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## **Professors in the Trenches: Deployed Soldiers and Social Science Academics (Part 3 of 5)**

**Editor: Rob W. Kurz**

*“How do I come to know what I didn’t know I needed to know?”*

This is the *third installment* of a *five-part series*. Each article was co-authored by one Army soldier/civilian and one university professor/academic as part of a joint research project. This project and product responds to the Army’s objectives regarding the integration of cultural social sciences into its training and operations.

### **Introduction to the Series**

The overarching goal of a “Military-Social Science Roundtable”, coupled with a related Delphi research process, is to boost, broaden, and render more viable the relationship between the military and academic fields of cultural studies in a way that benefits both communities. Specifically, the Roundtable and Delphi research process should foster a level of cooperation between these communities which assists tactical military units as well as military/political decision makers to ask the right questions in order to conduct full spectrum operations in unfamiliar cultural settings. The process and the venue of such cooperative roundtable conferences is intended to improve not only military long-term capabilities but also bring academic social science thinking into real world challenges.

The concept for the Military-Social Science roundtable and its associated Delphi process arose out of three common areas of interest. In the spring of 2007, the Command and General Staff College’s Center for Army Tactics (CGSC-CTAC) was seeking further perspectives and input from culturally-focused social science experts in order to enhance its training and research. CTAC was also engaged with many CGSC faculty members and students who had returned from Iraq, Afghanistan, or other combat zones, and who wanted a venue through which they could share unique observations regarding their deployment and interaction with foreign populations. Concurrently, the Training and Doctrine Command’s (TRADOC) Foreign Military Studies Office (FMSO) was interested in further opportunities to leverage resources from its network of academics and foreign security specialists against the warfighter’s need for intercultural capabilities. A third impetus to hold such cooperative roundtables stemmed from academe -- specifically within the social science community -- where there are a number of very knowledgeable and experienced individuals who believe in applying their disciplines to prevent unnecessary casualties. This is especially important in an era where conflicts are raging in a number of different geographical as well as cultural environments, revealing a need to explore

areas where cultural, social science studies may benefit today's decision makers from the tactical to strategic level.

The confluence of these three areas of interest prompted CTAC and FMSO to jointly develop and host a roundtable and Delphi process at Fort Leavenworth. CTAC found the military participants and FMSO found the academic participants. The nearby University of Kansas – particularly its military supporters with longstanding ties to FMSO and the Combined Arms Center (CAC) – became a local partner in the event.

The primary objective of the roundtable was to publish one or more papers – written together by the participants – that address two related topics:

Unique and/or common experiences in Afghanistan, Iraq, or other areas of operations that may help define the military's need for culturally-related social science training, information, and/or methodologies.

The possible way ahead for “military anthropology”, military and cultural geography, and related culturally focused social science disciplines in terms of research, development, and cooperation that could benefit the military at multiple levels; i.e., from the Soldier level to senior planning staffs.

To meet this objective, four military personnel were each asked to write a paper on their – or their unit's – experience interfacing with a local population while deployed. The paper was to focus on: mission challenges stemming from cultural differences between the Soldiers and the indigenous population, how the Soldier or the unit adapted to those challenges, and whether these adaptations were successful.

This marked the beginning of the Delphi portion of the event. The Delphi method is an iterative process used to collect and distill the judgments of experts using a series of questions interspersed with feedback. The questions are designed to focus on problems, opportunities, solutions, or forecasts. Each subsequent set of questions is developed based on the results of the previous ones. In this case, each Soldier shared his paper with one academic with whom he was paired. Over a series of weeks or months, the academic asked the Soldier questions regarding the experience about which the Soldier had written, with the intention of investigating the story from a Social Science perspective. As these exchanges occurred, the academic gradually integrated his or her observations into the paper, eventually co-authoring the final text with the Soldier and forming the basis of this book.

On June 21<sup>st</sup>, 2007 – literally in the middle of the Delphi process -- all four teams (each consisting of one Soldier and one academic) participated in a one-day “Military-Social Science Roundtable during which they openly presented and discussed the Soldiers' experiences and the academics' observations. This roundtable was open to the public and facilitated questions and comments from additional attendees. The concept of social scientists and more specifically anthropologists working closely with military veterans -- rather unlikely partners in today's environment -- drew a fair amount of attention from the academic and military communities, as well as the national and local press.

While there have been numerous conferences and much discourse about “military anthropology” and related concepts, this was one of the first, focused symposiums on this issue with the direct objective to publish one or more substance-filled papers intended to move this field forward. Most conferences or similar events on this topic have focused on sharing ideas, sharing information, and networking; not on publication. Moreover, the papers stemming from this roundtable have the unique credibility of having been written by social scientists -- several of whom are directly affiliated with universities or other DoD services -- in conjunction with experienced military personnel at the Army’s Combined Arms Center at Fort Leavenworth.

These writings – which now comprise the chapters of this book – represent only the beginning of what is hopefully an ever growing appreciation for the extent to which social science and specifically Anthropology can substantially improve a soldier’s ability to stabilize a situation in a hostile environment as well as assist a unit’s capability to deal more viably with a culturally unknown, possibly uncooperative population. Furthermore, such culture-based knowledge will certainly contribute a great deal to a senior decision-maker’s ability to better understand second or third order effects of any course of action/non-action. Cultural fields of study will not provide tactical, operational, strategic, or political planners all the answers they need to know about the environment in question. On the contrary, cultural fields of study will provide these planners the foundation-level context necessary to ask the right questions from the outset rather than erring in their assumptions.

*Mr. Rob Kurz is a Europe-Eurasia Analyst and Research Collaboration developer at Fort Leavenworth’s Foreign Military Studies Office (FMSO). He serves as a full-time Department of the Army Civilian GG-13 as well as a major in the U.S. Army Reserves. Prior to his transition to FMSO in 2004, Mr. Kurz served eight years as a Eurasian and senior Balkans political-military analyst at the European Command’s Joint Analysis Center (JAC) in England. As a Reservist, he was mobilized in 2003 to provide analytical support from the JAC to OIF units deployed in northern Iraq, and presently serves as a liaison between FMSO and the JAC’s Open Source Intelligence Division. Mr. Kurz is currently a graduate student at the University of Kansas, focusing on cultural and security studies.*

## **Part 3 of 5**

# **Fitting Into the Fight - An Engineer’s Dream From a Brigade Troops Battalion S3**

**Alexander Fullerton and Garth Myers**

## **Introduction**

The provision of infrastructure and services for Sewer, Water, Electricity and Trash (or SWET in its military acronym form) is boring to most people, or, more charitably, SWET belongs to a category of things people don’t like to think about. In much of the urban United States for at

least the last fifty years or more, most of the time, indeed, people don't have to think of these things. Most residents of US cities flush their toilets, turn on their taps, switch on their lights, computers, televisions, or microwaves, or take out their garbage without a thought. The trash might require some thought: is trash day on a Monday, or a Wednesday, maybe we should recycle, can I take the hazardous stuff to the special collection spot on Saturday or not. There are certainly professionals in all of these spheres who think about them all the time, because their companies or government offices are all about sewage, water supply, electricity, or solid waste management – there are a lot of people who work for a living in these realms. But for most American urbanites and suburbanites – even most rural dwellers - SWET just happens.

But there are a lot of places in the world where SWET doesn't happen at all. Urban geographers have often thought of cities like organisms, or spoken of the urban metabolism, the circuits and networks of a city's body. In the US, or in the Western world in general, SWET provision works like the respiratory system, it is like breathing, in, out – this was the first time all day, as you read this, that you thought about breathing. But in many other places, when SWET does not happen (in other words when infrastructure and services are lacking for SWET), cities and the people in them must somehow find ways and means to get by. There is no getting by without water, but millions of people throughout the world go without the other components, or subsist with makeshift or even illegal service provision for them.

When cities become used to not having SWET services and infrastructure, there can be great despair, but often surprising innovation. When cities become used to having SWET, and then suddenly, often dramatically, they lose their SWET, in many cases all hell breaks loose. The 1977 blackout in New York City, garbage strikes in Philadelphia, or of course the traumatic losses of all services in New Orleans after Hurricane Katrina are all places and times that witness the havoc that can ensue from an absence of SWET in cities that are used to having it. This is in some ways the case for much of urban Iraq.

Major Alexander Fullerton details below the daunting tasks and vigorous enthusiasms of one operations officer in an engineering battalion SWET mission in eastern Baghdad in 2005. His experiences, the highs and lows, speak for themselves. In our interactions, however, the themes that I have drawn out are those that connect with my own research in solid waste management and urban environmental planning in eastern Africa. I am humbled by the contemplation of Major Fullerton and his brigade doing the ordinary in the midst of extraordinary circumstances. Providing infrastructure or services can be highly technical. We need engineers to design sewage systems, water systems, electricity grids, and solid waste facilities, if they are to be done properly, safely, efficiently, and in the interests of environmental sustainability. I am old enough and I have seen the world enough to know there are few truly universal wants, needs, or beliefs in human experiences, but the need for water supply is one of these. Nearly everyone on earth would, in theory, want to have a safe, clean and efficient water supply in or near their dwelling.

Although millennia of human existence prove we can exist as a species without sewage, electricity or trash services, these components must come in a list of matters that a clear majority of humans would like to have these days, especially those living in cities. Some of Major Fullerton's story is familiar to me in the technical or practical engineering and urban environmental planning dimensions. There are cases of spaghetti pipes for illegal water supplies,

or we might say linguini wires for illegal power set-ups, common in Baghdad as in much of eastern Africa.

The other familiar refrain is one that ought to be far more central to the consciousness of the American public than it is, particularly in relation to the war in Iraq. This is that basic infrastructure and good governance, indeed political legitimacy, go together. Major Fullerton and his brigade came to see that their technical plans required many non-technical things for implementation. Among these, we discussed a detailed understanding of property law and land control, the differences between governance structures on paper and in reality, and the legitimacy of specific operations and of local allies. Sometimes, seemingly totally illogical chains of events took place, typical of the irregular warfare of counter-insurgency settings. This required Major Fullerton, in a sense, to get inside the illogic, such as the meaning of illegal kickbacks in local government, the shifting agendas of the Sadr Army, the complexity and diversity block-by-block of Iraqi Islam. This sort of nuanced cultural and political awareness and nimble thinking is the only way to get people to buy into ownership of the SWET projects, meaning ownership here in a social sense. As Colonel Neate remarked in the Roundtable, the “center of gravity is the consent of the people.” Achieving and maintaining that consent comes with rapport, which only happens from understanding people, Colonel Neate might say. It is our claim that Sewer, Water, Electricity, and Trash provision is the forgotten respiratory system of the body of rapport. – *Dr. Garth Myers*

### **An Engineer’s Dream**

28 Jan 2005. I stepped off the plane into the fine Baghdad dust. I was the Operations Officer of the 2<sup>nd</sup> Brigade, 3<sup>rd</sup> Infantry Division, Brigade Troops Battalion (BTB), notably one of the first Brigade Troops Battalions to be deployed in combat under the new Transformation model. Civil and Environmental Engineer by schooling and Combat Engineer by military trade, I was wondering what the year in Iraq would entail for my engineering background. Our mission as the Brigade Troops Battalion was to support the Brigade with the assorted Signal, Military Intelligence, Military Police, Chemical, and Infantry Soldiers to ensure their success.

Although we had remnants of Engineers left in the Battalion from the transformation of the Engineer Battalion, I thought that I would not be using any of my engineering background or skills for our upcoming mission. This view quickly changed as the dust settled at my feet and my mission for the year began to take shape.



The “SWET TEAM” and interpreters as we start our mission in Baghdad



Electrical networks prior to US involvement

Falling in on our Brigade operational area of Eastern Baghdad, I linked up with the 20<sup>th</sup> Engineer Battalion out of Fort Hood, Texas. Since they had not transformed to the new Brigade Combat team, the 20<sup>th</sup> Engineers had a large staff dedicated to the mission of rebuilding the Iraqi infrastructure in Eastern Baghdad. This mission concentrated on providing the essential services of Sewer, Water, Electricity, Trash, and other miscellaneous projects to the residents of Sadr City and 9-Nissan on the eastern half of Baghdad. Without an Engineer Battalion in his Brigade, the Commander re-assessed his assets and

directed the Brigade Troops Battalion with Engineers filling the roles of the Battalion Commander, Battalion Executive Officer and Battalion Operations Officer to receive this mission. We in the BTB realized that we would become a major combat multiplier, as our engineering backgrounds would play a major role in the overall success of the Brigade's mission in Iraq and the rebuilding of the Iraqi Infrastructure. But the big question was how to make it happen.

With the small Operations staff that was directed by the BTB Mission Table of Organization and Equipment (MTOE) (I was only authorized one other officer in the entire section covering the S3/S2/and S6), I was about to take over the same mission that the 20<sup>th</sup> Engineers executed with over seven Engineer Officers. Luckily, many of the residual officers from our transition from the 10<sup>th</sup> Engineer Battalion to the Brigade Troops Battalion were still on staff. I quickly asked the Battalion Commander for every officer that he could spare to help in this mission. By combining these officers with the Assistant Brigade Engineer, we were able to build a SWET shop of five officers to handle the 800 million dollar reconstruction mission. These officers, not all Engineers by trade, with careful guidance would soon learn the ins and outs of engineering management. Our mission quickly became an Engineer's dream and it seems that I was going to be deep into the decisive operations of the Brigade.



Electrical networks after US involvement

As the Officer in Charge of the Reconstruction Projects on the Eastern Side of Baghdad, I was responsible for essential service projects in our Area of Operations. These covered improvements to the Sewer, Water, Electricity, and Trash services and also a large number of miscellaneous services (police stations, fire stations, hospitals, schools, and the like). Projects ranged from the large scale of over \$120 Million (rebuilding the Sadr City electrical network) to smaller scale of less than \$10,000. We concentrated on giving Iraqis the simple things in life that Americans take for granted such as running water, electricity in their homes, a way to get trash out of the streets, and some type of sewage system that takes raw sewage away from their residential areas. Yes, many neighborhoods currently have no sewage system, electricity, or

running water. Yet children still rush to the streets when we drive past, waving with huge smiles as they know our mission and understand what we are trying to bring for their future.

Another interesting part of this job was the dealings with the local Iraqi government agencies. It was rewarding to see young Soldiers morph into political advisors ensuring that locals remain an integral part of the prioritized and selection process. Determining how to continuously develop the local economy is a major factor while projects are in the basic idea stage. These projects also have to meet at least the minimal professional standard of engineering, which is almost unheard of in many developing countries. The development of the projects comes through many different channels into the cell. It can be done through meetings with the local District Advisory Councils (DACs) or Neighborhood Advisory Councils (NACs), local patrols talking to the residents, Technical Advisory Teams (TAT) conducting Area Assessments, or the City Amanat (like City Hall). From here the idea is filtered into the City municipality (depending on the type of project) and their staff starts designing the details of a project. This shows the strong working relationship of both the Iraqi government and the coalition forces as we work hand in hand creating and executing these projects for the Iraqi people. From here, most are checked and approved by the Iraqi Engineers in the Amanat. Many times we found that the Amanat already had a project on their shelf similar to the one we were trying to execute that needed only slight modifications. From this, a Statement of Work was developed along with an Amanat approved bill of quantities and an independent estimate of cost. This is probably the most critical part of the entire process, dealing with contractors who do not have professional building codes. If you are not specific and tell them exactly what you expect for quality of materials in a project, issues will quickly arise during the execution. It reminds me of the old college task of writing directions on paper on how to make a peanut butter sandwich and then having someone figure out all of the ways the written words can be interpreted. Time spent on the Statement of Work (SOW) is probably the most important and worthwhile part of the entire project. Once the SOWs were finalized we advertised them in the local economy. This was accomplished in two different ways, either by contacting local contractors who have completed other projects for the coalition forces and have proven themselves, or by publishing the request for bids on the local Iraqi business center web page. By publishing the SOW on the local business center web page we received a wide variety of independent bids for the project. These bids go through an Award selection process weighing past performance, bid price, professionalism, and so forth. This is actually an eye opening experience as many bids come in at ridiculous prices. An example: a project to run, operate, secure and maintain five sewage lift stations for seven months came back with an independent government estimate of \$30,000. When we placed the bid out on the web site for independent bids, we received submissions that ranged from \$2,000 all the way to \$1 million. The tendency would be to go for the lowest bid. However, our engineering sense — i.e., that the bidder was incapable of executing the statement of work for that amount of money — allowed us to filter out useless bids. These are the things that you are not taught in the military or civilian schools and can only be learned through on-the-job training.



**Photos of Sewage overflowing in the streets in 9-Nissan**

As I look back over that year, I realize that I could easily step back and focus on missions relevant to the assets deemed by the BTB MTOE and its prescribed mission. Just by maintaining situational awareness on the overall brigade mission, we became focused – regardless of our branch -- on assisting and supporting the chain of command in its successful completion. The knowledge and experience that I received from this operation not only increased my ability as an officer but reinforced the idea that you have to be proficient in your assigned job as well as your basic branch at all times. Ensuring that we are flexible enough to do this, within every mission directed from higher, is how most leaders would define the successful molding of officers in today's Army. -- *MAJ Alexander Fullerton*

## **Conclusion**

As an academic, I have been relatively distant from the theaters of war. I did spend a fair amount of time in my life in the US embassies to Kenya and Tanzania that were destroyed by car bombs in 1998, but I did not witness those terrorist attacks. I have spent a lot of time in neighborhoods with overflowing sewage and piles of trash much like those shown in Major Fullerton's story. Some of the struggle to rectify the unholy messes of developing-world cities seems fairly universal. Certainly, Iraq's faulty urban governance mechanics and the politicization of everyday urban services resonate with matters I have seen in research in Kenya, Tanzania, Malawi, or Zambia. What is different, markedly so, is that Iraq is embroiled in war, urban warfare that makes the mundane extraordinary.

Perhaps the most important and extraordinary dimension to the SWET delivery Fullerton details can be put this way: failures in SWET provision can imperil entire missions, but successes in SWET provision, even small local successes like those the Major recounts here, might go quite a way to reversing negative trajectories. Most Americans have no cause to contemplate the bidding processes and interrelationships that development between local governments, engineering firms, or urban service providers in the US. Even for many who do so for a living, there is much in the system that is taken for given. Of course, horrific examples of corruption in these processes in the US exist as well – I grew up in northeastern Pennsylvania and spent enough time both there and in Philadelphia and New Jersey to deny me the chance to pretend otherwise. Yet much like Pennsylvania's Wyoming Valley after the floods of 1972's Tropical Storm Agnes ravaged it, Iraq is burdened by the complete reconstruction not only of urban infrastructural and service systems but of the very social and political networks that make that reconstruction succeed or fail. To fit into a fight, in this context, is to attempt to create a participatory engineering dream

from the ground up, physically and socially. This is a daunting task, but one that Major Fullerton's example sheds significant light upon. –*Dr. Garth Meyers*

**Major Alexander Fullerton** is a Combat Engineer Officer who, at the time of the roundtable, was serving as the Executive Officer to the Assistant Deputy Commandant at the US Army Command and General Staff College, FT Leavenworth, KS. His assignments include: Basic Training Company Executive Officer, Platoon Leader/ Company Executive Officer/Battalion S-4 with the 5th Engineers, FT Leonard Wood, MO; Asst. Operations Officer/Company Commander with 82nd Engineers, Bamberg, GE; Mobilization Officer/ Aide de Camp, Fifth U.S. Army, FT Sam Houston, TX; Transformation Officer for the Center for Army Lessons Learned, attached to 4th Infantry Division for Operation Iraqi Freedom I (OIF I); Operations Officer/Executive Officer for the 2nd Brigade Troops Battalion, FT Stewart, GA; Instructor in the Center for Army Tactics at the US Army Command and General Staff College, FT Leavenworth, KS. Major Fullerton deployed to Bosnia and twice to Iraq for OIF I / OIF III and was awarded two Bronze Stars and the Combat Action Badge. He holds a BS in Civil/Environmental Engineering from Clarkson University, Potsdam, NY and a MS in Engineering Management from the University of Missouri, Rolla. Major Fullerton is a graduate of the Engineer Officer Basic and Advance Courses, Combined Arms Services Staff School, and CGSC.

**Dr. Garth Myers** is Director of the Kansas African Studies Center and Professor of Geography and African/African-American Studies at the University of Kansas. Myers is the author of two recent books, *Verandahs of Power: Colonialism and Space in Urban Africa* (Syracuse, 2003) and *Disposable Cities: Garbage, Governance, and Sustainable Development in Urban Africa* (Ashgate, 2005), as well as the co-editor of a third, *Cities in Contemporary Africa* (Palgrave Macmillan, 2006). He has published more than three dozen journal articles and book chapters, most in relation to development issues in Eastern and Southern Africa. He teaches courses on African geography, African development, cities and development, and cultural geography more generally. Myers has a BA in History from Bowdoin College in Maine (1984), an MA in African Area Studies from UCLA (1984), and a PhD in Geography from UCLA (1993). He is originally from Northeastern Pennsylvania.

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