable cause- (ways and means) and-effect (ends) relationships. The rational discovery of these ends, ways, and means

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through technical processes is believed to be unbiased by emotions and unaffected by unethical political, cultural, and psychological values that would otherwise distort the results (Simon, 1997). Although the process has evolved to be a very complicated series of planned events and documentation, PPBE is essentially rooted in the sequential steps of the generic rational decision-making process, borrowed from the modern scientific method of hypothesis testing: (a) Define the problem (reducing the complicated to a manageable dependent variable); (b) present all facts and assumptions bearing on the problem (what affects the variable); (c) develop courses of action (COA) to solve the problem (search for the independent variable); (d) select the best COA based on objective criteria for analyses (how to make the independent variable more powerful in a reproducible way); and, (e) implement and provide feedback (analyze the results and report in preparation for the next cycle). This paradigm assumes problems can be defined in relative independence from other conditions through a process called reductionism. For example, in the DoD's force management, the current practice is to reduce and categorize problems (treated as dependent variables) and associate them with potential funding of programmatic solutions in doctrine, organization, training, materiel, leadership, personnel, and facilities (the DoD's list of standing independent variables). The fundamental belief is that the outcome of PPBE serves to argue, in a sterile sort of way, the case for obtaining and using public resources. In addition, through the PPBE lens, managers assume that problems of

defense are relatively stable and will generally be the same problems defined now as when they are eventually "solved" five or more years from now.

Other assumptions presuppose that there is no better way to control spending from the perspective of those appointed as publicly responsible and accountable at the top of the governmental hierarchy; that the President and Congress unconditionally expect the DoD to propose the most efficient single course of action for spending; and that the PPBE approach is the most influential way to obtain and use resources in our system of government. These assumptions are as ingrained into the fabric of the DoD culture as to be considered by its members to be tacit knowledge (Polyani, 1966).

From the postpositivist perspective, at least three issues with these beliefs are set forth in the PPBE paradigm:

- PPBE creates myopic learning. Plans, programs, and budgets spawn specified expectations; hence, blind managers who overly focus on confirming predictions rather than preoccupying themselves and their organizations with updating their thinking especially in light of an uncertain environment.
- PPBE undercuts organizational creativity and improvisation. Although plans, programs, and budgets seem to provide some contingent actions (i.e., plans for branches and sequels) based on present views of required capability, managers shun forms of adhocracy to deal with the unexpected; whereas, adhocracy may serve them and their clients better in some cases than institutionalized solutions.
- PPBE fosters "mindless" decision traps. Regulatory approaches to budgeting activities make even the smartest managers prone to repeat patterns of action that have worked in the past (a form of mindlessness); rather, being mindful of the uniqueness of situations that makes the pursuit of best practices or benchmarks seem dangerous.

In contrast to the mental confines of strategic planning, continuous sensemaking demands being mindful, and both appreciating that something needs to be done and changing what to do. It demands the recognition that ends, ways, and means are transitory and will morph over time as political interpretations and environmental conditions change. It acknowledges that this process is interactive—the environment is affected by what is done and that the environment will reciprocate—in a never ending dynamic of interactive, mutually causal variables (Weick & Sutcliffe, 2001).

SENSEMAKING WITH POLITICAL MINDFULNESS

The paradigm associated with political reasoning is often difficult to discern from presumed technically rational approaches (such as PPBE) because the process is often intentionally or perhaps subconsciously masked by the appearance of unequivocal results of analyses. With political reasoning, however, there can be no set linear programming steps; albeit, politicians, political appointees, and their constituents may believe or give the appearance that they are one and the same (Stone, 1999). The nature of political reasoning may include distinctive qualities such as: use of equivo-

cation; presenting (or hiding) multiple and convenient interpretations of the same rules, policies, and laws; undemocratic forms of agenda setting; purposeful exclusion of decision participants; deceptive bargaining and "logrolling"; guile; blending alternatives that appear dichotomous; satisfying the interests of only the most powerful constituencies while trying to appear to satisfy weaker and voiceless minorities; taking special interest benefits; storytelling to frame or spin how the problem should be defined; exploiting dogmatic or popular beliefs in a causal chain of events; advocating already thought of solutions by purposefully attaching them to emergent problems; and using institutionally biased values that drive course of action selection criteria.[5]

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Implied by commentary on political leadership, that "you can fool some of the people…" (Abraham Lincoln, 16th president of the United States), when DoD resource management professionals who believe strongly in the virtue of technical rationality discover that the political form of reasoning is not adhering to their expectations, they can become cynical, distrusting, and may lose their ability to dialogue honestly with their clients (Schön, 1983). On the other hand, when the political reasoning process appears to produce a desirable outcome, observers who make sense of the world through the lens of technical rationality can also falsely attribute positive results to policy decisions made by the client; albeit, there may be compelling evidence that the outcome was random—simply a matter of serendipity (Meindl, Ehrlich & Dukerich, 1984; Kingdon, 1995). Marion (1999) describes this attribution phenomenon in terms of a ritual where "strategic planning can provide leadership with an opportunity to reinforce its position in the pecking order. It is a statement that says management—like the shaman at primitive rain dances—is potent and in control" (p. 219).

With regard to both scenarios, DoD resource professionals could view their clients as those who exploit them, either for purposes of blame when their PPBE analyses are taken and appear to fail or when the results of the PPBE process are not listened to, and yet the outcome is favorable. Yet, if both parties were to agree that the outcome was more random than predictable with respect to the mutual causality inherent to environmental conditions, then the ensuing dialogue might be more open, honest, and insightful (Schön, 1983). Some evidence of this inability to plan and program budgets over the long term can more readily be understood using a chess metaphor.

Episodic strategic planning under complex conditions is analogous to trying to play chess with all the moves planned out in advance. Modelers of complexity have calculated that there are 10^{120} possible variations in chess moves possible in a single game. Mitchell Waldrop in his 1992 book, *Complexity*, suggests this "was a number so vast [as] to defy all metaphor. There haven't been that many microseconds since the Big Bang" (p. 151). He goes on to say, "We human players have to make do with rules of thumb—hard learned heuristic guides that tell us what kind of strategies will work best in a given situation" (p. 151). John H. Holland, in his 1998 book *Emergence*, discusses the extraordinary complexity of chess.

> Chess … has enough emergent properties that [it] continues to intrigue us and offer new discoveries after centuries of study. And it is not just the sheer number of possibilities. There are lines of play and regularities that continue to emerge after years of study, enough so that a master of this century would handily beat a master of the previous century (p. 23).

The point is that chess, with only a dozen or so rules, creates extraordinary complexity that defies prediction. In much more complex situations involving national defense, how can planners expect to map strategies when the "rules" not only are difficult to discern, but which change dynamically in a short period of time? To substantiate this doubt, have Defense planners gone back to historic plans to judge how accurately past objectives met the needs of the future?

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The 1993 *Report of the Bottom-Up Review* (the precursor to the quadrennial review process) had only one force structure counter-terrorism task envisioned during "peace enforcement and intervention operations." The task was too vague to tie to any specific program or budget: "securing protected zones from internal threats, such as snipers, terrorist attacks, or sabotage" (Aspin, 1993, p. 47). A later example includes the 1997 *U.S. National Security Strategy for a New Century*. This plan had a section on transnational threats that grouped terrorism along with drug trafficking and international crime. Counter-terrorism goals were addressed in the following sentence (parenthetical alphabetical letters represent emphases added):

> Our policy to counter international terrorists rests on the following principles: (a) make no concessions to terrorists; (b) bring all pressure to bear on all state sponsors of terrorism; (c) fully exploit all available legal mechanisms to punish international terrorists; and (d) help other governments improve their capabilities to combat terrorism (Clinton, 1997, p. 14).

Conspicuously absent in this historic plan is the need to prosecute a global war on terror of the magnitude the United States is engaged in today. Finally, the now defunct *Joint Vision 2020*, published in June 2000, focused on a force protection, antiterrorism goal without mention of a major DoD comprehensive role in combating terrorism in an offensive way. One could conclude that these strategy documents hardly guided creation and acquisition of DoD capabilities to counter terrorism; and, with the advantage of hindsight, they were insufficiently visionary to mobilize the military toward a global war on terror that emerged within the future year defense planning window. Also important to note is that none of these documents made mention of foreseeable military operations that would include the need for military support for stability, security, transition, and reconstruction operations. The issue is not the quality of the planning process; rather, it is the belief that the strategy-making process can predict the future with any reasonable certainty. The entire PPBE process is based upon that belief. Unfortunately, environment is not cooperating with these linear expressions of causality.

SHARED MINDFULNESS OF THE CONTEMPORARY OPERATING ENVIRONMENT

The COE is best described as hyperturbulent and characterized by the velocity and degree to which patterns of otherwise quasi-stable environmental changes are shifted to unstable, maladaptive patterns (McCann & Selsky, 1997). One convincing paradigm that acknowledges the complexity of sensemaking in the midst of the disorder and chaos associated with hyperturbulence is Rittel's and Webber's (1973) theory of wicked problems (similarly described as "messes" by Ackoff (1999, p. 178). According to these observers, "Social problems are never solved … at best they are only re-solved—over and over again" (1973, p. 160). I paraphrase and interpret Rittel's and Webber's distinguishing properties of wicked problems as follows:

- ***No definitive formulation.*** This includes the recognition that complex problems are ill-defined and/or that more information does not make the problem less ambiguous.
- ***No stopping rule.*** That is, past solutions or best practices may continue even if conditions change, and the conditions of the problem change more rapidly than a planned, programmed, or budgeted change can keep up with; hence, the solution becomes disconnected from the problem as the problem morphs. Finally, turnover and fluidity of participants in the affected organizations or institutions further confound the process.

- ***Not true or false, but bad or good solutions.*** Solutions are politically, culturally, and psychologically charged, that is, they are infused with the sometimes hidden values of those in power or with influence; hence, unseen values judgments and intuition—not economic reasoning—can and will dominate.
- ***No immediate or ultimate test for unintended consequences.*** Because the situation is so complex, with variables that exhibit the dynamics of mutual causality, no one or no group can predict what will happen. The future years defense plan approach will likely be fraught with "type III error" (Mitroff & Kilmann, 1981)—unknowingly solving the wrong problem with precision.
- ***May have one shot only because of irreversible consequences.*** Even if the manager acts in committing resources to a single course of action, the dynamics of taking action itself will change the environment and the previous conditions will be irretrievable.
- ***No enumerable or exhaustive set of solutions.*** Courses of action can seem like bad or worse, or the lesser of two evils, or may even be incomprehensible—military planners metaphorically call this phenomenon the solving world hunger kind of impossible challenge, not unlike the intractable messes associated with prosecuting "irregular" warfare with conventional analytical models associated with the military decision-making process.
- ***Uniqueness.*** Restated, it is hard or impossible to find benchmarks or best practices from the past or other examples of success, historic anecdotes, doctrine, or documented lessons learned.
- ***Probably a symptom of another problem.*** There is no single problem but a systemic network of interactive and interdependent problems that is too complex to unravel.
- ***Discrepancy.*** The conceived gaps between ideal end and where managers perceive things are can be explained in numerous ways, and there is no systematic procedure to get to the right answer. This quality makes Cartesian solutions fruitless but gives political actors opportunity for framing a façade of technical rationality to convince voters to elect them.
- ***The planner, programmer, or budgeter has no right to be wrong.*** Albeit, they deal constantly with the reality of a large, complex adaptive system—or organized anarchy (Cohen, March, & Olson, 1972)—that experiences forever dynamic and unpredictable trajectories, fraught with ambiguity, and complex causal webs that defy the articulation of a desired end state or strategic objective (1973, pp. 161–166).

The process of sensemaking reveals that the nature of the COE is not something managers have to deal with as external to their daily lives and the routine workings of the DoD. Indeed, managers and their organizations are both in it and interact within the interconnected workings of it in a dynamic, never-ending way. It is implausible, if not impossible, to isolate the world of PPBE against the backdrop of the hyperturbulent environment and the intervening world of the political players. This is

reminiscent of the storyline in the 1999 movie, *The Matrix*, where the main character, Neo, must make sense under paradoxical worldviews represented by a blue or red pill (Wachowski & Wachowski, 1999). If Neo takes the blue pill, he accepts the well-ordered world to which he is accustomed, unaware that he is asleep and that his psyche is being fed by a computer program (called the Matrix). However, if he takes the red pill it will mean facing a deeper meaning of reality that may be shockingly unpleasant to accept. He would no longer be isolated from the harsh reality that the world is really a very messy place, ridden with surprises, death, and destruction. Neo chose the harsher, more uncomfortable reality and ultimately led his followers to emancipation through revolution (metaphorically, a transformation that overthrew the technically rational world view provided by the Matrix).

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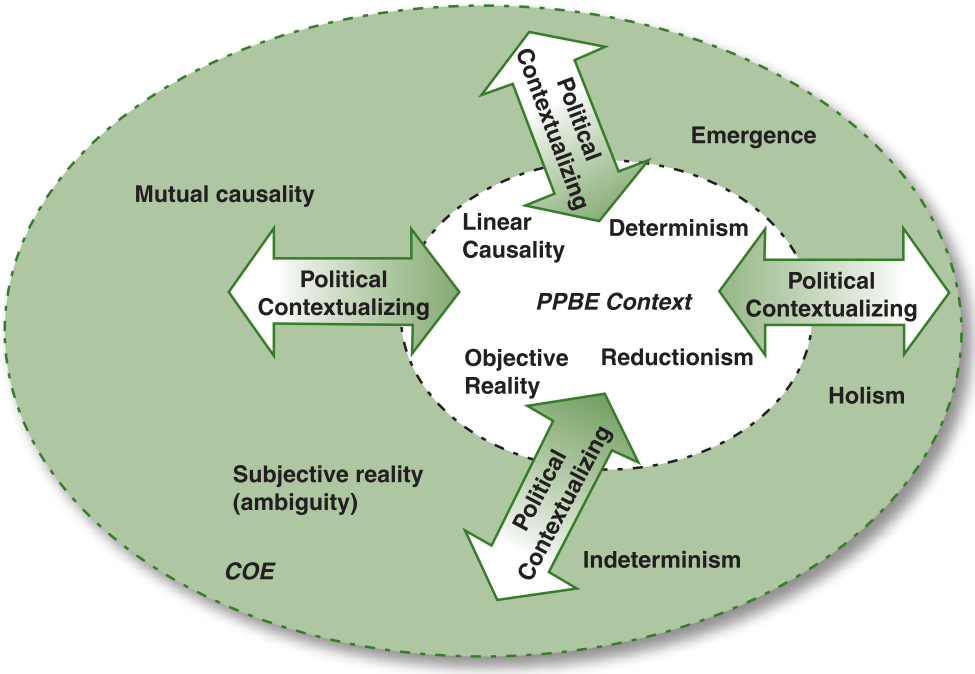
Consider that Defense managers have created the conceptual categories of internal and external environments as parsimonious coping devices to separate order (the "blue pill") from chaos (the "red pill"). As Neo struggled with the seductive stability and predictability that the blue pill promised, managers are culturally enticed to believe the DoD can operate through forms of technical rationality in the inner world, while not having to acknowledge the bounded limitations of technical rationality in the outer world (Simon, 1997).

Restated in terms borrowed from the study of cultures, managers are emic (observing as an insider) and not etic (observing as an outsider) with respect to making sense of the environment (Martin, 2002); hence, they must perceive themselves to function in both the social-psychological creation of order from disorder simultaneously and inseparably. They will realize that unilateral sensemaking in the context framed solely by the technical rationality assumptions of the "blue pill of PPBE" is a naïve undertaking if they agree about the hyperturbulent nature of the COE. The Marion quote at the beginning of this essay is worth repeating here: "Rationality, of course, is a moot issue when causality is poorly understood" (1999, p. 142).

COLLABORATIVE, PROFESSIONAL–CLIENT SENSEMAKING

Whereas the PPBE is based in the idea of being technically rational about the future, managers contend with the political context—the world of their clients. They realize that attempting to convincingly frame knowledge about the future for which no one can foretell is always the hallucination of linear causality. In that regard, PPBE has an impossible assumption of predictability when viewed in the context of

FIGURE 1. A BROADER CONTEXT FOR COMPLEX SENSEMAKING



political reason in the midst of environmental hyperturbulence. Whereas there are no irrefutable assumptions of technical rationality in the political context, political reasoning is better viewed by management professionals as a sensemaking bridge between the illusion of predictability framed by PPBE and the reality of uncertainty framed in the context of the COE. In short, their clients are engaged in a type of reasonableness with the effect of trying to imagine something indefinable into something that is workable. The more that savvy resource management professionals can work beyond the context of the PPBE process, the more open they may be to sharing different appreciations with their clients. As depicted in the flow chart shown here, they work as partners with clients to help them build the sensemaking bridge—by "comprehending, redressing, constructing meaning, interacting in pursuit of mutual understanding, and patterning" (Weick, 1995, p. 6) in the broader context of the COE.

In doing so, resource management professionals may also find new ways to think beyond the misleading sense of clarity associated with PPBE. They may have to consider the possibility that PPBE is the DoD culturally narrow construction of reality that serves as nothing but a ritual to temporarily bring a sense of clarity in the fog of chaos (Stacey, 1992; Dent, 1999). For many managers, a blind rejection of this possibility will prevent a form of "Cartesian anxiety" (Weick, 1995 citing Bernstein, 1983)—that is, the avoidance of the pain and suffering that would otherwise be associated with rejection of the Newtonian assumptions of the PPBE world. Rather than developing cynicism and distrust while observing the political sensemaking

process, an acceptance of this possibility will facilitate participating in the process as a professional sensemaker who appreciates political reasoning and the complexity of social systems in a global context. Such managers would serve to create knowledge relationships with clients rather than helping clients to enforce a Matrix-like command and control, unidirectional, and superior-subordinate relationship inherent to the dream world of PPBE.

Indeed, accepting this more complex way of shared sensemaking would create a risk for the manager and a paradox for the DoD: one centering on the idea that "command and control kills emergence" (McKelvey, 1999, p. 18); while simultaneously creating command and control structures (such as PPBE) to foster top-level accountability and responsiveness to Congress and the public. The traditional solution to this dilemma is for clients to use top-down power to manage meaning.[6] Fairhurst and Sarr put it this way:

> The essential tool of the manager of meaning is the ability to frame. To determine the meaning of a subject is to make sense of it, to judge its character and significance. To hold the frame of a subject is to choose one particular meaning (or set of meanings) over others. When we share our frames with others (the process of framing), we manage meaning because we assert (as leaders) that our interpretations should be taken over other possible interpretations (1996, p. 3).

However, if both managers and clients embrace the need for a collaborative sensemaking, the framing (usually associated with the planning, programming, and budgeting aspects of PPBE) can no longer be the sole responsibility of those appointed at the top. Any attempts to command and control information to make shared sense of a COE that is too complex for the technical rationality paradigm to explain or predict, may be perceived by the enlightened professional as a form of propaganda—and reflect a client's Machiavellian desire for the subordinate to accept mindlessly their approved construction of reality. Top-down framing (dubbed "strategic communications" by the U.S. Army) (Eder, 2007) force-fed to passive professionals will instill cynicism. Active professionals will learn to operate as "heroes under a tent," doing what they perceive they need to do despite top-down orders and espoused strategies to the contrary (Schön, 1983, p. 260). In this light, the unchallenged, top-down framing associated with PPBE is analogous to the creation of psychic prisons, where organizational power is configured to suppress differences (Morgan, 1998).

In the midst of perceived complexity of the larger environment, leaders must be permitted to emerge with significantly less emphasis on formal and hierarchical appointment. In the sensemaking associated with the COE context, involving indeterminism and mutual causality, the need for shared leadership among professionals and clients is better described as heterarchical (i.e., networked) rather than hierarchical (i.e., pyramidal) (McCulloch, 1945). Ironically, Al Qaeda and other terrorist networks seem to have already subscribed to this realization (Marion & Uhl-Bien, 2003).

TRANSFORMING TOWARD MORE HOLISTIC SENSEMAKING

This last section will propose what DoD resource professionals can do to deemphasize the paradigm of technical rationality while highlighting a more holistic approach suggested by the metaparadigm of shared sensemaking. Note the suffix, "-ing" in the following paragraph headings to indicate a recognition that an unknowable and highly complex environment can be dealt with only by rapid cycles of continuous acting and learning shared between professional resource managers and their clients. Educat-ing, develop-ing, lead-ing, communicat-ing, and organiz-ing are key processes.

EDUCAT-ING

Learning professionals collaborate with their clients. Emphases is on action research[7] couched in more effective metaphors (e.g., less toward mechanical images and more toward organic ones) (Morgan, 1998); a variety of mental models (e.g., "systems thinking," complexity theory, and competing theories of the policy process) (e.g., Senge, 1990; Weick & Sutcliffe, 2001; Sabatier, 1999, respectively); and multiple interpretive schemes (e.g., those rooted in various metaphysical perspectives) (Allison, 1969; Fisher, 1995; Hatch, 1997; Rajagopalan & Spreitzer, 1997; Ofori-Dankwa & Julian, 2000). The beliefs in best practices, doctrine, techniques, and formal procedures falsely convey a sense of known cause-and-effect relationships. For example, Schön compares the philosophy of educating based in action research with that of the traditional model of education as follows:

> Complexity, instability, and uncertainty are not removed or resolved by applying specialized knowledge to well-defined tasks. If anything, the effective use of specialized knowledge depends on a prior restructuring of situations that are complex and uncertain. An artful practice of the unique case appears anomalous when professional competence is modeled in terms of application of established techniques to recurrent events…. It is difficult for them to imagine how to describe and teach what might be meant by making sense of uncertainty, performing artistically, setting problems, and choosing among competing professional paradigms, when these processes seem mysterious in light of the prevailing model of professional knowledge (1983, pp. 19–20).

In summary, professionals educate and self-educate for uncertainty and adaptation in a holistic way rather than using forms of reductionism inherent to Newtonian science.

TRAIN-ING

Professionals recognize that the clear distinction between training and education is a cultural invention. The distinction may not be helpful from the perspective that both should deal with the unique cases based on the hyperturbulent nature of the

COE. As with educating, training should stress more individual and group learning and shared sensemaking under realistic and interactive, free-playing scenarios, and less with scripted exercises. The process is continuous and is neither episodic nor curtailed during the sensemaking process. Emphasize less the determinism associated with the task, condition, and standard model of success (Roper & Vandergriff, 2005). The notion of success comes instead from valuing bricolage, or the concept of emphasizing resilience through the creative use of existing capabilities by forming

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new ways to accomplish things as the individual or group learns. Recognition that tasks, conditions, and standards are all in constant flux conveys a mental model more closely resembling the demands of the COE. For example, the metaphor for operations and training should move away from the expectation of proper "orchestration" associated with the heuristics of PPBE to the welcome surprises of "jazz" associated with network fluidity, impromptu leadership, and improvisation. More concisely, professionals train and educate for uncertainty and value entrepreneurial invention (Weick, 1998).

DEVELOP-ING

A professional–client transformed shared sensemaking should be oriented on executing budgets while exploring ill-defined, intractable issues with an acknowledgement of the existence of wicked problems. In the COE context, executing budgets must be viewed as a continuous and collaborative sensemaking process rather than an episodic output of a top-down planning, programming, and budgeting control process with the accompanying over-valued Cartesian quest for prediction. The plan for allocating resources should become a plan-to-learn model under normal conditions of surprise and uncertainty rather than a plan-to-know process based on a myth of creating certainty and top-down control (Michael, 1997). Department of Defense resource management professionals must serve as the antitheses of the "self-serving elite who put science-based technique" as their masquerade of extraordinary knowledge (Schön, 1983, p. 340). They learn to treat their leaders as clients with whom they must have open and honest dialogue to develop sensemaking bridges to the COE. Through this partnering for the purpose of developing shared sensemaking, the façade of technical rationality is removed. The dialogue may lead to a political acceptance of significantly less orientation on the performance-based government

codified by Cartesian laws and rules and the PPBE process (such as exemplified by the Government Performance and Results Act of 1993) (Roberts, 2000).

Such a transformation would constitute a real paradigm shift (Kuhn, 1996) toward rewarding exploration and learning (i.e., "the creation of knowledge and meaning") (Kolb, 1984, p. 52) and realizing that today's success may be ephemeral as the environment continues to be hyperturbulent and as operating systems go through space and time in unpredictable trajectories. Together, DoD professionals and their client community in short should dialogue to find ways to deemphasize the PPB in PPBE and be attentive to learning while executing to develop the force with all participants engaging in sensemaking. Perhaps the supplemental appropriations based on the needs of today will become the appropriation methodology of the future, where neither the Congress nor the President will expect the DoD to perform its rain dance of PPBE.

LEAD-ING

To achieve maximum participation, the concept of hierarchical authority must transform more toward heterarchical leadership, characterized less by symbols of rank and position and more by the quality of sensemaking and ability to communicate to others new ways to pay attention to emergent patterns and embrace the inevitability of surprises. Investing in the ability of a heterarchical organization to be sensitive to weak signals of emergent patterns in the COE is superior to allocating resources based on the weak attention span of those at the top of the hierarchy who must admit

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that they cannot create very effective hyper-adaptive means by processing cycles of planning, programming, or budgeting (Schön, 1983; Argyris, 1991). A prominent characteristic of complex sensemaking is less reliance on hierarchical decision making and more deference to sharing and developing expertise in others (Heifetz, 1994; Weick & Sutcliffe, 2001) and to those who are artful framers of reality (Schön, 1983). The paradox is that experience alone is no guarantee of expertness and that experienced people may be trapped in dysfunctional cultural patterns of repeating what has worked in the past—the tyranny of success in the context of a hyperturbulent environment. Under the rubric of sensemaking, authority is, by design, given to the people

with the most willingness and imaginative potential to learn to deal with a continuous stream of emergent threats and opportunities.

COMMUNICAT-ING

Elaborate heterarchical communications networks can help enable more enlightened and improvisational forms of sensemaking by facilitating new sources of expertise, perhaps outside the cultural boundaries of the DoD. In a flexible communications environment, trying to predict where leadership might emerge is fruitless.

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In short, organizational communications can no longer be considered a producer of learnedness and certainty associated with planned outcomes generated from the top; rather, it is a never-ending condition of organizing to share meaning effectively in a world of uncertainty, ambiguity, and hyperturbulence—spawning a kind of spontaneous approach to detecting and unlearning the sensemaking tools that are not working (Weick & Westley, 2001).

ORGANIZ-ING

Organizing for sensemaking may require, as often as necessary, "search conferences" comprised of Defense stakeholders that include bi-partisan members of the executive and legislative branches, along with others who can provide expert knowledge. The goal of these professionally facilitated search conferences is to gain appreciation for the environment and to create rapid strategies (Pursar & Cabana, 1998). The outcomes of the continuous participative process are statements of strategic intent that are consensus-based and that generate strong commitment (not to be confused with buy-in) across a mélange of participants. Similar to the concept of design found in the recently published Counterinsurgency Manual (Department of the Army, 2006, pp. 4-1 to 4-9), the idea of search conferences would be to create strategies that are swiftly translated into budget authorizations. Participants should avoid developing these conferences around predetermined categories and programmatic established areas. Instead, they should organize around environmental appreciation and topical issues that may reflect emergent networks of interrelated problems (i.e., messes) (Ackoff, 1999). Process consultation should be oriented on establishing and sustaining the interrelationships among the conference participants (e.g., Schein, 1998) as they engage in sensemaking. Rank and position should be left at the door to help establish a climate of collaboration and collegiality. The overarching value encouraged among

all participants is that we are all in this together. These conferences may be conducted virtually with the use of electronic communications technologies. The idea of planning and programming is transformed to more flexible forms of rapid, participative, and collective learning-while-executing.

CONCLUSIONS

A more holistic and collaborative approach to sensemaking signals a DoD-wide looped pattern of act←→learn (mutual, real time, interdependent action research during execution) rather than the more familiar unidirectional cause→effect (strategic planning, programming, budgeting ... and only then, execution) paradigm. Perhaps a case study focusing on how national laboratories associated with the U.S. Government can give insight on how work can be funded without making comprehensive predictions about how the work will turn out, would be of benefit. This article has attempted to spur some thinking about the potential of a shared professional–client sensemaking that promotes mindfulness of the limitations of positivism and the PPBE mental model symbolized by the blue pill in the movie, *The Matrix*. PPBE-style sensemaking is a form of mindlessness, creating structures that have little regard to the necessary changing political interpretations about the hyperturbulent environment. The proposition of more encompassing red pill models of educating, training, force developing, leading and organizing, and communicating may help contribute to a more transformational order of sensemaking about resourcing the force. To Defense managers, "Wake up. You have been living in a dream world."

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ENDNOTES

1. The ontological and epistemological position that does not assume reality is an objective experience. In this article, the author assumes reality is socially constructed (Berger & Luckmann, 1967; Searle, 1995).

2. In philosophical terms, the author refers to the "tools of epistemology and ontology" that Weick describes sensemakers using as "they create that which they interpret" (1995, p. 38).

3. Rutgers (1999) states, "In the course of the nineteenth century the idea of rationality became almost exclusively connected with science and technology, and emerged as the methodological determinant for objectivity and expertise. In fact, science became regarded as the paradigm of rationality. The scientific method of positivism constitutes the strongest expression of the belief in scientific rationality. The founding positivist, Comte (1798–1857), believed that empirical scientific research can not only improve the world by making better humans, but would enable them to control the ravages of nature. Positivism is premised on the idea that rational, scientific thought can solve all human problems and that there is a steady progress of science and society. As a research method, positivism goes hand in glove with empiricism—the belief that certain knowledge can only be arrived at by means of observation (ironically, contrary to rationalism). Positivists believed that it was a means to arrive at objective knowledge. Thus, not only is metaphysical argument debased as 'subjective,' but all value issues ought also to be regarded as unscientific and thereby out of the sphere of rationality" (pp. 22–23).

4. What seemingly makes technical rationality a legitimate paradigm in the minds of PPBE sensemakers is what sociologist Max Weber calls Zweckrational or a process of linear reasoning believed to establish clear means-ends linkages. "If you do X, then Y will happen as a result" This perceived and believed to be irrefutable legitimacy stems from five sub-beliefs: that an established legal code can claim obedience from members; that law is a system of abstract rules that are applied to particular cases (and that application looks after the interest of the organization within the limits of law); that the person who exercises this authority should obey in an impersonal manner; that only in the capacity of being a member is there reason to obey the law; and that this obedience is not attributed to a specific person, but the position that they occupy. In short, technical rationality is what Weber conveys as the dominant philosophy of the archetypal bureaucrat (Heydebrand, 1999).

5. These reflect a synthesis of political reasoning from the works of Machiavelli (1961/1532); Allison (1969); Kingdon (1995); Stone (1997); and Zahariadis (1998).

6. The DoD refers to this process of control as "strategic communications" in the lingo of Defense public affairs specialists (e.g., see Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, 2004).

7. The action research concept was developed by social psychologist Kurt Lewin and his colleagues in the late 1940s. His concepts spawned many to investigate phenomenological aspects of learning, to include heavily influencing David Kolb's culminating work on experiential learning. Lewin's learning model involved human shared experience-reflection-abstraction-testing cycles that produce new and often profound meaning (Kolb, 1984, p. 21).