

From Planned Football to Spontaneous Basketball by Dr. Alexander Laufer

Every year, all North Atlantic Treaty Organization (NATO) members prove their ability to repair the military airfields that support the Supreme Headquarters Allied Powers Europe (SHAPE). Teams have exactly three hours to complete the more-than 140 tasks necessary to get the airfield operational.

The following story, about one such team, has very significant lessons applicable to many projects nowadays. The circumstances surrounding this military project differ sharply from most other projects discussed in ASK, yet, as we will see later, the implications are relevant, and crucial, for all projects.



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The story is told by Capt. Smith, the officer in charge of the military exercise.

**Lights, Camera, ...**

Fog had rolled in at about 0600 hours that cold, damp, May morning. Forty Air Force Engineers had quietly attended to all the morning rituals. I looked at my watch: 0730, just 30 minutes until showtime. At 0745 the first bomb went off. We all dove for the bunker.

While I tried to maintain a collected posture, my NCOs went over their game plans for the last time. I looked across the dark bunker and saw Airman Gavey. Jeff was a pudgy little guy who never seemed to get overly motivated and he always seemed to be taking a relaxing smoke break when I thought he should be working. This time he was doing his best steamroller act.

"Hey, Cap'n, how we gonna do?"

Swallowing my nervousness, I coolly uttered, "Fine, if everyone remembers their jobs."

"How could they forget?" he laughed, "For more than four months now, you've asked everyone of us, 'What're your first three jobs?'"

I chuckled. He was right. The secret to making our certification time was the overlapping of tasks. We had just three hours to complete the more-than 140 tasks necessary to get the airfield operational. Aircraft needed to launch before the enemy sent in its second wave!

Sequential execution would fail miserably – just the way last year's team did – and they'd had four hours! I thought the best way to instill this concept was to ensure that everyone knew his first three jobs, at least. I wanted my team to go from task to task without directives and to think about the process and the other activities going on around them.

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Only then would they understand how their performance affected everyone else. What they didn't know was that through their recitations I was learning all the tasks and was, in essence, managing the interface between them.

"Bravo 1, this is control. Mobilize and stage your team, we have runway damage."

The sudden radio squawk interrupted my train of thought. "Bravo 1, copy," I replied.

All thoughts of the fog and failure dissipated as my men scrambled out of the bunker and headed toward their equipment. Adrenaline was surging as the roar of engines coming to life filled the valley.

I thought I'd take one last walk down the equipment line and fire everybody up. "Remember, no smoking during certification!" I barked. This policy was to ensure that Jeff and his cohorts wouldn't take breaks – every minute was critical and we didn't have the time to smoke!

As I was returning to the starting line again, the gun went off. While waving my crew on, I noticed that nearly 200 people were watching from the sidelines. "Let's give 'em a real show today!" I cheered.

We were ready. My team was well prepared. Two days of monthly home-station training culminated in two weeks of intensive practice, and now the week here in Germany. We were ready!

As my NCOIC and I confidently strode down the mock airfield, we surveyed the damage. "Looks like the two taxiway holes are about 4 and 10 meters each and the runway craters look like 8 and a 12-meter each," he estimated. I smiled. I had come to rely on C. B. Winton more than I realized.

As we continued, I started to think out loud, "OK, the small taxiway mat is under assembly, the larger one will go about there. The first crater is cleared, the lines are out and the saws are about to start. That's real clockwork!"

At 0855, the first runway crater was nearing completion. I realized that it was the best we'd ever done. So did the team – confidence was surging. We might break two hours at this rate.

As I headed for the runway repairs, I noticed a general lack of equipment

around the second hole, which was the larger, more difficult 12-meter crater. I started to run. I rounded the corner of the dump truck to see C. B. on his knees tearing one of our concrete saws apart.

"What's wrong? Can you fix it? What do you need? Should we ask for another?" I blurted out, without pausing long enough for anyone to respond.

"Give me five minutes to look at it." He responded reassuringly. "Seems we twisted off an arbor. If we can get the broken one out, we shouldn't lose any more than 10 minutes." I sighed and walked away. I had learned a long time ago that when C. B. was deep in a project, I just let him go.

Mistake number two. The first was getting too confident as we finished the first crater. This one was more costly. This was an uncommon breakdown warranting replacement of the saw by the evaluating staff – I just had to ask. We thought we could fix it. I had made a critical error at a bottleneck operation. Time lost here rippled exponentially downstream.

Twenty minutes later, the saw was repaired. I didn't know our time exactly, but I knew we were cutting it close. By the time the broken saw was operational, the working saw was cutting the third side of the square. The other operators were doing their best to bring in their equipment to remove and clear the upheaval and debris, but time was slipping.

Returning to the 8-meter crater, I instructed Jon, my slab chief, to go orchestrate the 12-meter and let Ramirez finish this one. I needed Jon's leadership to resolve the chaos surrounding the 12.

"Nothing more to do here. C. B., I'm going to check the other teams."

I looked toward the taxiway just in time to see the 54-by-78-foot, 22,000-pound mat jump four feet into the air. Steel cables snapped like sewing thread. "Oh no! What now?"

I found the taxiway chief and the mat chief pointing fingers and blaming each other. "Damn, I thought we were over that!" I silently filed this away for later chastising.

The grader and loader operators were already making the repairs – at least somebody listened! I stepped in. "Look guys, break out the sub-teams and get the airfield lighting and MAAS installations underway." My look of worry and anger snapped them back to the task at hand.

"The key to certification is the overlapping of tasks," they recited almost simultaneously. I smiled, "I think we're going to make it!" Things were coming together again.

Jon was really at his height. The team closed out the crater in 30 minutes, largely due to his leadership. As the team rolled off the airfield, Jon was completing the surface roughness check while an evaluator was closely inspecting over his shoulder. The evaluator looked at me and shook his head. "What?" I yelled.

"A plane can't land on that, its too high," he replied.

**"Murphy's Law had bitten us, but training and the overlapping of tasks had given us the time to recover."**

"Oh damn! Where's Gavey and that vib roller? He can reset them. That should bring it into tolerance."

We looked up and saw no one – C. B., Jon, and I, were alone in the middle of a concrete plain. The vib roller was at the other end of the strip.

"Jeff is probably having a cigarette," I muttered. I grabbed the radio's microphone and barked to the mat chief standing near the equipment to send Gavey back down here, ASAP.

"What was that, Bravo 1? I didn't copy," he replied.

I screamed, "Get Gavey and that \*#@!^&\*! roller back down here, and fast!" C. B. started laughing, "Bet he heard you that time!"

"He didn't need the radio to hear that!" Jon chimed in. Jeff's red cheeks could be seen through the cab of the roller as he nearly ran us over.

"I didn't know that thing could go that fast!" I laughed.

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The slabs were reset and passed inspection. Meanwhile, the final pieces of the lighting system were added, and as C. B. and I jogged down the strip, we heard the generator start up. The clock would stop when,

and only when, the lights came on. One bad connection out of the 100 wired connections would keep the lights out. We crossed the safety line and gave the lighting team the nod.

The switch was flipped. The lights came on! We did it! Murphy's Law had bitten us, but training and the overlapping of tasks had given us the time to recover. Even though the 20 minutes lost with the saw had multiplied into 45, we finished with 12 minutes to spare!

### **Implications**

This story provides two avenues for learning. First we can learn from the remarkable **behavior** exhibited by Capt. Smith and his crew. One can see how Capt. Smith successfully overcame the immense challenges of this exercise by employing both early preparation AND ongoing adaptation. He successfully integrated detailed planning, meticulous training, and building a team with esprit de corps, with intensive communication and control by "moving about." The second avenue for learning may come from focusing on the **type of project** that Capt. Smith and his crew faced.

While admittedly the project had to meet an extremely tight schedule, at the same time it enjoyed several extremely favorable opening conditions, which, in our era, are seldom enjoyed by ordinary projects.

To start, the objectives of the project were clear and well known in advance so that all the required means could be acquired ahead of time. The objectives did not change throughout the exercise, and the entire project lasted only three

hours. The participants had worked with each other for a long time prior to this project, and were able to spend considerable time together on training and dry runs for this specific project. Moreover, it was not a "first time project" for the organization. For many years the United States Air Force, as well as every other air force in the world, has expended a great deal of resources – research and development, capital, training, publications etc. – on Rapid Runway Repair Operations.

The amazing moral of this story is that even with all these favorable conditions, this exercise, which was rehearsed like a symphony orchestra and planned like a football game, quickly turned into a spontaneous basketball game and soon transformed into improvised jazz.

Since today's projects rarely enjoy the favorable conditions that surrounded the military exercise, we should expect to see a shift toward spontaneous basketball very often, even when project schedules are not so tight. Indeed, in today's projects, "putting out fires" occurs more often than the old mindset of rational, scientific management would like us to believe.

## LESSON

To succeed in today's unfavorable conditions, one must create a culture that fosters planning and adaptation. One should nurture people to plan *and* attempt to anticipate, and at the same time to develop a state of readiness to respond quickly to frequent and unanticipated events.

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