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# A Science of Context: The Qualitative Approach as Fundamental to Strategic Thought

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## Chapter Twelve

### A Science of Context: The Qualitative Approach as Fundamental to Strategic Thought

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#### Introduction

Much of the reason the Army struggles with true strategic thinking and views such thinkers as outsiders in its ranks is because the prerequisites to strategic thinking are antithetical to the Army's dominant professional culture. That culture privileges a techno-scientific quantitative/predictive worldview. Yet strategic thinking requires a fundamentally different worldview, one that is oriented around a qualitative way of thinking about problems.

More specifically, strategic thinking involves the evaluation of "political, economic, psychological and military forces," to reach a state of national advantage (Luttwak, 1987, pg. 239-41; q.i. Heuser, 2010, p. 9). The disciplines that define strategic thought, political science, economics, psychology, and military science all require grounding more in qualitative social science methodology than the quantitative.

This paper argues that, despite this, military culture continues to conflate strategic thought with a flawed, quantitative/predictive model of the social sciences. The result is that when this inherently impossible predictive standard fails to be met, rather than question the basis of the model, strategic thinking that is self-critical about the military's approach is in turn suppressed. *Thus a pseudo-scientific understanding of how qualitative research and analysis is done in turn perpetuates a model of pseudo-strategic thought.* The challenge is to understand the basis of the quantitative/predictive versus qualitative/descriptive models of social science, their relationship to true strategic thought, and the organizational routines of the profession that hamper the establishment of a culture that recognizes and promotes such thought.

Contemporary social science over the past century has come to understand social phenomena as comprising not independent and dependent variables, but interdependent ones. This is arguably the most crucial "discovery" of the social sciences. But it creates an irreducible tension for users of social science work who want predictability akin to the natural sciences. Interdependent variables disallow such possibilities because their very interdependence makes establishing a clear cause and effect relationship impossible.

#### Quantitative v. Qualitative

There is a large literature on the development of and use of qualitative and quantitative methods in European intellectual history. In a sense this debate goes back to the (overstated) difference in method between Plato and Aristotle. For the purposes of this argument, though, the relevant question is to clarify what is meant by each. Quantitative methods rely on mathematical and statistical approaches. They are variable-oriented and mirror the methodological approach of the "hard" sciences. Since these same statistical and mathematical models are the *sine qua non* of

fields like physics, chemistry, and biology; the empirical advances of the sub-fields associated with them (e.g. aerospace engineering, petro-chemistry, or pharmacology) are assumed to apply to any discipline using the same statistical and mathematical modeling approach. The standard narrative explains the advancement of science as a direct result of the application of the basic quantitative method every school child knows: observe, report, hypothesize, test, repeat (Feyerabend, 2001). “Real” science is understood as having only one method, “the” scientific method, and it is based on the quantitative mode of knowing.

Qualitative methods employ a wholly different way of examining a problem. More importantly, they are a way of exploring a wholly *different kind of problem*. Or, to be absolutely clear, strategic questions are themselves never about “problems”, they are always about the same set of meta-problems. This is often easier to get at by looking first at what a meta-problem is not.

Problems in the normal sense of the word involve the quantitative mode of thinking. Even extremely difficult problems are like this. “How do we invade Japan?” is an example. The basic process is quantitative/predictive according to the standard narrative of “the” scientific method. It starts with a defined highest-order problem (invading Japan) and breaks it down into smaller problems (How do we get there? How long would a trip by boat or plane take? How many weapons and supplies will we need? What kind?) and uses a reductive approach along with the analytical tools of mathematics and statistics in a repeating process until a series of answers can be summed together to solve the original problem presented.

By contrast, qualitative questions are of a wholly different type. Further, *qualitative questions are functionally the same as strategic questions*. Rather than ask “How do we invade Japan?” a qualitative/strategic question broaches, if only for the sake of discussion, the question of *if* Japan should be invaded. In this way, a qualitative/strategic orientation asks first-order questions, (Should we invade Japan? What would doing so achieve? Are there other alternatives to invasion (e.g., bombing alone)? Should we seek the dissolution of the Imperial Institution?).<sup>1</sup> These are not the type of questions any hierarchical organization naturally encourages be asked down the line. But they are fundamental for generating good planning because they probe the basic issue of strategic aim: What change in the military and political context a series of military operations ultimately intends to achieve. Put another way, strategic questions ask the same basic meta-question: What is the change in qualitative condition (e.g., destruction of Japanese war-making capability to include or not the death or abdication of the Emperor) war plans intend to achieve?

Further, the nature of qualitative evidence is different. All qualitative methods can be understood as having two facets. First, the basic skill of qualitative research is to accurately interpret text. To interpret text means to accurately understand its meaning or meanings. Any subsequent categorization of text a researcher may do in order to allow for statistical analysis requires that the text be interpreted first.<sup>2</sup> The difficulty of interpreting what is meant by a subject in an

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<sup>1</sup> Thanks to my student, MAJ Eric Fowler, for giving me this suggestion. He offers a brilliant discussion of exactly this kind of qualitative/strategic thinking in his manuscript: “Will-to-Fight: Japan’s Imperial Institution and U.S. Strategy at the End of WWII,” unpublished, School of Advanced Military Studies Monograph, 2012.

<sup>2</sup> Although most of the time ‘text’ means ‘words’ spoken or written, I use ‘text’ in its broadest, linguistic, sense to mean any symbols needing to be interpreted before they can be categorized for analysis as in the examples of archival research, art history, or opinion surveys.

interview or what an archived memo meant in context is what requires extensive training in languages and cultures (to include the oft overlooked question of organizational cultures). A long-standing joke in the discipline is that while it may take only five years to make a physicist, it takes 20 to make a social scientist! There is at least some truth in this. Second, the basic form of all qualitative research is the gathering or developing of text. Qualitative research either gathers existing text from archives, memoirs, etc., or generates text through interviews or a derivative method like a focus-group or survey (Czarniawska-Joerges, 2004).

The significance of this for military decision-makers was recently made clear in a remarkable speech by Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey. Discussing his experience of how strategic decision-making occurs, Dempsey said, “When I go into a meeting to discuss policy, discuss strategy, discuss operations, plans, whatever it happens to be, he who has the best context generally prevails in the argument, not necessarily who’s got the best facts. There’s a difference. It’s who has the best context in which those facts exist,” (Dempsey, 2010). Such context is what differentiates a qualitative from quantitative way of seeing the world.

### **Technoscientific Warfare and Quantitative Approaches**

The modern American military tradition is techno-scientific to the extreme. In practice this means that the American tradition is chiefly defined by its “systemic application of science and technology,” as a way to gain “complete predictability and centralized control over armed conflict . . .” (Bousquet, 2009, p. 33). In the Army this pattern became particularly exaggerated after the Vietnam War. General William DePuy, founder of the Army’s Training and Doctrine Command (TRADOC), sought to refocus the new all-volunteer force toward what he saw as a future war dominated by technologically-skilled teams operating advanced weapons-systems as efficiently as they would a lawn mower (Mullen & Brownlee, 1986). The debate over the “Revolution in Military Affairs” (RMA) of the 1990s trod similar ground.<sup>3</sup>

The implication of this institutional commitment to the predictability model of the hard sciences is that it naturally privileges the quantitative way of knowing. In a similar way Depuy sought tactical superiority through systematized training in order to develop generalized, quasi-scientific rules and methods for battle. These rules and methods would maximize the chance of success in any engagement by minimizing moments where forces risk not having control of the situation. This last part is also akin to the kind of experimental control possible in most hard science laboratories. In effect, this reduces tactical engagements down to highly predictable events where the basic variable is the execution of tactical principles and the performance of weapons, both of which can be reasonably well controlled for. Crucially, the validity of the principles themselves are taken as proven.

American forces, especially since Vietnam, have repeatedly been in *tactical* engagements that can be seen as having been overwhelmingly successful. This overwhelming tactical success is the reason why questions about tactical principles need not be asked. These engagements have used and proven the systemic and systematic application of position, cover, fires,

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<sup>3</sup> For an overview of the RMA debate I recommend Tim Benbow, *The Magic Bullet?: Understanding the Revolution in Military Affairs* (London: Brassey's, 2004).

communication, etc., with the result that this success has created a quasi-scientific discipline. More importantly, the sum of all this experience is to reinforce the quantitative approach that has been fundamental in producing such tactical success.

The reason this is not possible in the social sciences is that the fundamental questions of the field involve humans. As Steven Weinberg, a winner of the Nobel Prize in physics, noted, “It has been an essential element in the success of science to distinguish those problems that are and are not illuminated by taking human beings into account,” (Weinberg, 2001; q.i. Flyvbjerg, 2005). The problems of war and warfare clearly fall into the category of problems where it is necessary to take human beings into account.

The central question in all social science is to explain why people do things. For students of war and warfare it’s why they start wars, end wars, and prosecute them in certain ways at certain times, and not at others. Answering any of these questions involves getting at the subjective motivations of kings, generals, soldiers, and civilians. The ways in which this gets done is, broadly speaking, the qualitative/descriptive method. In plain terms, it is the problem of creating a kind of objective science of subjective phenomena.

Separate from the problem of how to gather and interpret data about human intentions and motivations is the problem of time. Social science questions fundamentally involve time as an interdependent variable. L. P. Hartley’s now aphoristic line, “The past is a foreign country,” is but one illustration of why time complicates cause and effect arguments (Hartley, 1953, p.1). It’s not that there are not causes and effects; it’s that explaining complex events like warfare in the kind of generalizable, out-of-time rules that are possible in the natural sciences is impossible. Answering why the Hundred Years War happened is not the same as explaining why Vietnam happened. Whatever the broad similarities, the cross-case differences are always greater.

There is a set of possible causes, and a set of possible reasons why a certain combination of causes seemed to produce a given effect (the American war in Vietnam). But there are irreducible arguments about both the set range of possible causes and the set range of combinations. And the chief reason is that motivations for human behavior change over time. Unlike in physics where what was true about a feather dropped from the Tower of Pisa some half a millennia ago remains true today, in the world of social behavior what was true just yesterday is often not true today. Even in economics, the supposedly “hardest” of the “soft” sciences the inside joke is that economists are, “experts who will know tomorrow why the things they predicted yesterday did not happen today” (Flyvbjerg, 2005, p. 39).

So at its simplest the reason strategic thought is so difficult to inculcate in the Army is that its lack of predictive power makes its value seem weak to commanders tasked to ‘do something’ and ‘do it now’. Like other large bureaucratic organizations the modern Army adopted quantitative methods to guide its expansion. Those methods reflected the larger dominance of the so-called rational-scientific approaches being adopted by industry and the hard sciences together. For a period this included the social sciences, as hopes abounded that a ‘behavioralist’ revolution was just around the corner. According to some proponents, such a revolution would make the social sciences, particularly political science, into ‘true’ sciences in the image of physics and chemistry. The key would be to amass a sufficient amount of data about human behavior and

develop sufficient computational abilities to make generalized rules, and the predictions that follow, possible (Eulau, 1969). But as work in these fields proceeded, most came to believe that such a goal was not only not possible, but that its impossibility defined the divide between the hard and soft sciences.

To put this in contemporary terms, arguments about Afghanistan in 2008 led to a decision by the White House to surge 30,000 troops into the country based on a loosely predictive model about the effect of a similar surge into Iraq in 2006. The methodological problem with this way of thinking is that it assumes cause and effect relationships on the basis of scant to zero evidence. As the Center for Strategic and International Studies diplomatically put it, the differences between each country are “considerable,” making the ostensible strategic aim of each surge “quite different” (Freier, 2009).

Still a decision had to be made. But the problem of the time lag between assumed cause X (the Iraq surge) and assumed effect Y (success in Iraq) meant strategic-level decision-makers had to rely on little but a guess about cause and effect. And even if the time lag from X to Y is discounted, the internal variables grouped under the title “the surge” meant even more lack of clarity. What about the surge might have caused a drop in violence? The sheer amount of troops? The population density of the key neighborhoods? Or the thousand little different operational approaches individual commands took? These are the sets of variables and combinations that make the qualitative mode of thinking what it is. To get to any sort of defensible answer one probably has to be 10 years out from the present in order to identify the critical variables and have enough information to understand their relationships and interactions. But the decision has to be made *today*. Institutional frustration with a qualitative approach that can provide context but not prediction is understandable.

### **Strategic Thought and the Qualitative Approach**

So what good does a non-predictive method do for a “must show results” world? Unlike the quantitative/predictive model of the social sciences, the qualitative/descriptive approach is concerned with two things: (1) describing the values and interests of social groups, and (2) ensuring that a discussion of the values and interests of legitimate social groups are represented in public decision-making processes. This is what Flyvbjerg describes as ensuring “due diligence” in the public realm (Flyvbjerg, 2005).

Strategic thinking requires the kind of habit of mind that it is concerned with qualitative changes in complex military, social, and political environments. The kind of changes in values and interests that Flyvbjerg argues are at the core of the qualitative approach to science. Further, in this sense there is no static state called “victory” against which progress can be quantitatively measured. Rather, the strategic thinker must *continually* make a judgment about the qualitative changes he is charged with affecting (Dolman, 2005). Those changes, of course, reflect the values and interests of actors and institutions in the public realm. As both the actors and institutions change and/or the rank order of values and interests changes, the strategic proposition itself changes. “Victory” is a changeling mirroring the shifts in values and interests of those who have the power to define it.

Moreover, the nature of strategic thought requires thinking about *systemic* (interrelated) conditions over the course of *time*; a process for which quantitative measures are of only limited use. Most importantly, strategic thinking is less a discrete activity and more a habit of mind. Developing the habit of thinking strategically after matriculating through a professional culture (often rightly) focused on quantitative measures of tactical proficiency is extraordinarily difficult.<sup>4</sup> Each method represents a different way of knowing about the world. The issue is not that one is better than the other. The quantitative approach supports strategic thought, but it cannot be sufficient to ignite or sustain it. Only the qualitative mindset can develop a strategically-focused habit of mind.

Commanders frame questions as “problems” to be solved. This is the language of quantitative algebra. Strategic thinking asks about meta-problems, things like ‘is it worth invading Europe?’, “Is there an alternative (bombing Germany, letting the Soviets do it)?”, “What does doing so gain us?”, “For how long does this gain last?” and most importantly “How will having done so qualitatively change our situation?” Though quantitative methods can be used as indicators for whether or not an invasion is worth it, every measure of effectiveness requires a decision first be made about what the standard should be against which the program is measured. Does “worth” mean causalities, money or both? Does “worth” mean territorial gains or political? Could the action in question simply be a moral imperative and thus be outside the standard cost/benefit discourse? That is, even as the strategist uses quantitative methods he must be aware that they reflect a subjective perspective—his boss’s, his own, the enemy’s command, the enemy’s population, etc. The problem lies less in the measure than in understanding its context from the perspective of the key actors in the conflict.

Every measure (quantitative or qualitative) has to be interpreted in context. By their nature qualitative measurements presuppose the kind of theoretical frameworks essential for strategic thought (a theory must exist to justify the measure). And though qualitative methods can certainly be used to generate quantitative-looking measures of effectiveness (MOEs), the process of, say, categorizing focus-group information into numerical scores requires an explicit causal framework as a basis for the categorization. And since there are many different contexts for causal frameworks (e.g., national culture, the professional cultures of the Army/Navy or civilian government, or the view from 10 Downing Street, London), no one answer is definitive. And again, time as a variable complicates the articulation of context. Except in the esoteric realms of cosmology or quantum physics, hard-science rules are rules precisely because they are valid predictors of outcome *regardless* of time. Strategic thinking is fundamentally about thinking *in* time. And thinking in time is about thinking in terms of the *interrelated* nature of variables across time—about context. For a time-pressured commander, knowing tomorrow whether the predictions made yesterday about the enemy’s standing today is generally useless.

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<sup>4</sup> It is important to note the idea of matriculating upward through an organization. There are good reasons quantitative measures are privileged in the military. Being able to decisively and repeatedly hit a target with a bullet is a skill that is properly measured with quantitative measures. The issue is knowing what methods of evaluation are best for a each unique situation. As Soldiers ‘grow up’ in the Army the dominant evaluation method they are exposed to is quantitative.

### Scientism and Defensive Routines

Systemic misunderstanding in the larger Army of the differences between approaches has meant that the scientific validity of qualitative inquiry is deeply discounted. What remains is a *scientistic*, not scientific, view of the role qualitative/strategic thinking can play in military decision-making. To the extent that this view permeates U.S. command culture, it undermines real strategic thought by privileging the false objectivity of quantitative measures. This is not a unique problem to the military or the Army. Decades of work in organization theory have established that formal institutions engage in what are called “organizational defensive routines” (Argyris, 1990). The substitution of a *scientistic* standard in place of the complicated challenges of doing good qualitative science reflects exactly this kind of defensive routine.

Organizational defensive routines have chilling effects on institutional adaptation and learning because they tend to defend existing modes of thought and causal frameworks in light of radically changed operational or strategic contexts. Defensive routines are what discourage true strategic thought. Defensive routines derive from natural personal aversion to threat and embarrassment. In essence, defensive routines reflect the natural human aversion to admitting to doubt or outright error, something at the heart of the strategic mode of thinking.

At the organizational level such embedded routines entail four basic elements: the crafting of inconsistent, ambiguous messages; actions by organizational leadership that signal such messages do not contain inconsistencies or ambiguities; actions by organizational leadership that makes discussion of any inconsistencies or ambiguities undiscussable; and actions by organizational leadership that make the undiscussability of the undiscussability itself undiscussable (Argyris, 1990).

Army commanders’ institutional norms privilege a “can do” attitude backed by quantitative methods and a *scientistic* causal framework that butt up against the complexity of real conflicts where (1) political and/or military directions (strategic aims) are ambiguously phrased “establish a safe and secure environment,” in Ninewa, Iraq for example (FM 5-0, p.3-3), (2) officers are left to respond to the ambiguity of such a mission statement on their own, through the establishment of their own standards and MOEs for determining what “safe and secure” means, (3) discussion of the ambiguity in the mission statement are met with hostile or simply indifferent attitudes (the delayed discussion until the publication of FM 5-0) and (4) the problem of not being able to discuss that attempts to discuss the ambiguity of the mission were met with hostile or indifferent attitudes. All this only serves to further isolate commanders. This often leads to a reversion into known operational approaches because they are comfortable, not necessarily because they are appropriate to the now qualitatively-changed environment. In less abstracted terms, this is the kind of institutional problem FM 5-0 calls out.

This is particularly problematic in times of transition, whether in terms of an operational environment as described above, or in terms of more grand-strategic shifts. Transitional periods are transitional because the variables and trends that were relatively stable in the previous era have begun to shift. Geostrategically, the end of the Cold War represented a shift in the stability of what American policy-makers understood as the chief threat. The Soviet variable disappeared, in effect changing the whole calculus of the security problem(s) facing the U.S. But what the



new calculus was could not yet be seen in any detail. The U.S. security establishment, having co-evolved with a particular military-political ecosystem in the Cold War now faced catastrophic success (Forging a New Shield, 2008). In methodological terms, the security equation had qualitatively shifted. That much was clear. But the key variables and trends that analysts had previously used to help make sense of the security ecosystem had also changed. And before any straight-up analysis of the meaning of the transition out of the Cold War could take place the methodological problem of determining new variables and identifying trends had to be addressed. The geopolitical and military ecosystem had *fundamentally* (qualitatively and strategically) changed. In what way and, most importantly, with what meaning for the U.S. was unclear and continued to be so until a new methodological framework for the new order was established.

Admitting to being in such situations is extraordinarily difficult. The pressure to offer instant prognostication can be immense. And few commanders or political leaders want to be seen as “indecisive”. Yet in a real sense strategic thinking requires at least the mindset of someone who is perpetually unsure about what and why something might happen if one decision is made over another.

If politics and warfare were a hard science this would mean there was no reliable quantitative basis for military decisions, strategic or tactical. But politics and warfare are not hard sciences. One need only think about the qualitative questions surrounding Afghanistan to find another, more current example.

The reality of such transitional periods is that people, and the formal and informal institutions they aggregate into, project “data” into assumed “equations” about how the world works. These are the generalized causal theories about international relations and politics that people hold (Stone, 1989). In other words, they are the values that one group of people assumes operate to guide the behavior of another. The key is to recognize that such projections are just that, projections.

This kind of reflexive awareness is where a proper understanding of social science and the qualitative approach is central. Remember, the qualitative approach has two meanings. In its first sense the qualitative is different from the quantitative because it asks “framing” questions. The holistic “why” and “what does it mean” questions intended to answer big questions like, “How has the security ecosystem changed with the collapse of the USSR?” or “What will a pull-out of U.S. forces from Afghanistan mean to the incumbent government?” In its second sense it differs because the actual data-gathering methods cannot escape the “problem” of subjective interpretation. As discussed above, any textual data gathered or generated requires a human researcher to subjectively categorize it.

### **A Science of Context**

Viewing interpretation as a “problem”, however, misses the whole point of strategic/qualitative thinking. Exploring the contextual change such a large qualitative shift would have on Afghanistan is precisely the kind of question qualitative approaches are meant to answer. A de-contextualized version of this question might be something like, “What will a U.S. drawdown of

forces in Afghanistan mean?” But the real question is to ask a version of this that puts the question in the context of the key people (agents) we are interested in. What will a drawdown mean to the *Karzai* government? What does Karzai himself *think* about this? Literally, *what words* does he use to *describe his feelings* about this eventuality? Does he describe a drawdown in language *that indicates he fears* for just his job, or his life? Or does he use language that indicates he *sees* a drawdown as *an opportunity to consolidate or expand his power*? In other words, what does the objective description of Karzai’s subjective response tell us? Surely he understands his own context better than we can. The goal of qualitative work is to establish a collected and collated description of these kinds of subjective experience, of one man, of select branches in the government, or swaths of the population. Categorizing opinion surveys, interviews, speeches, economic data, etc. is the only way to construct a picture of the strategic implications of a pull-out. The point of the exercise is to go through the process of categorization in order to first get a sense of the range of possible qualitative futures, second to examine what policy orientation would leave the U.S. in the best position under whichever of the futures comes to be, and only lastly to try to rank order the probability of a given future. To return to General Dempsey, the facts mean little without context.

Avoiding qualitative approaches because they can’t predict in the same way natural science can misstates the purpose of qualitative work. The qualitative approach is the science of putting facts into context. That this requires subjective choices on the part of qualitative or strategic thinkers is not a weakness. The success of a qualitative approach is not in its predictive capability, but in the questions it raises for decision-makers to consider. Strategic thinking is the art of thinking through questions of context—the “What does Karzai think” or “What’s the view from different groups in the Ministry of Defense” inquiries. These are the questions that matter. Alone, the number of humvees in the Afghan National Army (ANA) or even the number of soldiers who passed basic training don’t tell us much about what we really want to know (is the ANA of high enough quality—in many different senses of the word—to do its job effectively?). Ultimately what we want to know is why people behave a certain way, and why people behave a certain way is a product of what they think, what they feel. Knowing why they think and feel that way is the only way to have any hope of changing their behavior. Numbers can be indicators of how many people feel or think a certain way, but they can’t answer why. Strategic thinking is about those “why” questions and a qualitative approach is the only means science has for answering them.

The challenge is twofold. First, the Army needs to openly embrace the subjectivity of the qualitative approach strategic thinking requires, in full awareness of one’s cognitive and institutional biases. Second, it needs to invest much more time into training commanders and their staffs in how to evaluate qualitative work, even if they don’t produce it themselves. But dismissing qualitative approaches on the basis of a flawed conception of what science is allows misconception and cognitive bias to undermine the Army’s capacity for true strategic thinking. In an era of conflict defined by a unique interweaving of military and socio-political complexity, to ignore the scientific approach designed to specifically address questions of human context would be the worst kind of strategic mistake.

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