Cartel Next: How Army Design Methodology Offers Holistic and Dissimilar Approaches to the Mexican Drug Problem

by Ben Zweibelson

To be a successful generalist, one must study the art of ignoring data and of seeing only the 'mere outlines' of things. - Gerald M. Weinberg [1]

Author's Note: This paper is a theoretical exercise that attempts to deliver one possible Army Design solution to the narco-terrorism cycle affecting Mexico and the Western Hemisphere. If readers are unfamiliar with Army Design Methodology, they should refer to U.S. Army Field Manual 5-0, Operations, Chapter 3 or Field Manual 3-24, Counterinsurgency, Chapter 4. Design proposes different systems of logic for making sense of the world and understanding how to better influence a complex system. This article makes suggestions on how the military and the overarching web of government agencies and international actors could approach Mexico's current issues- however, this is a purely theoretical product and merely demonstrates just one approach to a complex and dangerous scenario.

With narcotics related corruption and violence escalating to levels that potentially jeopardize Mexican national stability, Washington leadership may consider whether the military instrument of national power can work in some direct or indirect fashion to improve Mexican sovereignty with regard to violent drug cartels. [2] Are cartels equivalent with terrorists, and should American foreign policy look at recent events in Mexico with the same security concerns that Washington views acknowledged terrorist and insurgent organizations elsewhere in the world today? [3] Less than a decade ago, drug crime in Mexico was below the radar screen for

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[1] Gerald M. Weinberg, An Introduction to General Systems Thinking (New York: John Wiley and Sons, 1975) 37; See also:Trent Scott, Adapt or Die; Australian Army Journal For the Profession of Arms, Volume VI, Number 3 (Duntroon: Land Warfare Studies Centre, 2009) 119. "Typically, we ignore the deeper, more fundamental questions associated with the structure of the system or systems with which we interact."

[2] Raj Kumar, *Why Mexico's Violence is America's Problem* (CNN Opinion, April 11, 2011, http://www.cnn.com/2011/OPINION/04/11/kumar.el.paso.juarez/# last accessed April 11, 2001); Kumar does not recommend US military intervention in Mexico, but does compare the levels of violence to other American foreign policy decisions in Iraq and Afghanistan; See also: The Arizona Republic, *Mexico Needs to be a Priority* (The Arizona Republic Editorial Section Online, April 11th, 2011, http://www.azcentral.com/arizonarepublic/opinions/articles/2011/04/08/20110408fri1-08.html last accessed 11 April 2011); See also: Dallas Morning News Editorial for 08 April 2011, *Let's Call Mexico's Cartels What They Are: Terrorists* (http://www.bnd.com/2011/04/11/1666749/lets-call-mexicos-cartels-what.html# last accessed 11 April 2011). This editorial makes the argument for labeling Drug Cartels as 'terrorists' which would radically change American foreign policy in Mexico.

[3] France 24, *Drug Cartel Violence Resembles 'Insurgency', Says Clinton,* (France International News 24-7 website, September 9th, 2010, http://www.france24.com/en/20100909-drug-cartel-violence-resembles-insurgency-clinton-murder-mexico-drugs last accessed 11 April 2011). "After the murder of another mayor – the third in a month – by narco hitmen in northern Mexico, US Secretary of State Hillary Clinton has riled Mexicans by saying that planned attacks on government officials are starting to

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Washington and the international community. [4] Today's chaos south of the border redefines the economic, political, and social relationship of two neighboring nations in a dark and ominous light. What happened? To make better sense of the current complexities within Mexico and the international ramifications, the United States government requires dissimilar and novel logic for approaching complex military and foreign policy concerns. Army Design Methodology offers one such option.

Today's world appears to be increasingly complex where direct military actions from a previous era do not translate into the expected packaged solutions and end-states that Washington continues to expect. [5] Leadership might consider breaking away from conventional linear, reductionist perspectives, and applying various Design logics to determine what actions are prudent from a holistic and innovative perspective. [6] These questions illustrate the critical thinking, or *metacognition* necessary for senior political and military leadership to understand and direct cohesive action of multiple government agencies to achieve the desired vision. [7] Any theoretical approach to Mexico cannot exist merely within the traditional boundaries of military responsibility; a unified effort is necessary. [8]

Army Design Methodology draws from diverse fields such as post-modern philosophy, science such as General Systems Theory, and social sciences such as organizational theory. [9]

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resemble an insurgency." Clinton's word choice of 'insurgency' caused significant debate over foreign policy and what to call violent drug cartels; using terms such as 'insurgency' implies political issues instead of a purely economic cycle of criminal enterprise.

[4] Viridiana Ríos, David A. Shirk, *Drug Violence in Mexico; Data and Analysis Through 2010* (Trans-Border Institute, Joan B. Kroc School of Peace Studies, University of San Diego, February 2011) 1. "Four years into the administration of President Calderón (2006-12), 34,550 killings have been officially linked to organized crime, a dramatic increase from the previous administration of President Vicente Fox (2000-06) when 8,901 cases were identified."

[5] Qiao Liang, Wang Xiangsui, *Unrestricted Warfare* (Beijing: People's Liberation Army Literature and Arts Publishing House, February 1999) 13-14. "Some of the traditional models of war, as well as the logic and laws attached to it, will also be challenged. The outcome of the contest is not the collapse of the traditional mansion but rather one portion of the new construction site being in disorder." Liang and Xiangsui present a non-western perspective on how a paradigm shift in military thinking in the 21st century does not destroy the old entirely, but reorganize an old structure into a new one.

[6] Jeff Conklin, *Wicked Problems and Social Complexity* (CogNexus Institute, 2008. http://cognexus.org/wpf/wickedproblems.pdf Last accessed 05 January 2011) 6. Conklin discusses the difference between simple and 'ill-structured' or *wicked problems;* some organizations adapt design methodologies while others prefer linear reductionist methods. "Perhaps most folks in their organization have a strong sense of certainty about what is going on, a sense of confidence and pride in their knowledge of their business, and a sense that the problems the business is confronted with are quite manageable using the methodical application of well known rules and linear process logic."

[7] Thomas Nelson, *Metacognition Core Readings* (Boston: Allyn and Bacon, 1992) 1. "Metacognition is defined as cognition about one's own cognitions;" For design doctrine applications of 'metacognition,' see also: United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process*. (Headquarters, Department of the Army, 2010), 3-8. *FM5-0 Chapter 3 Design* implies metacognition by stressing the requirement of thoroughly understanding the nature of the problem and prescribing three frames through which planners operate to transform the system; See also: Peter Checkland, *Systems Thinking, Systems Practice* (New York: John Wiley and Sons, 1981) 119. "Man as designer is a teleological being, able to create means of enabling ends to be pursued, and to do so on the basis of conscious selection between alternatives."

[8] Quadrennial Defense Review Report, February 2010 (www.**defense**.gov/**qdr/qdr**%20as%20of%2029jan10%201600.pdf *last accessed 11 April 2011) "In the future, as our forces transition into a period of less intensive sustained operations, the Department's force planning assumes an ability to undertake a broader and deeper range of prevent-and-deter missions, acting wherever possible as part of a whole-of-government approach and in concert with allies and partners."*

[9] The term 'design' is used interchangeably with 'conceptual planning' and other similar terms within military Design Theory; United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process* (Headquarters, Department of the Army, 2010), Glossary-4. See also: United States Army Training and Doctrine Command, *Field Manual-Interim 5-2; Design (Draft)* (draft under development-Headquarters, Department of the Army, 2009); See also: Mick Ryan,Measuring Success and Failure in an 'Adaptive' Army; Australian Army Journal For the Profession of Arms, Volume VI, Number 3 (Duntroon: Land Warfare Studies Centre, 2009) 29. Ryan discusses the Australian military and their application of Design Theory (Adaptive Campaigning); See also: Shimon Naveh, *Operational Art and the IDF: A Critical Study of a Command Culture* (Center for

Design combines widely dissimilar fields and concepts into innovates and persistently creative logics- nothing is 'off-limits' if it delivers unique insight to a complex problem. As Design represents a young and volatile discipline, each of the aforementioned theories and military institutions developed a diverse spectrum of interpretations and methodologies that offer many paths when seeking better, yet still incomplete understanding of a complex system. The current state of affairs in Mexico requires unconventional thinking due to the problematic history of previous military, diplomatic, and economic actions by the U.S. government with other narco-conflicts. [10] From Colombia to Afghanistan, prior attempts at dismantling drug organizations yielded questionable results; will Washington seek to solve a problem right, or solve *the right problem?* [11]

Why apply Design Theory to the Mexican narco-problem? Military problem-solving methodology prior to Design Theory relied exclusively on a reductionist linear world-view that insisted upon description over explanation. [12] In other words, we prefer to make sense of the world by breaking things down into digestible 'chunks' where we can isolate something like a particular drug cartel or corrupt official, and by removing them, we can solve the problem.[13] The fallacy in this logic is that complex systems resist reductionism, and dynamic ecosystems resist linear causality solutions.

How does traditional linear thinking fail to make sense of the current narco-ecosystem? Reductionist military problem-solving relies upon repetition and uniformity with a penchant for

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Strategic & Budgetary Assessment (CSBA), contract: DASW01-02-D-0014-0084, September 30, 2007) 3. Naveh describes how *Systemic Operational Design (SOD)* was not well received by the Israeli military institution due to institutional resistance.

[10] United States Government Accountability Office, *PLAN COLOMBIA: Drug Reduction Goals Were Not Fully Met, but Security Has Improved; U.S. Agencies Need More Detailed Plans for Reducing Assistance* (Report to the Honorable Joseph R. Biden, Jr., Chairman, Committee on Foreign Relations, U.S. Senate, GAO-09-71, October 2008) 6-10. "Since fiscal year 2000, U.S.-supported nonmilitary programs totaling nearly $1.3 billion have had a range of accomplishments, but some of these efforts have been slow in achieving their objectives while others are difficult to assess…Despite U.S. and Colombian efforts to counter the drug-trafficking activities of these illegal armed groups, State reports that Colombia remains the source for about 90 percent of the cocaine entering the United States, and the primary source of heroin east of the Mississippi River."

[11] Design Theory deals with the concept of *problematization* which denotes an emphasis on critical thinking that seeks deep understanding without conforming to interiority of institutional structures and tenets. The term 'problematization' is a term not used (but implied) in U.S. Army design doctrine. It is part of the design lexicon that conveys understanding. Nevertheless, institutional phobia of overly academic terminology prevents widespread employment. For source information on the term 'problematization', see also: Michel Foucault, *Discourse and Truth: The Problematization of Parrhesia* (originally covered in six lectures given by Michel Foucault at the University of California, Berkeley in October-November, 1983. Published online at: http://foucault.info/documents/parrhesia/ last accessed 16 December 2010); See also: Shimon Naveh, Jim Schneider, Timothy Challans, *The Structure of Operational Revolution; A Prolegomena* (Booz, Allen, Hamilton, 2009) 8. Naveh, Schneider, and Challans propose a design position that "men lead by ideas" at the operational level of war.

[12] Valerie Ahl and T.F.H. Allen, *Hierarchy Theory: A Vision, Vocabulary, and Epistemology* (New York: Columbia University Press, 1996) 1. "Contemporary society has ambitions of solving complex problems through technical understanding…the first strategy is to reduce complex problems by gaining tight control over behavior. It is a mechanical solution in the style of differential equations and Newtonian calculus;" See also: Fritjof Capra, *The Web of Life* (New York: Anchor Books, 1996) 29. "In the analytic, or reductionist, approach, the parts themselves cannot be analyzed any further, except by reducing them to still smaller parts."

[13] Nassim Nicholas Taleb, *The Black Swan.* (New York: Random House, 2007), 16. "Categorizing always produces reduction in true complexity." See also: Fritjof Capra, *The Web of Life.* (New York: Doubleday, 1996), 29. "In the analytic, or reductionist approach, the parts themselves cannot be analyzed any further, except by reducing them to still smaller parts." See also: United States Army Training and Doctrine Command, *Field Manual 3-0; Operations.* (Headquarters, Department of the Army, 2001), 4-11. Most of the current principles of war found in U.S. Army Field Manual FM 3-0, Operations (2001) espouse the same doctrine and war methodology first penned by Jomini in the wake of the Napoleonic Wars.

imitating successful actions of a previous similar conflict. [14] The immediate reaction to the ill-structured Mexican narco-problem involves producing laborious narratives and complicated, detailed graphic depictions such as figure 1 below. Although filled with information, this linear and reductionist methodology lacks *explanation*. [15] All logical processes reduce the world in some form for human comprehension, but the below graphic places too much emphasis on description, details, and making sense of known variables within a complex system. Answering a 'what' question does not lead to 'why' answers.
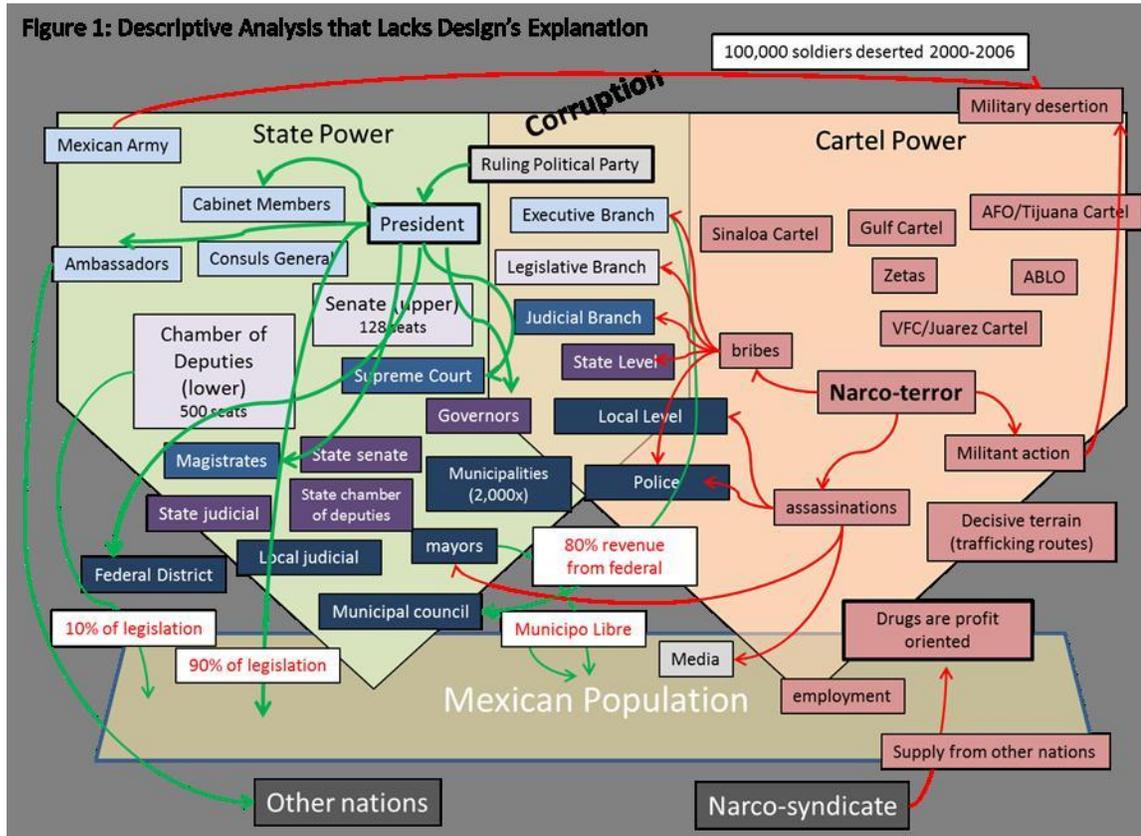
Figure 1: Description Does Not Equal Explanation

While figure 1 is a necessary early step in gaining an initial foothold in comprehending the various actors, processes, and inter-relationships within a complex system such as the Mexican narco-ecosystem, these early processes are only a means to an end, and not the end

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[14] Brian M. Linn, *The Echo of Battle; The Army's Way of War* (Cambridge: Harvard University Press, 2007) 232. Linn criticizes the military's rigid logic in *Echo of Battle* of resisting change, maintaining "intellectual rigidity, a propensity to mistake slogans for strategic thinking, and the dogmatic belief in itself as the 'best trained, best armed, best led force' that has ever existed." See also: John L. Romjue, *American Army Doctrine for the Post-Cold War* (Fort Monroe: Military History Office, United States Army Training and Doctrine Command, 1997) 11. "For the American Army, the dominant influence on 19th century tactical thinking came from writings derived from the experience of the Napoleonic Wars. Primary in influence were the writings of Major General Antoine Henri Jomini, whose *Precis de l'Art de la Guerre* was published in 1838. Jomini's intent was a systematic search for principles in Napoleon's mastery of battle and campaign."; See also: Carl H. Builder, *The Masks of War; American Military Styles in Strategy and Analysis* (RAND Corporation: John Hopkins University Press, 1989) 38.

[15] Gary Jason, *Critical Thinking: Developing an Effective Worldview* (San Diego State University: Wadsworth Thomson Learning, 2001) 319. "A hypothesis is a proposed explanation. We also often use the term *theory* to mean hypothesis…" which differentiates the nature of theory and doctrine. Theory proposes explanation while doctrine stipulates rigid and uniform action. Theory is open to change; doctrine cannot be questioned without breaking down uniformity and hierarchical structures; See also: Gerald M. Weinberg, *Rethinking Systems Analysis and Design* (Boston: Little, Brown and Company, 1982) 22.

itself. Essentially, when senior leadership receive a briefing on Mexico filled with narratives and slides that provide vast amounts of description but are illusive on 'why' things are happening as observed, there is an imbalance of too much reductionist and linear logic with too little critical thinking and innovative approaches found within Design. Instead of pursuing description, Design seeks holistic explanation where proposed solutions go beyond short-term fixes that fail to anticipate where and why the system is moving towards next.

Step One: Establishing the Environmental Frame

Using Army Design Methodology as a loose template for organizing this theoretical exercise, Design logic seeks to understand the entire system with holistic approaches to complexity.[16] The first consideration with Mexico and the drug cartels should avoid the fallacy of targeting the obvious; the environment encompasses more than just Mexico and drug cartels. Instead of 'chunking' or reducing the system down in a manner such as figure 1, Design requires a broad or ontological perspective from which the major phenomenon emerge from the apparent chaos of a dynamic and adaptive system.[17]

Upon seeking deep understanding through a series of critical questions ('why' instead of 'what'), one overarching pattern emerges in this theoretical Design exercise with Mexico concerning basic economic principles. For this author, one significant 'organizing principle' demonstrates deep understanding of not just the system of escalating cartel violence in Mexico in the 21st century, but a *metacognitive* pattern that explains most human societies and how they value commodities and enforce laws.[18] When a cycle or pattern aids in understanding the past and present states of a system, they often help anticipate the future as well. Present day Mexico features a meta-phenomenon within the illegal drug cycle of violence.

Drugs fall under a process in which societies establish their values, and subsequently categorize, or bound all empirical material within their values and their legal system.[19]

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[16] United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process*. (Headquarters, Department of the Army, 2010). U.S. Army design doctrine uses the term *environmental frame* where Design Theory also applies *ecology* and *cognitive synergy of an open system* to explain generally the same concept. The environmental frame must *explain* the meaning behind what a system exhibits as behavior that is creating the difference or tension observed. Although the author considers many critical aspects of Design Theory absent from military Design doctrine, U.S. Army planners and leadership recognize Design doctrine as a procedure; this forms a critical starting point for Design applications.

[17] Gilles Deleuze, Felix Guattari, (translated by Brian Massumi) *A Thousand Plateaus; Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987) 398. "What effectuates a free-action model is not the weapons in themselves and in their physical aspect but the "war machine" assemblage as formal cause of the weapons." Deleuze and Guattari differentiate holistic understanding of the open system phenomena and the reductionist and linear worldview that seeks ends, ways, and means. Design takes a 'holistic' or 'ontological' approach while reductionists attempt to categorize and disassemble a system into smaller parts; See also: Shimon Naveh, *In Pursuit of Military Excellence; The Evolution of Operational Theory* (New York: Frank Cass Publishers, 2004) 233. When explaining the rise of Soviet operational theory in the interwar period, Naveh explained the realization of Soviet tactical command limitations. "They realized that relying on a tactical mission as the sole focus attracting the entire attention of commanders at that level would have led to the degeneration of the essential cognitive tension and the decline of the system."

[18] Thomas Nelson, *Metacognition Core Readings* (Boston: Allyn and Bacon, 1992) 1. "Metacognition is defined as cognition about one's own cognitions;" For design doctrine applications of 'metacognition,' see also: United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process*. (Headquarters, Department of the Army, 2010), 3-8. *FM5-0 Chapter 3 Design* implies metacognition by stressing the requirement of thoroughly understanding the nature of the problem and prescribing three frames through which planners operate to transform the system; See also: Peter Checkland, *Systems Thinking, Systems Practice* (New York: John Wiley and Sons, 1981) 119. "Man as designer is a teleological being, able to create means of enabling ends to be pursued, and to do so on the basis of conscious selection between alternatives."

[19] Eva Boxenbaum, Linda Rouleau, *New Knowledge Products as Bricolage: Metaphors and Scripts in Organizational Theory* (Academy of Management Review, Vol. 36, No. 2, 2011) 274-275. The first building block, 'empirical material', represents the essential elements of matter, actors, and tangible things that compose the world in Boxenbaum and Rouleau's logic structure for

Everything is either valued or unvalued, and either legal or illegal, as figure 2 attempts to depict graphically. Societies categorize commodities (or artifacts) into two distinct conceptual containers through established rule of law. [20] First, all commodities have a value according to each society in space and time. [21] Secondly, a commodity is either legal, or illegal. From this categorization, a pattern of self-organization and adaptation emerges as figure 2 illustrates.
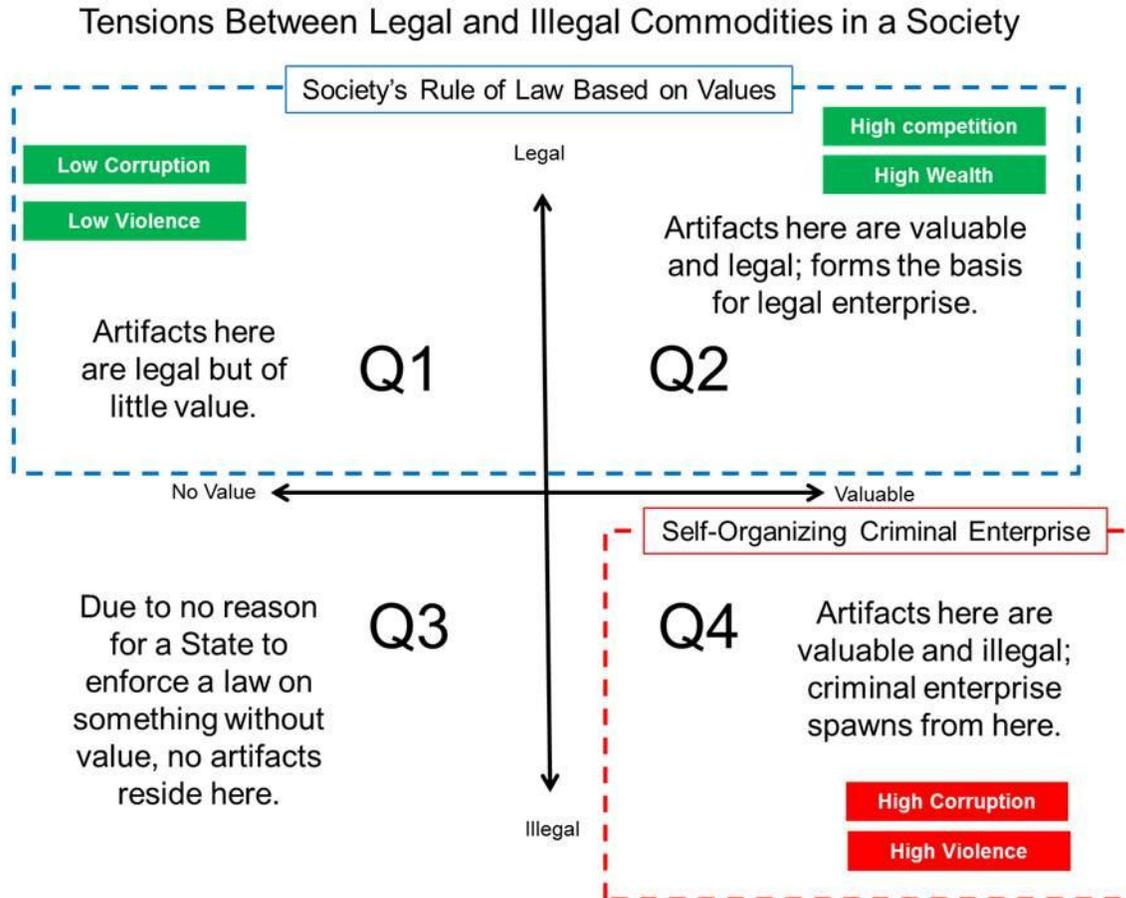
Figure 2: Illicit and Licit Commodity Tensions

Using an x-axis for value and the y-axis for legal status, four quadrants emerge with two clear patterns. Commodities that are defined as valuable (demand and supply exist) and illegal (state law prohibits item) are consolidated in the Q4 quadrant. When a commodity enters Q4, self-organizing patterns of human illicit action use corruption and violence to prosper through

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organizational theories on establishing new knowledge products. Empirical material comprises all things within the world, whether they are known or unknown, old or still uninvented.

[20] Gilles Deleuze, Felix Guattari, (translated by Brian Massumi) *A Thousand Plateaus; Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987) 433. "The State indeed proceeds otherwise: it is a phenomenon of *intraconsistency*...in other words, it forms a vertical, hierarchized aggregate that spans horizontal lines in a dimension of depth. In retaining given elements, it necessarily cuts off their relations with other elements, which become exterior, it inhibits, slows down, or controls those relations." By establishing rule of law and value association with artifacts, a State establishes interiority and exteriority, and through releasing illicit elements into the exteriority, spawns their self-organization and adaptation into illicit commodity cycles of exteriority.

[21] Space and time are important considerations; salt was an illegal but valuable commodity for ancient societies, as silk worms were for ancient China. Over time, the legal status and/or value assigned to them changed, as many undiscovered or un-invented items are not yet illegal or valued.

economic action. Black markets and organized crime rise up as if guided by a nefarious version of Smith's 'invisible hand' in economics. By bounding the rule of law around legal commodities, self-organizing patterns of legitimate human economic action form to meet supply and demand requirements for artifacts in either Q1 or Q2. As Mexican cartels seem to illustrate, the only methods of producing, trafficking, and distributing illegal narcotics requires a combination of corruption and violence to succeed.

Figure 2 provides a telling example of Design Theory's concepts of interiority and exteriority, both of which come from post-modern philosophy. [22] Interiority within a system reflects the *known,* the bounded processes and patterns of the state machination; the value-imposed boundary of *rule of law* around the Q1 and Q2 for legal commodities demonstrates a clear example of system interiority. The exteriority, or *unknown* of the complex system, is the infinite and creating region outside the bounded interiority of Q1 and Q2. As artifacts fall outside of the interiority yet contain societal value, self-organizing organizations perpetually create and destroy new cycles of economic prosperity.

Regardless of how valiantly the interiority of the state attempts to destroy these illicit commodity cycles, the *exteriority* of the system remains boundless, adaptive, and unique- cartels continue to evolve and replace any fallen predecessors no matter how quickly the state applies violence to stamp out criminal enterprises. Attempting to eliminate illicit commodity cycles such as drugs or illegal hooch is as unrealistic as proposing a war on terrorism or even a war on war itself- these are phenomenon, not actual things. [23] To apply conventional and linear action to this complex system gets at a fundamental concept of Design: that which is *unknown* cannot be defeated through *known* means. The complexity of open systems prevents simplistic causality where targeting one actor or securing one border 'solves everything.' Figure 2 provides the holistic understanding to frame the entire system; the Mexican cartel problem is much more than just Mexico, and likely more than what the military and law enforcement institutions are capable of handling autonomously.

Step 2: Establishing the Problem Frame

Continuing with the U.S. Army's Design framework, the next element for Design involves conceptualizing what major phenomenon in the system is generating the escalating violence and corruption in Mexico. [24] Illicit commodity cycles reflect how human societies

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[22] Gilles Deleuze, Felix Guattari, (translated by Brian Massumi) *A Thousand Plateaus; Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987) 424-425. Deleuze and Guattari, although challenging to follow with their many metaphors on nomads, war machines, magic emperors, and one-eyed men, they discuss in their chapter *Apparatus of Capture* how exteriority and interiority concerning conflict and open systems operate. Where they speak of 'war machine,' consider for this paper the substitution of 'illicit commodity cycle.' "All things considered, the violence of the war machine might appear softer and more supple than that of the State apparatus because it does not yet have war as its 'object,' because it eludes both poles of the State. That is why the man of war, in his exteriority, is always protesting the alliances and pacts of the jurist-king, as well as severing the bonds of the magic emperor."
[23] The author clarifies that indeed, illegal drugs and booze are tangible things, but their status as commodities within illicit commodity cycles reflect a phenomenon that transcends time and space. Criminal enterprise is as old as civilization itself, and although the things and actors change, the cycle itself does not. A state may target a criminal, specific item, or organization- but the state cannot target a concept such as human desire for valuable but illegal empirical items.
[24] United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process*. (Headquarters, Department of the Army, 2010). U.S. Army design doctrine uses the term *problem frame*. While Design Theory applies a litany of other terms, what the *problem frame* must include in some format is a narrative (beginning, middle, end) that conveys the *plot* of the system and what requires action to *transform the system* which leads to the next step- *Operational Approach.* Although this author has concerns with using vocabulary such as 'problem' which implies mechanistic linear procedures within detailed planning logic, for the purposes of this exercise current Design doctrine was applied as a loose framework.

determine the intrinsic value of things, and then enforce rule of law to prevent self-organizing and adapting criminal enterprises from disrupting state power and stability. Although figure 2 provided a broad and holistic perspective of the Mexican narcotic problem, further critical thinking with Design requires us to move from the holistic and general down to the local system where Mexican cartels move drugs from source zones such as Columbia through Mexico (a transit zone) into arrival zones such as the United States. [25] Columbia represents the furthest major drug geography within the system, while the United States represents the largest arrival zone geography, and Mexico's decisive geography makes it a major transit zone within the context of the larger system.

Moving from figure 2 that operates with an ontological perspective of illicit commodities in general towards the present conditions in Mexico, an adapting pattern of illicit commodity cycles in the Western Hemisphere comes into focus. Placing the arrival zones, transit zones, and source zones over geography and national actors within the western hemisphere, Figure 3 presents a pattern of continuous adaptation inherent in dynamic systems. Cartels follow a familiar cycle where they use greater amounts of corruption and violence throughout the source, transit, and arrival zones to gain power and prosperity at the expense of the state in each zone. While figure 3 depicts the cocaine cycle in which the source is limited to South American regions that grow abundant quantities of the cocoa plant, this cycle manifests in many forms based upon where the source and arrival zones are. Considering the vast complexities of the Mexican narco-ecosystem, a western hemispheric approach to framing the system covers the greatest coordination and inter-agency requirements across time and space. This article attempts to provide international, interagency, and intra-government understanding of this complex and adaptive system.

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[25] Source, Transit, and Arrival Zone terminology reflects current U.S. government illegal drug enforcement doctrine and protocol. Office of National Drug Control Policy, *Transit Zone Interdiction Operations,* http://www.whitehousedrugpolicy.gov/publications/international/factsht/transit_zone_interdic_op.html (last accessed: 21 February 2011).

Figure 3: The Illicit Commodity Cycle: Cognitive Synergy of the Observed System
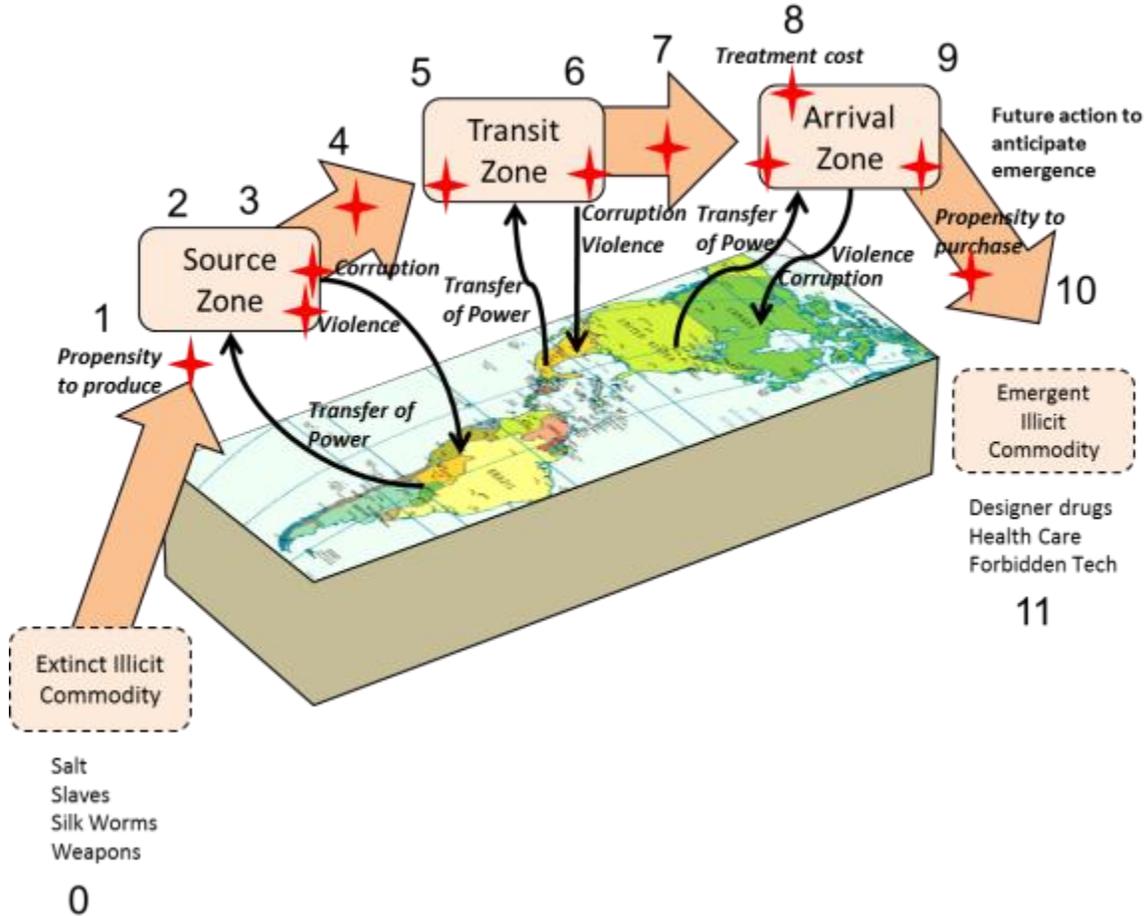
Figure 3: Theory of an Illicit Commodity Cycle

Figure 3 illustrates the constant adaptive and self-organizing nature of illicit commodity cycles such as the cocaine/meth/marijuana model that Mexican cartels currently employ. Essentially, as a drug cartel moves illicit commodities from production through transit geography, it must employ violence and corruption to deliver the products to consumers in the arrival zone. Adaptation indicates a state of continuous learning in the system; as cartels inflict more corruption and violence, they gain profits while the afflicted nation loses strength and elements of sovereignty. See the associated footnotes for further explanation of how each component of the cycle pulls prosperity from the state and deposits entropy through corruption and violence. [26] Decisive geography places Mexico in a central location in the present cycle of illicit commodities for the western hemisphere in 2011.

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[26] Figure 3 features interactions between the interiority (state) and exteriority (illicit commodity cycle) numbered 0-11. '0' represents the extinct illicit commodity and provides the beginning of the narrative for this complex phenomena for illicit commodities; extinct cycles demonstrate the pattern of self-organization and adaptation. Numbers 1 through 4 occur in a source zone where humans decide to produce and harvest/manufacture an illicit commodity and violate State law; the criminal enterprise subsequently applies violence and corruption to transport the illicit commodities through and out of the source zone. These actions exchange prosperity with entropy with the State. The transit zone features a similar pattern of corruption and violence exchange cycles where the criminal enterprise moves the commodity through state or multiple states (numbers 5- 7). Within the

With the Mexican narco-ecosystem, the furthest source zone represents where cocaine grows exclusively in the fragile South American environment. Once a Colombian farmer decides to grow an illicit commodity such as cocaine instead of legal crops, the availability or 'source' becomes the potential wealth for criminal enterprise. Returning to 'because' explanations that represent Design's emphasis on critical thinking, the farmer only grows something that is valued by a society. The cyclic nature of this commodity pattern means that American drug apathy and a culture of glamorizing excessiveness enhances the very conditions for impoverished South American farmers to consider growing drug crops instead of coffee, bananas, or other legal commodities. In other words, American apathy towards cultural drug consumption often verges on the comical; we rarely consider the grim realities of how much death and destruction was required to deliver those drugs to the hands of our idols, and ourselves. [27]

Returning to source zones and where valuable illicit commodities are produced, criminal enterprise initiates the illicit commodity cycle. Referring back to figure 3, state power within any source zone suffers the entropic sting of corruption and violence when cartels harvest and traffic the illicit commodity out of the nation. While state military and law enforcement can eliminate any particular cartel or criminal organization that traffics an illicit commodity, the self-organizing nature of the illicit commodity cycle means that when the state eliminates one criminal enterprise, a new one replaces it with innovative adaptations and a greater resistance to whatever action destroyed the predecessor. "Cartel Next" is always a stronger and smarter evolution of the current cartel model.

Simply targeting one or all five major Mexican drug cartels may temporarily reduce the flow of illicit commodities through Mexico, but the continued demand for these items spawns perpetual reanimation of organizations willing to traffic cocaine and other drugs through some other transit zone (such as Canada) into America. When political, military, or law enforcement leadership don institutional horse blinders and propose solutions that deal with only one aspect of the illicit commodity cycle, they are not looking at the problem holistically. Increasing border security alone will not fix anything, nor will military action against one or all five Mexican cartels. A holistic approach that features simultaneous and international orchestrated short-term and long-term actions is necessary to dismantle the existing illicit commodity cycle and prevent the emergence of future adaptations from plaguing the ecosystem. In other words, the military cannot initiate detailed planning on foreign internal defense (FID), partnership operations, and counter-drug interdiction efforts without first thinking about aspects of this complex system that fall well outside of traditional military concerns. This Design requirement applies to all agencies, governments, and relevant actors.

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arrival zone, numbers 8 through 10 reflect the corruption and violence associated with distribution, and subsequent medical and penal requirements of a drug-consuming society. Number 10 represents the propensity for current and new consumers to enter the demand cycle, which stimulates the cycle to stimulate subsequent production and harvest in the source zone. Finally, emergent behaviors that adapt the illicit commodity cycle to novel and unexpected developments demonstrates where the narrative is heading (11).

[27] Floyd Allen, *Charlie Sheen's popularity rating up in a recent poll* (Entertainment and Stars, February 11th, 2011; http://au.ibtimes.com/articles/110842/20110210/charlie-sheen-s-popularity-rating-up-in-a-recent-poll.htm#ixzz1JJnE4BTL , last accessed: 12 April 2011). This online article cites numerous polls concerning actor Charlie Sheen and his surge in popularity during an alleged binge of drug and alcohol abuse. Instead of becoming unpopular and shunned by society, Sheen broke records on the social network site 'Twitter' gaining one million followers within the shortest period recorded.

Establishing the Operational Approach: [28]

Figure 2 presented a theoretical 'phenomenon' of how all societies trigger criminal enterprises due to some valuable empirical materials becoming illegal, which provides an environmental frame within this particular Design process. Figure 3 took that theoretical concept and illustrated a 'problem frame' with the illicit commodity cycle overlaying geography of the western hemisphere. This next section deals with developing an operational approach to influence the system and transform the narco-ecosystem into a future state that benefits the state and non-state actors comprising this 'whole of government' approach. U.S. Army Design doctrine uses the term 'operational approach' to explain how broad and general actions linked to the deep understanding (or cognitive synergy) of the complex problem lead to tactical execution through various governmental and military applications. [29] Design Theory routinely employs metaphors to convey difficult concepts that defy simple definition or illustration. [30] Metaphors should not be taken literally, but should assist organizations to understand new knowledge and convey difficult or complex concepts in familiar forms. The novel concepts that this theoretical Design exercise created are the illicit commodity cycle and the conceptual cycle of how societies bound empirical material with value and legality. These are challenging concepts to attempt to convey directly. Furthermore, the Mexican narco-ecosystem requires short-term and long-term operational approaches to influence both a local phenomenon such as cocaine economics and an abstract cycle such as how societies tolerate perpetual illicit commodity cycles. The military and law-enforcement institutions represent the ideal short-term state efforts to action a system, while cultural values reflect long-term transformation challenges that are more suitable for non-military agencies. Therefore, this article presents two metaphors to illustrate the distinct operational approaches that cohesively influence transformation of this narco-ecosystem.

Air rising and falling during the day presents the first metaphor for approaching the narco-ecosystem. A 'thermal-inversion-atmospheric' metaphor attempts to convey the short-term operational approaches to dismantling existing drug cartels throughout the source, transit, and arrival zones. Rapid exchanges between hot air (cartel action) and cold air (western hemispheric coalition of government, military, and law enforcement actors) demonstrate the fast-paced action, reaction, and critical thinking processes that must occur simultaneously across the entire illicit commodity cycle. This metaphor and associated graphic depiction (figure 4) employs time arches demonstrating how friendly actions operate in an adaptive and self-organizing 'swarm' process instead of the traditional and reductionist 'line of effort' methodology often applied in non-design planning and execution. [31] The metaphor of atmospheric interaction between hot and

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[28] United States Army Training and Doctrine Command, *Field Manual 5-0; The Operations Process*. (Headquarters, Department of the Army, 2010). U.S. Army design doctrine uses the term *Operational Approach*. While Design Theory applies a litany of other terms, what the *Operational Approach* should include in some format are the design deliverables that explain how the military and other actors apply action to the system to transform the observed state into a desired state. In the end, the military as an institution prefers detailed planning procedures and narratives to synchronize and execute operations.

[29] FM 5-0, 3-59; although Army design doctrine is problematic in this author's opinion, for the purposes of this paper and the target audience, the Design procedure in FM 5-0 suffices for this theoretical exercise.

[30] George Lakoff and Mark Johnson, Metaphors We Live By. (Chicago: The University of Chicago Press, 2003), 3-5; Justin Kelly and Mike Brennan,OODA Versus ASDA: Metaphors at War; Australian Army Journal For the Profession of Arms, Volume VI, Number 3 (Duntroon: Land Warfare Studies Centre, 2009) 43. All metaphors are "incomplete and only partially appropriate representation of the phenomenon it purports to characterize science can be united at basic levels through underlying principles;"

[31] FM 5-0, 3-59; See also: Alex Ryan, The Foundation For An Adaptive Approach; Australian Army Journal For the Profession of Arms, Volume VI, Number 3 (Duntroon: Land Warfare Studies Centre, 2009) 72. Ryan discusses feedback and how scientists

cold air represents the self-organizing and adaptive non-linear process known as 'swarming' in Design Theory. [32]

As cold and hot air swirl and interact across the entire illicit commodity cycle, friendly forces anticipate cartel rival actions and implement cohesive and interdependent actions throughout the system to influence transformation of the narco-ecosystem to a future state that benefits state governments and populations. Unlike traditional military methodologies that remain rigid and reductionist within a reverse engineering process of linear causality stemming from a predetermined 'end-state,' swarming non-linear operational approaches apply the design principles of creativity, self-organization, and constant adaptation within the cycle of observation, action, reaction, and contemplation. [33] Instead of casting strategic goals into the future and reverse-engineering a plan backwards to present time, strategic *aims* in present time direct non-linear approaches towards an uncertain and adaptive future. Goals are a static concept, whereas an aim implies readjustment while a complex system transforms; emergent strategy therefore gains flexibility.

Figure 4 features a variety of friendly actions that the military and other agencies should apply within each of the source, transit, and arrival zones over time and space with significant emphasis on adaptation and innovation. As criminal enterprise reacts to coalition efforts, Design requires 'learning about learning' and innovation to create a planning atmosphere of persistent creativity and adaptation.

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applied linear methods to complex non-linear systems which "only works up to a point." See also: Shimon Naveh, Jim Schneider, Timothy Challans, *The Structure of Operational Revolution; A Prolegomena* (Booz, Allen, Hamilton, 2009) 88.

[32] Steven Johnson, Emergence; The Connected Lives of Ants, Brains, Cities, and Software, (New York: Scribner, 2001) 31. Steven Johnson explains the concept of swarming through the myth of ant colonies in *Emergence: The Connected Lives of Ants, Brains, Cities, and Software.* Like bees, ants work in colonies where a vast number of very simple creatures function through decentralization and only an awareness of their immediate surroundings. "The queen is not an authority figure. She lays eggs and is fed and cared for by workers. She does not decide which worker does what…it would be physically impossible for the queen to direct every worker's decision about which task to preform and when." The ant queen does not attempt to direct the colony in the same manner that general officers should have no expectation that complex systems are susceptible to linear actions that produce specific and timely end-states. Essentially, non-linear approaches help conceptual planners create and destroy multiple logic frames that iteratively set heuristic conditions for them to gain deep understanding of a complex system. No institutional value, process, or doctrine is safe from this cycle of adaptive creation and destruction; this seemingly erratic and heretical methodology understandably challenges deeply ingrained linear worldviews for military professionals. See also: Gerald M. Weinberg, *An Introduction to General Systems Thinking* (New York: John Wiley and Sons, 1975) 41. "General system laws…are not designed to yield *answers;* therefore, they can afford occasionally to be wrong." Weinberg addresses the input-output experimentation through framing and reframing system transformation; design requires a problematization methodology that emphasizes active learning and adaptation. See also: Gilles Deleuze, Felix Guattari, (translated by Brian Massumi) *A Thousand Plateaus; Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987) 361. "The model is a vertical one; it operates in an open space throughout which things-flows are distributed, rather than plotting out a closed space for linear and solid things."

[33] John L. Romjue, *American Army Doctrine for the Post-Cold War* (Fort Monroe: Military History Office, United States Army Training and Doctrine Command, 1997) 11. "For the American Army, the dominant influence on 19th century tactical thinking came from writings derived from the experience of the Napoleonic Wars. Primary in influence were the writings of Major General Antoine Henri Jomini, whose *Precis de l'Art de la Guerre* was published in 1838. Jomini's intent was a systematic search for principles in Napoleon's mastery of battle and campaign."; See also: Francois Jullien (translated by Janet Lloyd), *A Treatise on Efficacy Between Western and Chinese Thinking* (Honolulu: University of Hawai'i Press, 1996) 11. "Clausewitz set about thinking through warfare…according to a 'model' form, as an ideal and pure essence, "absolute warfare"…limitless use of force that, logically, tends to lead it, in reaction to attack, to extremes (that envisaged total destruction);"

Figure 4: Thermal Inversion Metaphor: Short Term Actions to Transform the System
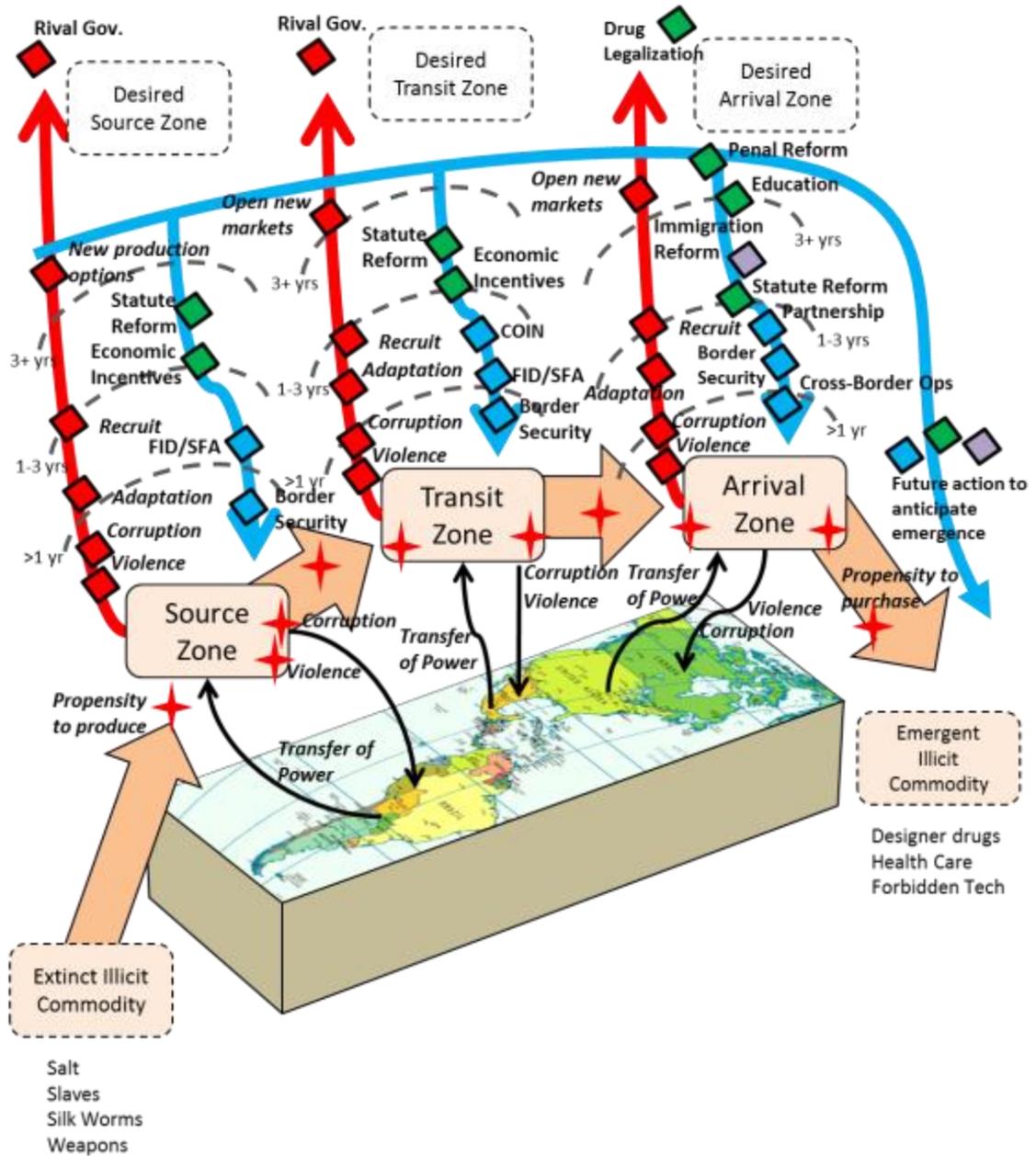
Figure 4

Figure 4 above represents *one possible way* that Army Design Methodology approaches complex problems such as the Mexican narco-ecosystem. In the above graphic, the blue thermal corridors swarm down in each zone of the illicit commodity cycle with a variety of potential actions; how the rival actor (red corridor of rising 'hot air') reacts and adapts to blue action generates system reframing and self-organizing adaptive learning. In other words, as cartels

change their approaches within the illicit commodity cycle, the multi-governmental swarming approach holistically harmonizes pervasive transformation of the system at a pace where the rival cannot sustain productivity. In order to do this, an organization must 'learn to learn' and resist the reflex to "stay in your lane" where tactical military objectives are accomplished while other agency and nation efforts are not considered or incorporated in any serious detail. This requires dynamic senior leadership that converts 'cognitive synergy' into cohesive action. [34] In other words, when a military planning team using Design recognizes that another agency ought to change their efforts due to how the system is behaving, senior leadership support that level of discourse and the breaking of conceptual boundaries on what is one organization's responsibility, and what is not. With the core tenets of hierarchical structures and command relationships inherent in military organizations, this presents a significant obstacle for the military in particular.

Although Design Theory requires operational vocabulary and difficult terminology to gain new knowledge about a complex system, the Design deliverables are a different matter due to the way most organizations make sense of the world through detailed planning. These deliverables, or narratives, require translation and re-packaging through illustrative metaphors, asymmetrical approaches that break with tradition and narratives that emphasize explanation over description. [35] While metaphors employing atmospheric exchanges of warm and cold air currents are only one possible example, the more critical point concerning figure 4 is that the operational approach does not need to subscribe to reductionist and mechanistic logic where lines of effort lead back from predetermined 'end-states' and systems respond to linear causality. Design Theory proposes that complex systems do not gravitate towards predetermined 'end-states' and our senior political and military leadership should not expect the Mexican narco-ecosystem to coalesce to any initial attempts at transforming it. [36]

Design Theory recommends metaphors to convey difficult and complex concepts for subsequent detailed planning and execution. However, no ill-structured problem by definition is explainable with one metaphor, and any metaphoric content must never be misinterpreted or over-applied as a literal explanation of how a complex system functions. Drug cartel actions do not behave precisely like hot air rising in the atmosphere. Design uses multiple metaphors to weave a cooperative and cohesive content and form that conveys deep understanding and

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[34] Design Theory offers many terms that attempt to explain how holistic logic with comprehensive learning and understanding helps an organization make better sense of the world. Shimon Naveh uses 'cognitive synergy', Donald A. Schon (*Educating the Reflective Practitioner)* uses 'reflective practitioning' and other terms, while Jeff Conklin uses 'cohesion' in a similar format. All of these terms imply the same general concept where a holistic view of the complex system is required and any reductionist applications fail to recognize the general phenomenon at work. Refer to this paper's biography for the full source lists on each of the aforementioned authors for additional information.

[35] Gerald M. Weinberg, *Rethinking Systems Analysis and Design* (Boston: Little, Brown and Company, 1982) 22. "No matter how much you know how or know when, there are some problems that won't yield to present knowledge, and some aspects of the problem nobody currently understands, so humility is always in order." Weinberg infers here the fallacy of human attempts to master everything. With linear approaches to these 'worst-case scenarios' of infallible problem systems, explanation falls short of understanding.

[36] FM 5-0, 3-59. Army design doctrine refers the reader to Appendix B for further information on lines of effort when considering the Operational Approach. Since Appendix B deals entirely with detailed planning (the Military Decision Making Process) that requires linear causality and mechanistic structure, this implies that conceptual planning requires an operational approach that functions in a similar linear and mechanistic fashion.

executable directives to an organization. [37] The metaphors are not as important as the new knowledge that one discovers and subsequently conveys to the organization. [38]

In this theoretical exercise on Mexican cartel violence, the *atmospheric thermal inversion* metaphor as depicted in figure 4 is only one of two critical metaphors used to differentiate between rapid and gradual transformation of the complex system. Whereas military, law enforcement, and rival cartel actions are associated with fast thermal exchanges associated with the first metaphor in figure 4, the military and law enforcement are unsuitable for long-term cultural transformation necessary to disrupt and marginalize this illicit commodity cycle. As earlier mentioned, American cultural apathy towards illegal drug use and the continued glamorization of illegal drugs by the entertainment industry resonates deep within American society. The military cannot realistically influence domestic cultural behaviors; however, they should understand the interaction between American drug glamorization and tactical cartel actions within Mexican sovereignty. Design produces better understanding of a complex system because it does not limit logic to only the narrow fields that an organization defines as their responsibility. One no longer "stays in one's lane" because a complex system demands holistic appreciation of many more "lanes" than what a military organization prefers to approach problems with.

Various organizational theories depicts the interaction between assumptions, values, artifacts (tangible things), and symbols. [39] This paper applies a variation on organizational theorist Mary Jo Hatch's 'cultural dynamics model' through a metaphor of tectonic plate shifting underneath each of the source, transit, and arrival zones. [40] Cultural change occurs slowly, and reflects a series of interactions between assumptions, values, artifacts (empirical material), and symbols. For example, many readers might assume that this drug problem is really a problem with national sovereignty- the U.S. and Mexico cannot secure their borders effectively. That assumption relates to American values such as the role of government in protecting the rights to life, liberty, and pursuit of happiness. Increasing border security with troops, fences, and other barriers provide the artifacts linked to those values and assumptions. Some artifacts such as a massive fence could become symbols; building an immense fence along the southern border would become the symbolic link to the original assumptions on sovereignty. Like a giant cycle of interaction, Hatch theorizes that when a society recognizes that reality conflicts with those assumptions, the process reverses and symbols, artifacts, and values adjust to new assumptions. If a giant symbolic fence on the border does not reduce the amount of drugs entering the United States, it challenges the assumption and the fence may lose status as a symbol. Figure 5 places

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[37] Ludwig Von Bertalanffy, *General System Theory- A Critical Review* (edited by Open Systems Group), *Systems Behavior, 3rd edition* (London: Harper & Row Publishers, 1981) 67. Bertalanffy uses the terms 'isomorphism,' 'logical homology', and 'analogy' interchangeably with General System Theory.

[38] Eva Boxenbaum, Linda Rouleau, *New Knowledge Products as Bricolage: Metaphors and Scripts in Organizational Theory* (Academy of Management Review, Vol. 36, No. 2, 2011) 275; See also: George Lakoff and Mark Johnson, Metaphors We Live By. (Chicago: The University of Chicago Press, 2003), 3-5. "Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphoric in nature…we act according to the way we conceive of things."

[39] Mats Alvesson, Jorgen Sandberg, *Generating Research Questions Through Problematization* (Academy of Management Review, Vol. 36, No. 2, 2011) 254. Alvesson and Sandberg use the term 'in-house assumption', 'root metaphor', and 'field assumption' to explain how organizations employ a logic that contains theoretical concepts that are 'unproblematic' and are often deeply tied to organizational values and identity. When these theories fail to explain the world, the organization continues to view the theory as unproblematic instead of applying critical thinking to the logic itself.

[40] Mary Jo Hatch, Ann Cunliffe, *Organization Theory, Second Edition* (Oxford University Press, 2006) 210-211. Hatch adapts her model from Pasquale Gagliardi and uses a cycle of assumptions, values, artifacts, and symbols where a society rotates through each of the processes and eventually changes them.

these cultural cycles within the source, transit, and arrival zones and applies the slow motion of tectonic plates as a metaphor for how 'whole-of-government' cohesive approaches can influence these cycles and promote change that disrupts and marginalizes the illicit commodity cycle.
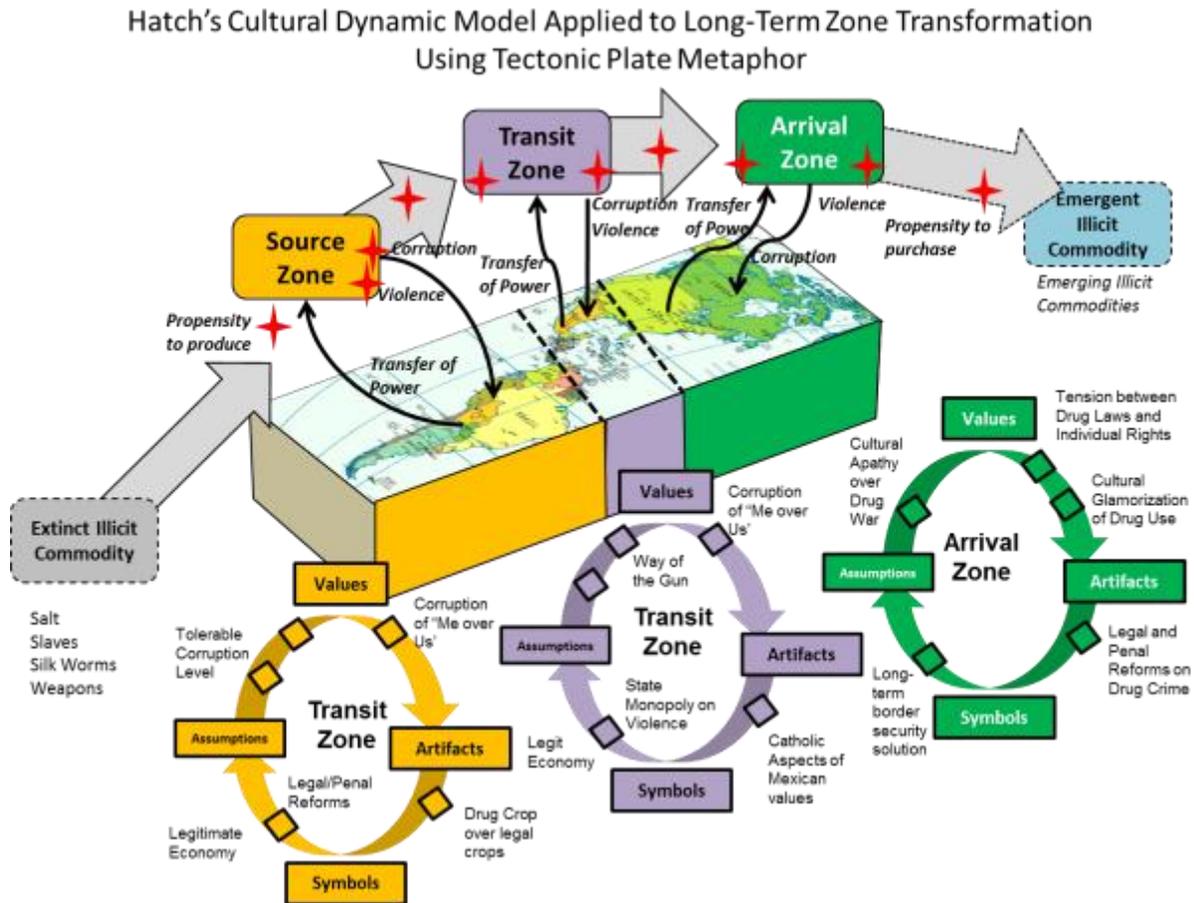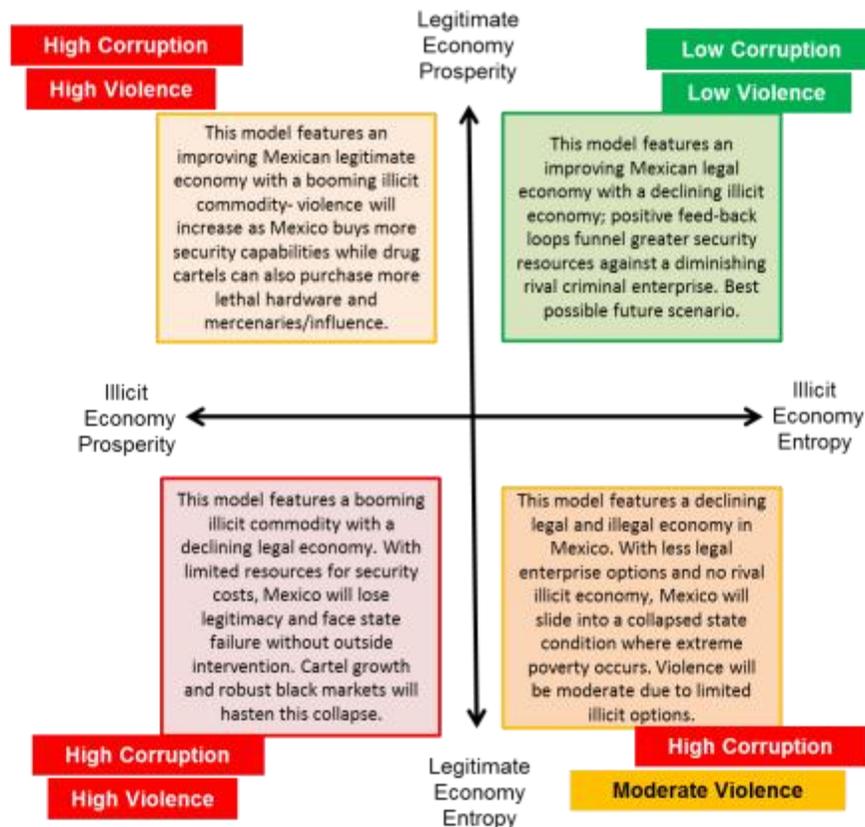

Figure 5

Throughout the geography spanning the entire illicit commodity cycle, cultural values require gradual transformation to change the conceptual landscape. Columbian farmers would be less inclined to harvest illegal crops if American (and other affluent western societies) either de-valued these drugs or at least de-glamorized drug use. Building fences on a border are short-term and limited approaches, whereas influencing society through government and other actor initiatives to transform drug apathy attack the core of the illicit commodity cycle. The military can help build fences and train border security in the short term, but they cannot do the necessary long-term process of addressing societal concerns. Any 'whole-of-government' approach must consider the short-term atmospheric approaches and correlate them to gradual tectonic plate shifts for societal transformation. Ultimately, military and law enforcement organizations make short-term transformations to make the physical landscape inhospitable to current cartel behaviors; political senior leadership and whole-of-government approaches must develop long-term timelines that potentially span a generation or more and apply gradual, incremental transformation of the illicit commodity cycle's conceptual landscape of societal values.

Scenario Planning: Where Will This Operational Approach Take Us?

Scenario planning represents a separate modeling approach that, combined with Design's unique methodology, provides deeper explanation on anticipating where a complex system will evolve. Scenario planning applies two tensions and establishes multiple future models that frame the directions a system could move. Building upon this article's Design approach, the scenario planning model in figure 6 uses the tensions between 'strong and weak' future legitimate economic conditions and 'strong or weak' illicit economic conditions to explain future transformations of the narco-ecosystem.

Scenario Planning: Dual Tensions of Illicit and Licit Commodity Cycles

Legitimate Economy Prosperity

High Corruption
High Violence

This model features an improving Mexican legitimate economy with a booming illicit commodity- violence will increase as Mexico buys more security capabilities while drug cartels can also purchase more lethal hardware and mercenaries/influence.

Low Corruption
Low Violence

This model features an improving Mexican legal economy with a declining illicit economy; positive feed-back loops funnel greater security resources against a diminishing rival criminal enterprise. Best possible future scenario.

Illicit Economy Prosperity ←

→ Illicit Economy Entropy

This model features a booming illicit commodity with a declining legal economy. With limited resources for security costs, Mexico will lose legitimacy and face state failure without outside intervention. Cartel growth and robust black markets will hasten this collapse.

This model features a declining legal and illegal economy in Mexico. With less legal enterprise options and no rival illicit economy, Mexico will slide into a collapsed state condition where extreme poverty occurs. Violence will be moderate due to limited illicit options.

High Corruption
High Violence

Legitimate Economy Entropy

High Corruption
Moderate Violence

Figure 6: Scenario Planning for Mexico's Future

In the above scenario planning model, the optimum future state contains a prospering Mexican legal economy coupled with a weakening illicit one. The most dangerous future states include both a failing legal economy with a strengthening illicit economy, and a state where both the legal and illegal economies gain strength. In either of these dangerous future states, both the government and the criminal enterprises of the illicit commodity cycle exchange higher levels of violence and corruption over time. Finally, the moderate future model where both the legal and illegal economies weaken feature a moderate level of expected violence due to both the state and criminal enterprises possessing less effective potential for violence. Figure 6 provides Design planners four future states to model the Army Design Methodology operational approach upon, in order to develop more effective information requirements and determine which of these paths

the actual system moves toward when action occurs. When conducted in parallel with Design efforts, scenario planning offer greater anticipatory models that provide senior leadership with deeper understanding of a complex problem and the risks involved with transforming them.

Design in Conclusion

Design challenges the way one thinks about thinking, and how an organization attempts to make sense and influence the world. Political and military decision makers should consider that previous traditional problem-solving methodologies are insufficient in stabilizing the current intolerable levels of corruption and violence in the Mexican narco-ecosystem. While linear reductionist methodologies in the past made short-term gains and potentially disrupted illicit commodity cycles in Columbia and other Western Hemispheric regions, the self-organizing and adaptive nature of these exteriority patterns continue to transform and evolve because thinking with short-term logic does not help solve long-term problems. The entire illicit commodity cycle theory of this article illustrates the strong suit for military Design Theory; learning to learn requires one to look past the immediate logic of sending military troops to train the Mexican police, or that building better fences along the border would reduce drug traffic. Design seeks explanation instead of description, and looks at systems holistically instead of reducing the world down into chunks of responsibility for each government organization to isolate and solve in a disjointed fashion. Fences treat isolated symptoms of the narco-ecosystem and are but one part of a necessary holistic approach.

By understanding the perpetual systemic nature of the complex phenomenon of source, transit, and arrival zone exchanges, the inevitable persistence of criminal enterprises becomes uncomfortably clear. Simply investing significant American blood and treasure into tactical actions against Mexican drug cartels will not "solve" this problem. Attempting to close off the southern border is another fallacy that will not prevent the illicit commodity cycle from adapting and improving performance in the end. This does not mean that those measures could help, but that the traditional planning logic of linear causality and reducing a system to where one is just looking at Mexico does not work in the long-term. Only a holistic approach that integrates and harmonizes multiple state actions across the diplomatic, economic, information, and military appendages of nations spanning the source, transit, and arrival zones will disrupt the current illicit commodity cycle that is destroying Mexican sovereignty and stability. While many other metaphors apply, this article used Design Theory and two metaphors to convey the different actions associated with short-term and long-term transformations of the complex system. Different Design teams may find other metaphors more useful. Once again, the metaphor itself is inconsequential- the deeper understanding that a metaphor conveys is the conceptual treasure Design digs for. Dissimilar combinations of several metaphors aid in conveying highly abstract concepts inherent in complex systems.

While military and law enforcement take the thermal inversion routes to action rapid transformation, only a systemic long-term and cohesive approach to transforming cultural values in each of the source, transit, and arrival zones will ultimately disrupt this illicit commodity cycle to a point where local law enforcement throughout the western hemisphere can marginalize illegal drug profiting. Granted, the perpetual creativity and adaptive nature of the exteriority means that future illicit commodity cycles will flourish; however, cohesive government action coupled with continued Design reframing has the best potential at marginalizing a costly problem. Societies will continue to travel through cycles of prosperity and entropy, and

governments will continue to categorize valued commodities outside of the bounds of law. As criminal enterprises continue to self-organize and profit around these future illicit commodities, effective Design logic may be able to anticipate open system organizing principles and emergent behavior; Design offers generalized vision and deep understanding to action a system in ways that traditional planning logic misses amidst reductionist piles of exhaustive description. Design provides a novel logic or series of logics for making sense of complex systems, after which relevant detailed planning logic can orchestrate immediate action to support.

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