SINCE ITS BEGINNINGS as an emerging concept, there has been a great deal of debate and confusion about just what design is. That is not surprising. In some ways, any attempt to describe design is an attempt to describe the indescribable.

Design is, by its nature, a creative process that defies form or structure, an inherently free-form, creative process that allows a staff to understand, frame, and solve complex problems. Even its name has been hard to fix. Over time, adherents have called it “systemic operational design,” “commander’s appreciation and campaign design,” “campaign design,” and simply “design.”

Before the publication of the new Field Manual (FM) 5-0, The Operations Process (March 2010) finally made Design a formal part of Army doctrine, there were only a few places to turn for descriptions of the concept. The first attempt to enshrine campaign design in Army doctrine came in FM 3-24, Counterinsurgency, which dedicated all of chapter 4 to campaign design. The first publication solely devoted to design came from the U.S. Army Capabilities Integration Center. After numerous draft versions, which were, for several years, the only detailed description of design, the center’s efforts were finally published as TRADOC Pamphlet 525-5-500, Commander’s Appreciation and Campaign Design (28 January 2008).

Several authors in past editions of Military Review have also produced solid explanations of design theory, including Major Ketti Davison (“From Tactical Planning to Operational Design,” September-October 2008), Brigadier General (retired) Huba Wass de Czege (“Systemic Operational Design: Learning and Adapting in Complex Missions,” January-February 2009), and Colonel Stefan J. Banach (“The Art of Design: A Design Methodology” and “Educating by Design: Preparing Leaders for a Complex World,” March-April 2009).

This article will not tread ground these previous sources have ably covered. Instead, this article offers a case study for application of design to a real world problem, the 2nd Battalion, 32nd Field Artillery Regiment’s combat operations in the Tikrit and ad Dawr districts of Salah ad Din province, Iraq, from 2009 to 2010.
By applying the concepts of design to this complex, adaptive environment, we, the officers of Task Force Patriot, developed a deeper understanding and more appropriate solutions to the problems we faced than we could have achieved using a more traditional planning methodology. In the process, we learned a number of lessons and developed a number of techniques that leaders can easily transfer to any situation that calls for a design solution.

Which Design?
In mid-2009, without the benefit of the newest version of FM 5-0, the first question we had to answer was what design tools were appropriate to the problem we faced. We chose to borrow from all of the literature on the subject to distill theory into techniques we could integrate with the more familiar Military Decision Making Process (MDMP). This exercise yielded some core ideas that carried us through multiple iterations of design before and during our tour in Iraq. Surprisingly, the principles we finally settled on fit very closely with those in the new FM 5-0. The principles are as follows:

Understand the problem before seeking a solution. Traditional, systematic planning methodologies like MDMP rest on the underlying premise that analysis alone will identify the problem a military force is required to solve. Contemporary design theory, on the other hand, posits that, in a complex environment, there are many problems; some of them cannot be solved, others should not be solved. In design, problem identification is an end, in and of itself.\(^1\)

Improve understanding through discourse. Discourse, or “critical discussion” as it is called in FM 3-24, is the process by which military professionals, informed both by their experience and their independent investigation, arrive at a better shared understanding of an environment, a problem, and a proposed solution.\(^2\)

One’s understanding is just a theory. In a complex, adaptive environment, some things will be obvious, some things will only seem obvious, and some things will be completely opaque. The shared understanding a design team achieves through discourse is just a theory.\(^3\) Some or all of it could well be wrong, especially initially.

Incorporate learning into the Design. It is as important for the unit to improve its understanding as it is to solve the problem it identifies. The problem the design team identifies is based on its shared understanding of the environment. The better the design team understands the environment, the better the solution it will develop.\(^4\)

Reframe as necessary. An old adage says that one must “fight the enemy, not the plan.” A design team should not be reluctant to start over if its understanding of a problem turns out to be wrong. The operational logic that drives all of the tactical actions a military force executes relies on an understanding, a theory, about the environment. If that theory is disproven, the design team must develop a new theory to understand the environment and redesign some or all of the campaign.\(^5\)

Design in Practice: Initial Design
We in the Proud American Battalion initially heard in May 2009 that we would deploy to the Salah ad Din province of Iraq. Soon after the end of our mission readiness exercise at the National Training Center in June, the staff was relatively sure the battalion would be replacing elements of the 3rd Battalion, 7th Field Artillery Regiment, and 2nd Battalion, 35th Infantry Regiment, in the Tikrit and ad Dawr districts of the province, and it began mission analysis.

Doing mission analysis before design is a departure from both the prevailing design theory and the new FM 5-0.\(^6\) In all of the current and draft doctrine, design exists outside of, and before, the MDMP. We decided to depart from this methodology because we knew so little about the area to which we would deploy. The unit’s last deployment had been to Baghdad, and some of the staff members had never even been to Iraq.\(^7\) The staff needed much more information to engage in informed discourse.

The technique the staff implemented was iterative mission analysis. The staff conducted an initial mission analysis by mining secret sources for every scrap of information we could find on the area of operations. We also made contact with the units we would replace and got as much information about the area as we could. When we were satisfied we had gathered as much data as possible, we analyzed that data and conducted a traditional mission analysis brief to share the knowledge.
Then, departing from the traditional MDMP, we did not immediately launch into planning by beginning course of action development.

Instead, the staff began the more creative design process. The staff no longer organized along warfighting functions. We became a design team. Initially, we divided the team into four two-man working groups, each with an area for further study and a time and date to report to the whole group. In these whole-design-team sessions, we discussed the ideas each working group provided and consolidated them into a shared understanding of the environment.

The first breakout group collected public media statements from the president and other national leaders; national strategy documents; and Multi-National Force-Iraq (MNF-I), Multi-National Corps-Iraq (MNC-I), and Multi-National Division-North (MND-N) operations orders. The group then combined this material with the purpose, key tasks, and end state articulated by the brigade commander in his commander’s intent. We did this to arrive at a deeper understanding of what we were really being asked to do and why.

Two other groups were divided geographically, one in the Tikrit district, the other in the ad Dawr district. They used both secret and unclassified sources to conduct a political, military, economic, social, infrastructural, and informational analysis of each district. They emphasized the political, economic, and social factors often neglected in traditional mission analysis.

The final group had the challenging task of tying together the distant history of Islam and the recent history of successive occupation of the area by the 4th Infantry Division, 1st Infantry Division, 101st Airborne Division, and finally the 25th Infantry Division, and communicating the impact each left on our future area of operations.

As the design team brought all of these perspectives together, a picture began to emerge of our area and what we should be doing there, or in design parlance, the environmental and problem frame.

Salah ad Din province was the home province of Saddam Hussein and the center of power under his regime. Since the beginning of the war, the battalion’s area of operations—the Tikrit and ad Dawr districts—had become a study in contrasts.
The Tikrit district contained the provincial capital and many of the most powerful provincial leaders. However, just downstream on the Tigris River in the ad Dawr district, the people had no political power at all; in the 2009 provincial elections, the district did not win a single provincial council seat.

In the midst of this disenfranchisement was a huge pool of soon-to-be-unemployed, military-aged males—the Sons of Iraq. This hodge-podge military force, stood up by Sunni sheikhs as part of the Sawah (the Awakening) to defeat Al-Qaeda in Iraq (AQI), was now in a state of limbo. The central government in Baghdad didn’t want them, but continued to pay them—reluctantly and often late—for fear they would drift into the ranks of insurgent groups. In our area, there were over 1,500 Sons of Iraq, an appealing prize for our dominant insurgent group, Jaysh Rijal Tariqah al-Naqqashabandi (JRTN), the armed wing of the New Ba’ath Party.

The brigade had directed the Proud Americans to advise and assist Iraqi Police and Iraqi Army units in our area of operations. Yet, all of the reports from the units the battalion would replace and the military transition team in the area uniformly praised the quality of both the Iraqi Police and Iraqi Army. Advising and assisting the Iraqi security forces would require very little effort.

Another factor that loomed large over our impending deployment was the transition that would soon take place in Iraq. President Obama had already announced that he would reduce U.S. forces in Iraq to 50,000 by August 2010. Indications were that the brigade would begin some dramatic transition around March 2010. It was unclear initially whether that meant redeployment or expansion to a much larger area of operations, but it was clear that the Patriot battalion was under a time crunch, with only about six months—from October 2009 to March 2010—to concentrate on the Tikrit and ad Dawr districts. We, as a design team, had to be realistic about what we could accomplish in this short time.

The design team pulled all of these elements together to form the campaign design. Our theory was that, if we did nothing, the tendency of the environment would be for ad Dawr’s disenfranchisement to worsen and for the Sons of Iraq to be fired and sent back into their communities unemployed. This would leave the district with 500 military-aged males, many former insurgents, available for recruitment by JRTN. Our desired end state was that the Sons of Iraq find gainful employment and ad Dawr find a legitimate, nonviolent voice in the politics of Salah ad Din province.

The problem statement then was the difference between the perceived tendency of our operational environment and our desired end state:

- We had only six months left to affect the situation in our area of operation (AO). After that, district and local governments and security forces would be on their own.
- There was a sizable force of Sons of Iraq that the government was reluctant to pay. JRTN was already actively recruiting them, and these were all potential insurgents if the situation deteriorated after we departed.
- Ad Dawr district had no political representation in the Salah ad Din provincial government. When the coalition money departed, projects in the district would dry up, fomenting discontent in the
Our operational approach was to try to find alternate employment for the Sons of Iraq and to create a relationship between the ad Dawr district government and the Salah ad Din provincial government that would endure after U.S. forces departed.

In addition, of course, we would partner with Iraqi security forces (ISF) in our area of operations as directed by brigade.

We chose to communicate this operational approach to the battalion using a lines of effort construct that would be immediately familiar to commanders. However, at the bottom of the lines of effort, we also included a diagram that graphically illustrated the goal of our efforts, that is, increasing ad Dawr’s political power while reducing the number of Sons of Iraq. The diagram, along with a restated mission and commander’s intent, constituted the battalion’s campaign design.

With this design established, the Patriot staff transitioned back into a traditional MDMP structure and completed a plan that arrayed the battalion’s forces, assigned tasks and purposes to each unit, and synchronized and resourced them to achieve the commander’s intent. The result was the campaign plan that the task force then carried forward into Iraq.

Emerging Understanding, Emerging Design

Not surprisingly, learning began almost immediately after the Proud Americans arrived in Iraq. A pattern began to emerge as we began the relief in place and began to engage key leaders in our area of operations. All of the power brokers, key provincial council members, key police officials, and key bureaucrats were from one city in the AO, al Alam, across the Tigris River from Tikrit. Moreover, they were all from the same tribe, the al Jibouris. Likewise, all the key leaders we met in the ad Dawr district government were from the city of ad Dawr and the al Duri tribe. The staff began to suspect that the cause of disenfranchisement in the ad Dawr district was not political, but tribal. We decided we needed to reframe the problem.

A hasty design team assembled and immediately began to mine all of the secret and unclassified sources available for the history of the al Jibouri and al Duri tribes. After a few days of investigation, we believed we had found an answer. When Vice President Saddam Hussein executed his coup and deposed President Ahmad Hassan al-Bakr to become president of Iraq, he did so with the help of tribes from his home province, the al Jibouris and the al Duris. Both tribes shared in the spoils of his victory; the al Jibouris took many of the top positions in the Iraqi army, especially the Republican Guard, while the al Duris took many of the key political positions, including the vice presidency. After the Gulf War, however, the al Jibouris decided they had had enough and hatched a succession of plots to overthrow Saddam Hussein. Saddam’s reprisals were ruthless. Hundreds of senior al Jibouris were killed. Only the fact that Saddam needed them to run his army saved the tribe from utter destruction.

The al Duris had remained loyal throughout this episode, so perhaps the al Jibouris resented that the al Duris had not joined them when they turned on Saddam. Perhaps some al Duris even participated in Saddam’s purges of the al Jibouris. Our expanded understanding of the environment led us to believe we had discovered a tribal feud and that ad Dawr’s lack of representation in civil government was only the political manifestation of this deeper problem.

Based on this insight, we modified our operational approach. The “political” line of effort was renamed the “social-political” line of effort to indicate that we would be dealing with both a tribal and a civil government. We would continue to foster communication between the district and provincial governments (in the political realm), but we would also find the key tribal leaders in each tribe, and foster a reconciliation, a sulh, between the two tribes (in the social realm). With this modified operational approach, the staff again transitioned back to its MDMP structure, and this process generated new specified tasks for battery commanders, synchronized in time to achieve a new, expanded commander’s intent.

Back to the Drawing Board

As certain as the staff was that it had found the real problem in the area of operations, this approach only carried the battalion through the transfer of authority and about a month of operations. Problems
with our theory began to emerge as commanders began to move through their battle space, talking to key tribal, political, and security leaders. At first, no one would acknowledge that any feud existed, even when pressed. We identified the top al Jibouri sheikh in Salah ad Din, but he expressed no animosity toward the al Duris. None of the al Duri sheikhs seemed to perceive any rift with the al Jibouris, either. Moreover, when we looked more closely, we discovered ongoing interactions taking place between the ad Dawr district and Salah ad Din provincial governments; the al Duri chair of the ad Dawr council periodically travelled to Tikrit to talk to members of the provincial council. While ad Dawr was definitely poor, lacking services and industry, it was still communicating with the provincial council.

Other confusing signals challenged our picture of our environment as well. The city of ad Dawr was poor, with rampant unemployment and no industry to speak of, yet the al Duri sheikhs we met all seemed to have nice cars and plenty of money. Additionally, no matter how many al Duri sheikhs we met, none of them was the top sheikh, the chief of all of the sub-tribes of the al Duri. How could the battalion forge reconciliation without a sheikh to represent the al Duris?

The city of ad Dawr did not seem to be responding as we expected, either. Security was always good in the city—until U.S. forces entered. When the Proud American soldiers entered the city of ad Dawr, they encountered uniform animosity from the populace. The unit that preceded us, Bravo Company, 2nd Battalion, 35th Infantry Regiment, received small arms fire nearly every time they entered the city. Despite Task Force Patriot’s engagement with the leadership and a significant surge of Commander’s Emergency Response Program (CERP) money, it was not long before our battalion met with the same reception. This violence finally culminated in tragedy when Corporal Tony Carrasco was shot and killed in ad Dawr on 4 November 2009.

It was obvious to the staff that its understanding of the AO (and thus the operational approach) was flawed. We needed to find a new theory that better explained what we were seeing. The battalion began another process of reframing. We sought more information, expanding the search for understanding by engaging other tribes to get a neutral perspective. The first breakthrough came when the battalion engaged the top sheikh of the albu Nasiri, Saddam Hussein’s tribe. Like other sheikhs, he saw no feud between the al Jibouris and al Duris. However, what was most interesting was that, when asked the identity of the head sheikh of the al Duris, he demurred, obviously uncomfortable with the question.

The battalion also sought the opinion of Iraqi security officials with experience in the city. Some of the most valuable information came from an al Duri police lieutenant colonel driven out of the town in 2006. He told us that he and his father, one of the al Duri sub-tribe sheikhs, had worked hard to make both the district council and security forces more inclusive, enfranchising not just the 35,000 people inside the city of ad Dawr, but also the 40,000 or more people who lived outside the city, in the rural areas of the district. The mayor and chair of the district council opposed this effort. Their opposition culminated in the expulsion of the lieutenant colonel from the town, violent intimidation that drove many of the rural tribal leaders out of the district council, and, in December 2006, a car-bomb attack that destroyed the Joint coordination center where the more inclusive security force worked. When the smoke cleared, the ad Dawr district council and police force were both dominated by a single sub-tribe of the al Duris.

The staff also began reviewing the recent history of ad Dawr, as related by officers in the battalion who had served in the area in previous tours and as found in documents that had passed from unit to unit since the beginning of the war. The investigation revealed that Task Force Patriot’s experience
in ad Dawr was not unique. Every unit that had assumed responsibility for ad Dawr since 2003 had taken a similar, standard counterinsurgency approach: identify the root complaints of the populace and try to address those problems to co-opt the insurgents. Each effort had ended in failure. The coalition forces had cleared and held the city on at least three different occasions, most recently as part of the Iraq “surge” in 2007. In each instance, conditions seemed to improve but, as soon as the city returned to local security force control, the insurgency reemerged.

With this new historical perspective, we began to ask different questions of the political and tribal leaders across the rest of the AO. The picture that began to emerge shattered our original perception of our operational environment. Repeatedly, leaders from across our area of operations told us that the city of ad Dawr had refused to accept the reality of the present. The most powerful people in the town were high-ranking generals and bureaucrats from the former regime, now shut out of opportunities in the new Iraq. They were “children,” as one sheikh put it, “stuck in the past,” and not willing to move into the future. While ad Dawr had “Concerned Local Citizens,” it did not have Sons of Iraq; the al Duris never joined the Sawah and never turned on the Sunni insurgency. When Al-Qaeda in Iraq was powerful in Salah ad Din, ad Dawr embraced them. Now JRTN was powerful, and ad Dawr embraced JRTN instead. “AQI or JRTN,” one senior police leader told us, “they are the same people with a new banner.” The staff also discovered that Izaat Ibrahim al Duri, the former Iraqi vice president, was an ad Dawr native, a recognized sheikh of the Naqshabandi order, and the current head of JRTN.

Armed with all of this new information, the design team again convened and forged a new understanding of the operational environment. First, we believed the elusive head sheikh of the al Duris we had been looking for was none other than Izaat Ibrahim al Duri. JRTN’s “brand name” was its reputation for resisting U.S. forces. By videotaping and posting its attacks to the Internet, JRTN generated income from like-minded individuals across the Islamic world. We theorized that JRTN was actually the primary industry in ad Dawr, the source of the wealth the al Duri sub-sheikhs displayed.
Clearing and holding and other counterinsurgency techniques had failed in ad Dawr because they were all based on separating the populace from the insurgents. But the people of the city of ad Dawr were the insurgents and the only way to address their grievance would be to put Saddam Hussein back in charge of Iraq.

The design team also theorized that the political disenfranchisement of ad Dawr we had observed even before we arrived in Iraq was real. The other tribes in the area had decided to join the political process and participate in the future of Iraq and, as a result, had turned their backs on the al Duris and the city of ad Dawr, the spiritual center of JRTN, which chose to remain in the past. If enfranchising ad Dawr was not to be Task Force Patriot’s goal, what should our goal be? What problem should we be trying to solve? An answer began to emerge when we reviewed the “white noise” in our engagement notes.

The white noise consisted of things key leaders said to our commanders that we initially ignored because they did not relate to the questions we were asking. The white noise was fear of Baghdad. A lingering and pervasive fear of all of the leaders we encountered across AO Proud Americans was fear of Baghdad. This fear was not without foundation. The central government had a Shia brigade of federal police “occupying” Samarra. The Maliki government had repeatedly attempted military operations to detain high-level government and police leaders in Tikrit because of their alleged “former Ba’ath” ties. Baghdad had issued and rescinded an order numerous times to fire high-level police officials, including the provincial director of police, because of their roles in the former Ba’ath regime. The power of JRTN, the armed wing of the New Ba’ath Party, in Salah ad Din was the justification for Shia fears of a Ba’ath resurgence.

The staff believed that the tendency of the environment would be toward disaster if we did nothing: after the departure of U.S. forces, the Shia-dominated government would feel compelled to take heavy-handed measures in the city. This could reignite sectarian conflict and potentially lead to civil war.

A re-examination of MNF-I, MNC-I, and MND-N orders revealed that commanders at all levels considered the potential failure of Sunni reconciliation a grave threat to the future stability of Iraq. The Proud American battalion had ad Dawr in its AO and was in a unique position to deal with the JRTN, the single greatest threat to Sunni reconciliation.

The battalion adopted the following problem statement:

*The ad Dawr district government is dominated by al Duris, which causes the whole district to be ostracized by the province, blocks rural access to provincial resources, creates a JRTN safe-haven in the city, and feeds GoI [Government of Iraq] charges of Salah ad Din’s Ba’ath ties. Left unchecked, al Duri/JRTN domination of ad Dawr could drive the Shia-dominated GoI to respond militarily, potentially reigniting sectarian warfare.*

The battalion’s desired end state became the defeat of JRTN.

Rather than follow the same clear and hold methodology that had failed before in ad Dawr, the design team proposed a three-pronged operational approach, which would occur along the same three lines of effort as the original campaign design to minimize the disruption to current operations. However, we changed “reintegration” to “economic transition” to communicate the shift from simply employment to the broader economic empowerment of rural ad Dawr. The key elements of the operational approach mirrored these three lines of effort:

- Use ISF partnership to maintain situational awareness on the security situation and disrupt the JRTN inside the city of ad Dawr.
- Use key leader engagements combined with CERP projects as leverage to unite the rural leaders in the ad Dawr district in preparation for district elections in late 2010.
- Use CERP projects and provincial reconstruction team expertise to help rural ad Dawr build sustainable industries that create jobs—especially for former Sons of Iraq and other potential JRTN members—that will be vital to the broader Iraqi economy after the departure of U.S. forces.

Thus, the ISF lines of effort focused on disrupting JRTN, but the decisive operation occurred along the social-political lines of effort, unifying...
the sheikhs of rural ad Dawr marginalized by the al Duri-dominated district government. Economic transition would focus on building industries—primarily agriculture—in rural ad Dawr and employing Sons of Iraq and other potential JRTN recruits. With these two lines of effort, Task Force Patriot would try to co-opt the al Duris and JRTN politically and economically and move both the political and economic centers of power out of the city of ad Dawr and into the rural areas of the district.

**Fighting To Understand**

The key to Task Force Patriot’s success was the energy we expended learning about our environment. While this article has covered the major redesigns that occurred during the operation, we initiated dozens of smaller course corrections and refinements throughout our deployment. In our weekly targeting cycles, there were as many patrols working to answer questions about our environment—testing our hypotheses—as there were trying to change it. The staff was able to continuously update and revise its model for how the system, our battalion AO, worked. Practically every week, the battalion staff published updates to the operational picture or changes to the details of the lines of effort as the battalion charted its way forward in the campaign.

With each iteration of the design process based on an ever-increasing understanding of our operational environment, the task force drew closer to its end state. Throughout this process of iterative design, the Task Force Patriot staff also learned a number of lessons that might serve future staffs as they embark on the design process. The lessons are as follows:

**Seek to disprove your theory.** Design the campaign to constantly disprove the original understanding of the environment and the problem. If one attempts only to prove his first theory, one will almost certainly find a way to do so. The Proud Americans lost valuable time trying to repair a tribal rift that did not exist. We could have saved this time if we had focused on trying to disprove our theory by putting al Jibouris and al Duris together in a room.

**Constantly consolidate understanding.** Every two weeks, we brought all of the commanders and staff of the battalion together to talk about what we were seeing in our AO. We constantly shifted the focus and format of this meeting so that the gathering never became a dry briefing, but remained a conversation. We often invited other travelers in our area, including the human terrain team, tactical psychological operations team, and provincial reconstruction team to provide their input.

**Nothing is “white noise.”** Every scrap of information enriched our understanding of the environment. Just because a fact is not important to the design team’s current understanding of its environment does not mean that it will not be important sometime in the future, as the team’s understanding evolves.

We lost many important pieces of the puzzle for understanding the politics of Salah ad Din province. The facts did not answer the questions we were asking at the time. The staff needed a method to capture and catalogue every detail discovered about the operational environment so that, if the questions change, soldiers do not have to be put in harm’s way to gather information the unit once had, but lost.

**Conclusion**

In the end, the Proud Americans’ efforts did produce an effect on the district, the JRTN, and the future of Sunni reconciliation:

- A series of large-scale, ISF-led raids disrupted the JRTN in the critical days before the national elections.
- The provincial and district governments did find employment for the vast majority of the Sons of Iraq in our area of operations.
- Through targeted CERP projects, especially for electric infrastructure, the task force was able to reignite the dormant agricultural industry in rural ad Dawr and put many more Sons of Iraq to work.
- We were able to pass on to the unit that replaced us a united coalition of sheikhs from rural ad Dawr, organized and motivated to compete in district elections in late 2010.

**The key to Task Force Patriot's success was the energy we expended learning about our environment.**
NOTES


4. Ibid., 6-6.


16. Ibid.
