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(U) Lessons Learned, Organizational Culture, and the Future of the National Reconnaissance Office

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Lessons Learned, Organizational Culture, and the Future of the National Reconnaissance Office

Bruce Berkowitz

A common characteristic of successful organizations is that they improve their performance as they gain experience. They learn what works and what does not. One way that such organizations adopt such "lessons learned" is by building this experience into their organizational culture. Such culture takes the form of professional norms, accepted ways of doing business, and basic expectations about how things "ought to work."

With this in mind, the Center for the Study of National Reconnaissance (CSNR) asked me to look at the issue of organizational culture as it applies to the National Reconnaissance Office (NRO) and address two questions by observing the organization in operation, reviewing previous studies, and meeting with current and former officials.

The first question was: is it possible to derive such lessons learned for space-based reconnaissance programs? Or, are these programs too idiosyncratic, and the systems too complex, to find many useful lessons?

Second: if it is possible to identify such lessons, how can the NRO integrate them into its culture? This is critical to putting knowledge into practice.

The NRO routinely integrates lessons from its traditional "after-action reports" into its policies, procedures, specifications, and training programs. But these approaches have significant limitations. Formal policies and procedures can rarely cover every contingency, especially in programs that work at the edge of advanced technology. Culture, on the other hand, gets deep into the core of an organization by becoming ingrained in the way its people think.

This is one reason why other professions, like medicine and skilled tradecrafts, put such emphasis on developing their organizational cultures by making greater use of training by experience, where recruits serve as apprentices or interns alongside more seasoned members. This experience of "learning by doing" shapes and passes on the profession's institutional knowledge, in addition to its values and standards.

Most training in the Intelligence Community (IC), in contrast, is usually done in classroom sessions or, more and more frequently, online. Such approaches may impart knowledge, but they usually do not shape culture. If the NRO hopes to learn from experience, it must find better ways to inject lessons learned into its organizational culture.

That, in turn, requires a better understanding of the NRO culture itself, for, as we shall see, the NRO faces several challenges in developing an effective organizational culture. Some are a result of history, some the result of recent technology trends, and some the

result of past policies that had unintended consequences. But by understanding these challenges, senior leaders might be able to create a culture that enables the NRO to carry out its mission more effectively.

What is Organizational Culture?

Culture may be harder to measure than mass, velocity, or dollars, but it is nonetheless a real phenomenon that affects the performance of an organization. Indeed, anyone who has worked in an organization intuitively understands the concept, because its effects are so apparent in both day-to-day events and an organization's performance over time. Four features can define the culture of most organizations:

- The formal rules that the organization follows, such as policies, engineering rules, design standards and specifications, as well as check-off lists and other standard operating procedures;
- The implicit rules of the organization—the beliefs, assumptions, and values that most members share–or, to use the phrase coined by management consultant Marvin Bower, the common understanding of "the way we do things around here" (Deal & Kennedy, 1982, p. 4);
- Personal relationships defined by formal rank and positions, but also by professional stature, position in the social hierarchy, and common understandings of responsibilities. Relationships with outsiders also fit here, such as acknowledging who is a client, supporter, competitor, overseer, and (to put it bluntly) friend or foe;
- Symbols that the group has adopted to identify itself and reinforce loyalty and camaraderie–tangible things like insignia, uniforms, logos, mottos, ceremony, songs, and literature, but also intangible things like lore, tall tales about the organization's heroes, nicknames, and the like.

Organizational culture is a classic example of a whole being more than the sum of the parts. It is not just the skill of individual engineers or their documented procedures that are important to the success of an organization; their relationships and intuitive understanding of how things are supposed to work are also what make an effective organization successful.

Edgar Schein, an MIT professor, has written several books about this phenomenon drawing on his long-term relationship with the Digital Equipment Corporation. Schein once defined organizational culture as "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration" (Schein, 2004, p. 17; Schein, 2003). The key word here is *learned;* culture is a result of experience.

Organizations try to achieve goals. When they succeed, members later remember tactics and techniques that worked. They recall connections to other people and other organizations that proved useful. Everyone sees which members exercised good judgment, and then defer to them in the future. Members also notice who exercised poor judgment, slacked off, or got in the way, and factor that into their calculations as well. All of this

contributes to the development of accepted practices, standards of behavior, hierarchy, and a sense of "us versus them"—which, taken together, comprise the basic ingredients of organizational culture.

Academicians who study organizational culture, like MIT's Peter Senge, sometimes refer to a "learning organization" as one that captures, transfers, and mobilizes knowledge so that it can adapt to new or changing situations. They describe two kinds of organizational learning; each operates at a different level and in a different time frame (Senge, 1994; Cummings, 2008).

"Single-loop learning" is what happens in the short term, when an organization examines its performance in "after-action" reports and adjusts its policies or procedures. In the case of the NRO, an example might be the analysis that follows a launch failure or the on-orbit failure of a spacecraft. The investigating team determines the cause of the failure, and proposes procedures to avoid it in the future.

"Double-loop learning," on the other hand, refers to what happens over the long term when members of an organization not only adopt policies and practices on the basis of experience, but also re-examine their basic assumptions about how to achieve success and accomplish their mission. Examples for the NRO might include views about the best size or configuration for a spacecraft, how to organize and run programs, the proper relationship between project managers and contractors—or, again, "the way we do things around here."

Either kind of learning can be incorporated into an organization's culture. Organizations in activities like mass transit or manufacturing consumer products often implement measures recommended in accident analyses quickly. These lessons, though learned in the short term, can be branded into organizational culture with surprising speed. Consider the impact of cockpit voice recorder tapes on the organizational culture of airlines, for example. After the investigation of the 1982 crash of Air Florida Flight 90 into the Potomac River, in which the recorder captured the crew joking about safety measures instead of de-icing their wings properly, pilots paid a lot more attention to following proper pre-flight procedures.

The same is true of long-term lessons that shape an organization's assumptions about how organizations are supposed to operate. Witness the instinctive demand for a clear, unified chain of command that exists throughout the American military community. Even aside from the statutory authorities combatant commanders have, this instinct is at least partly the result of a generation of officers familiar with the snafus that occurred in the U.S. invasion of Grenada of 1982, when Army and Navy operations were disjointed, and the 1983 bombing of the Marine barracks in Beirut, when it was unclear exactly who was responsible for being aware of threats to the Marines and ensuring that they were prepared. Within the NRO, experiences from the Future Imaging Architecture, plagued by numerous high-profile problems, will likely have similar effects on its members about how to design and manage programs, although the exact effects are not yet clear.

Either short-term or long-term, culture is especially important to an organization like the NRO if only because it is impossible to document everything necessary for success in policies or standard procedures for the kinds of large, complex programs it is responsible for. It would take too much time and, even then, there would inevitably be significant gaps.

Yet the most important point to keep in mind about organizational culture is, *for better or for worse, all organizations will develop one.* The question is always whether an organization's culture helps it attain its goals, and, if not, how managers can shape its culture—both in the short run and the long run—for the better.

Are There Lessons to Be Learned?

The idea of a "learning organization" presupposes that there are valid lessons to be learned. With this in mind, CSNR has undertaken a Lessons Learned Series to examine NRO and IC programs dating from the 1970s through the present. Although the activities were diverse, the assessments in the Lessons Learned Series have suggested several common factors that seem to be linked to success. These assessments suggested that activities were more likely to succeed when:

- They aimed at providing a practical technical solution to a problem. Focusing the effort on a set of tractable problems that all participants agreed were significant was important. Moreover, keeping this focus by excluding tasks that would have diffused their effort was important.

- All the organizations required for success were brought together at the beginning of the project. Adding players later and excessive turnover of personnel broke the organization's continuity, creating confusion and loss of focus. The original consensus on objectives, forged by the original members, was important to keeping an activity on course.

- Program staffs were optimally sized. It is hard to write a specific formula, but activities that succeeded were rarely stretched so thin that team members were overwhelmed, but neither were they so overstaffed that excess personnel caused the team to lose track of its objective.

- The general outline of a technical solution was clearly apparent, but the team stayed flexible enough to adjust to unexpected difficulties. Again, it is hard to write a precise formula, but it is clear that there is an optimum level of definition.

- Budgets were not so fat that managers did not need to set priorities, but ample enough that they could make adjustments to accommodate obstacles that were genuinely unforeseeable.

This last point about funding merits special discussion because it has been raised before, both in articles in this journal and elsewhere. Some writers have argued that the NRO was once regarded as an example of excellence in the acquisition of big, complex systems. Others scoff, claiming that this success depended on big margins—20 to 30 percent—being built into program budgets (Kohler, 2002; Fitzgerald, 2002).

Both views have an element of truth that is important to understanding when and why these budget margins are important. With just a few exceptions (e.g., early imint satellites), the NRO has usually built satellites in small numbers. They were thus never "acquisition" programs in the sense that, say, armored vehicles, aircraft, or even warships are. National Reconnaissance Office programs have, in reality, been *development* programs. Such programs routinely include a large contingency margin because unexpected complications are likely during development.

Another way of thinking about this budget margin is to consider it, in part, the cost of developing organizational culture. In the early phases of an acquisition program, or in programs that are constantly at the development phase, this margin buys the opportunity to try different solutions, or reach for an alternative when the planned approach does not pan out. Also, members of the team are learning their jobs and establishing relationships. In other words, a project manager's contingency fund pays the cost of learning that a learning organization incurs.

On the whole, the findings in the CSNR's Lessons Learned Series echo the results of other studies. More than 20 years ago, for example, the President's Blue Ribbon Commission on Defense Management (the "Packard Commission") surveyed programs in the private sector and found a half-dozen traits that seemed linked to success: clear command channels; programmatic and funding stability; limits on reporting requirements; small, high-quality staffs; communication with users; and prototyping before committing to production (President's Blue Ribbon Commission, 1986).

The lessons CSNR has been identifying are preliminary, and probably need further investigation. Even then, they will likely not apply to every program the NRO undertakes. The point is that the NRO seems to be developing a body of knowledge about the discipline and practice of national reconnaissance that improves the odds for success. The question is, however, if there are lessons to be learned, how can they best be integrated into the NRO's culture?

Culture and Challenges for the NRO

The NRO faces several challenges in developing an effective organizational culture. Some of them include:

Disruption of Legacy Cultures. For the first three decades of its existence (from 1960 to 1990) the NRO was actually an amalgamation of three separate and distinct cultures: the Air Force's Program A, the CIA's Program B, and the Navy's Program C.[1] Each of these programs had the ingredients necessary for a strong cultural identity—in contrast to the NRO as a whole, which did not. Specifically:

- Each of the alphabetic programs was created independently by its parent organization to meet a pressing need—targeting and strike planning in the case of the Air Force, strategic assessments of the Soviet threat in the case of the CIA, and locating Soviet naval units in the case of the Navy. Each was a large operation, located at a separate location. Each predated the NRO itself.
- Each of the programs offered its personnel a career path. The Air Force, CIA, and Navy recruited members for assignment to the NRO, and then implemented the assignment by simply transferring them to Program A, B, or C in what was, essentially, an internal personnel action within each parent agency.

1 One might also think of the NRO as consisting of four cultures from 1963 until 1974, when it also included Program D, which was responsible for the CIA's OXCART and the Air Force's SR-71 manned aircraft programs.

- Once assigned to Program A, B, or C, many personnel remained for years or even decades. They bonded with each other, but also kept their identity as members of their parent organization. For example, it is telling that Robert Kohler, former head of the CIA's Office of Development and Engineering (OD&E) Program B, referred to himself in his byline as "a retired senior CIA officer who spent almost 20 years supporting NRO programs" (Kohler, 2002, p. 39).

- Personnel within each program also tended to consider their counterparts in the other programs as competitors. Hardly anyone moved from one program to another. The alphabetic programs captured the concept of "us and them," which, for better or worse, helps define a culture.

- Personnel also had close ties to the users of their product within their parent agencies. Kohler, for example, recalled that many analysts from the CIA's Directorate of Intelligence were assigned to Program B. The heads of Program A and Program C were, respectively, usually a general or admiral from the operational side of the Air Force and Navy. These relationships were important because organizational culture depends on feedback and success, and a real connection to a specific user is likely to shape an organizational culture in ways that simply addressing a coordinated operational requirement cannot.

In many respects, the NRO itself was not as much an organization as it was an arena for competition between the three parent organizations—similar to the Department of Defense before the Goldwater-Nichols reforms of 1986. This was, in fact, a key reason why the 1992 Fuhrman Commission recommended reorganizing the NRO along functional lines—the Imint, Sigint, Communications, and Advanced Science and Technology directorates. It wanted to reduce "counterproductive competition" that made it "more difficult to foster loyalty and to maintain focus on the NRO mission" (DCI Task Force, 1992, p. 5).

This may have yielded what seemed like a more efficient organization; one can point to cases (like Goldwater-Nichols) in which consolidation and realignment led to better performance. But it is noteworthy that one cannot find a single instance in the Fuhrman Commission report in which anyone considered how consolidation and relocation might affect organizational culture—nor in any of the other studies that preceded reorganization.

In fact, the impact was profound. As Kohler put it later, "The three dynamic, supportive, and different cultures that existed in Programs A/B/C were destroyed by the integration of the NRO and have not been replaced with a new culture" (Kohler, 2002, p. 39). The organizational cultures that existed within Programs A, B, and C had taken many years to develop. The NRO lost much of this organizational culture when the Director of the NRO, with the agreement of the Director of Central Intelligence and the Secretary of Defense, initiated its reorganization in 1992. In 2010, the NRO culture is drawn in various ways from the combination of organizations (military services, both uniformed and civilian; CIA; contractor; etc.). However, as will be seen, the way in which these personnel are recruited, supported, and used has itself presented significant issues.

Technologies, Budgets, and Users. Even as reorganization was dismantling the NRO's legacy culture, a fortuitous combination of events was making it harder to build a new culture to fill the gap. These included:

- Satellite missions that lasted longer because of better technology;
- Satellite programs being consolidated because of tighter budgets and a desire by Congress to reduce what seemed to be, with some merit, redundancy;
- An explosion in the number of uses and users of satellite data, which made it harder to link a particular user with a particular system;

The drop-off in NRO missions from the 1960s and 1970s levels was largely because of better technology. Throughout the satellite community, bigger launch vehicles made it possible to launch bigger satellites with more expendables (resulting in longer life on orbit) and greater capability (allowing one satellite to perform the function of several). Component reliability of all satellites improved with experience, meaning that fewer replacements were required. There was also broad pressure following the Cold War to cut the number of satellite programs in order to save money.

The result: fewer missions (National Reconnaissance Office, 1993, p. 4; Kyle, 2008)[2]

Longer-lived satellites and combining missions into fewer platforms could result in substantial savings, but, from the standpoint of organizational culture, the results were profound. The NRO had the worst of both worlds: its traditional cultures were broken up, and the process to replace them was slower than ever. The organization had a longer, slower feedback loop. It was harder to develop the experience needed to replace the cultures that had been disrupted when Programs A, B, and C were eliminated.

At the same time, by the 1990s more users began to rely on intelligence collected from space—tactical military commanders, environmental analysts, and many others. So, even if budgets had not gotten tight, it would have been hard to retain the old relationships in which Programs A, B, and C each concentrated their efforts mainly to serve their parent organization. The link between the collectors and users was bound to become more complex as each program and each satellite had to support an audience of users, rather than a single sponsor. Relations between users and producers became inherently more complex, and this inevitably made it harder to rebuild strong organizational cultures with the NRO.

Then NRO Deputy Director Dennis Fitzgerald (2005), responding to Kohler's (2005) article, observed that, "Many of us miss the enthusiasm, dedication, and accomplishments of Programs A, B, and C, but those days are behind us." He then went on to say,

> "In the Peace Dividend world, you must have the imprimatur of the Joint Requirements Oversight Council on the military side, and a nod from the Mission Requirements Board on the Intelligence side, before you can have any hope of going forward with a request for funding from Congress." (Fitzgerald, 2005, pp. 46-47)

2 Worldwide, space launch activity peaked in the 1970s, with 1,231 missions, more than twice the rate of the current decade. Greater demand for space-based services and availability of launchers has raised the rate, but has been more than offset by higher capacity, longer-lived satellites.

The question is: can a formal, coordinated requirements process of any kind make up for the "enthusiasm [and] dedication" necessary for an effective organizational culture? Can it replace that direct connection between builders, operators, and users? If not, is it somehow possible to recreate at least some of the conditions that previously created a strong organizational culture?

Staffing and Career Development. A third obstacle to the development of a learning culture within the NRO is a result of how personnel are assigned to the NRO. The main problem is that there is no career path within the NRO.

Since the 1992 reorganization, personnel assigned to the NRO have continued to serve on assignments from their parent organizations. But because these are rotational assignments, and very few employees remain at the NRO for long, no one can consider the NRO to be his or her "home base." Indeed, at one orientation for on-boarding employees I have attended, the presenters said explicitly—and entirely accurately—that "no one really works for NRO; you all have a parent organization." Fair enough; but can an organization with no employees develop an effective organizational culture?

The problem is even worse because, while the typical assignment to the NRO from one of the parent organizations is two to three years, the typical satellite today takes much longer to complete. Thus NRO personnel are unlikely to take part in a program from inception to implementation. Instead, they rotate in and out. This is bound to diminish the feeling of commitment one might have to a program—or to the NRO. It certainly makes it harder to incorporate lessons learned that can be incorporated into an organizational culture. Few personnel have the longevity to take in the big picture that such lessons require.

This is reflected in statistics of the NRO workforce. As of 2009, the typical NRO employee had spent less than half of his or her career at the NRO—eight to ten years in the case of the median GS-15. According to several sources who served at the time, it was common prior to 1992 for veteran personnel to serve for two decades in Program A, B, or C.[3]

An unintended result of the consolidation of Programs A, B, and C is that it changed the relationship among the NRO, the individuals assigned to the NRO, and the parent organizations. Prior to that, an engineer or technician who rotated to the NRO was still serving in his or her parent organization, albeit in a sub-unit of that organization. Now that individual is *leaving* his or her home organization to serve in a *different* organization. A two-year stint at the NRO is often considered a diversion from a career in the mainline Air Force, CIA, or Navy. There is no assurance that such assignments are valued by the parent organization; a three-year assignment may even be seen as a detriment.

Thus, prior to reorganization, NRO personnel had significant opportunities and incentives to develop an organizational culture—albeit, within Programs A, B, and C. After 1992, those opportunities and incentives no longer existed, and the terms under which personnel serve at the NRO discourage them from developing an alternative.

3 These are all approximations. One of the challenges in evaluating personnel policies for the NRO—whether for developing culture or otherwise—is that its federated, decentralized approach to staffing makes uniform, reliable statistics hard to come by.

How to Encourage an NRO Learning Culture

To integrate lessons learned into its culture, the NRO must create the conditions necessary for an effective feedback loop for the development of lessons learned in its organizational culture. Specifically, for this feedback loop to work:

- Organizations need enough continuity of membership to develop a common understanding of problems, solutions, personalities, relationships, and so forth.
- Personnel need an incentive to buy into the organization's culture (and the lessons it contains); this depends on whether employees see a career path for themselves within the organization.
- Organizations require ample means of communicating lessons identified within the organization to its members and others with an interest in it.
- Organizations need cultural symbols to reinforce this feedback. Some artifacts will materialize on their own, and others can be facilitated, but officials must remember that such artifacts are not a substitute for the culture itself.

Personnel. The NRO's early 21st century approach to managing its personnel (defined mainly by agreements the Director of the NRO has signed with the Director of the CIA and the Chief of Staff of the Air Force) is a problem from the standpoint of developing an effective organizational culture. Personnel turn over so quickly that few personnel are on a program long enough to see "what works" rather, they are assigned to NRO, serve for two or three years, and then rotate back to their parent organization.

Indeed, it is difficult to manage development of an organizational culture of any kind if between a quarter to a third of one's workforce leaves each year, as currently appears to be the case for the NRO. This is a fundamental issue that must be addressed; how much continuity is essential to the functioning of the NRO?

This was less of a problem prior to the 1992 consolidation, when the NRO culture was really an amalgamation of the three cultures of Programs A, B, and C. Now, however, the NRO has become a destination to visit, not an organization to join. The NRO needs its own career path for employees if it hopes to manage development of a culture. Alternatively, the NRO could keep its current role, but it needs to offer opportunities for personnel to carve out projects that give them experience that their home organizations value.

Since the 1992 reorganization, the NRO approach to staffing has resembled the approach the Army used in Vietnam, inserting and pulling individuals out of units one by one. It is hard for a group to sustain a culture based on experience if it is not treated as a group. Similarly, personnel must be kept in a job long enough so that they are able to develop institutional knowledge and organizational culture, and absorb it. This could mean keeping them in assignments longer, or making projects shorter, so that the results are apparent to the participants.

Start-up Initiatives. Start-up organizations typically offer an opportunity to develop a new culture because they are starting from a blank slate. Mature organizations like the NRO can create similar opportunities for themselves by establishing more "in-house startups"—sub-organizations intended to build a new culture as a part of an effort to exploit

a new technology or new development process. Corporations have sometimes tried this, often with success. The classic example is probably IBM, which created its PC by setting up a new, autonomous organization in Boca Raton, Florida (more than a thousand miles from its headquarters in Armonk, New York). General Motors used a similar strategy when it set up Saturn as a new division with a "new way of doing business" (and a culture strong enough even to outlive its association with GM).

To make these kinds of projects possible, it would help to set aside funds for R&D and advanced technology development. Indeed, this has been a frequent recommendation of panels that have reviewed the NRO; as early as 1992, the Fuhrman panel proposed this (DCI Task Force, 1992, p. 27). It was assumed, since legacy systems would be consolidated within the Imint, Sigint, and Comm directorates, that a separate directorate—which became AS&T—would focus on new, higher-risk systems.

Project-Based Teams. Another strategy for building a stronger NRO organizational culture would be to make more rotations to the NRO take the form of assignments to "project-based" teams. Ideally the objective of the project would be to produce a specific satellite, but could also be a specific sensor or a ground technology or an application.

In any case, such an assignment would ordinarily have a person remain on the team for the duration of the project. Culture gets built on the basis of success, and being taken off a project simply because a rotational assignment is over reduces one's opportunity to experience that success. Also each assignee's parent organization should explicitly sign up to the project, to signify that it has bought into it, and ensuring that the experience helps the assignee when a performance review board later reviews his or her file.

In general, the organizational culture of the NRO would be strengthened if there were career paths that allowed one to spend most of his or her career within the NRO. One option would be to have the Air Force, CIA, and Navy designate a total of, say, 500 to 1,000 personnel for long-term commitment to the NRO. Another would be simply to allot a similar number of billets to the NRO itself.

Communicating Success. Culture requires feedback, but currently several factors inhibit feedback within the NRO. One is security (both formal and the informal practice of "need to know"), which limits personnel from learning about each other's success. Ironically, the most innovative efforts within NRO are likely to be the most tightly compartmented.

Even so, there are many measures the NRO can undertake to improve culture-building communication, even while maintaining security. For example, it could produce more webcasts in which personnel taking part in programs that are especially productive share their experience with their NRO peers. These webcasts "put a face" on success. This creates "heroes," a device that promotes culture. Also, by making people aware of successful programs, others may join, or even push their own efforts harder. Since these webcasts would be disseminated over the internal network, they could be cleared before release, so it would be possible to manage security concerns.

One could also make information about ongoing programs and activities more easily available within the NRO. For example, most programs put most of their briefings and design review materials on the classified network in some form. Senior NRO leaders could encourage program managers to make more of these materials available agency-wide or in a controlled, but reasonably accessible SharePoint "community of interest," so that others can look over the shoulders of their colleagues and learn from their experience. A regularly updated Intellipedia entry would make information about the progress of a program even more widely available within the IC.

The NRO could also improve culture-building feedback by creating a classified museum on NRO premises, building on the existing unclassified exhibits on display in the halls of the Westfields headquarters building in Chantilly, Virginia. The exhibits could include test articles, engineering models, or leftover hardware from programs. By being within easy access of most employees, staff could browse and see first-hand "what worked" in the past. This could trigger additional ideas, and would expose various components of the NRO to each other's work—which was, of course, one of the original reasons for consolidating NRO operations at Westfields.

Such an exhibit hall could also be used for induction and promotion ceremonies, conferences, and visits by cleared outsiders, further strengthening the institutional culture. Other organizations use this approach. For example, Chrysler has allowed employees to display antique and classic MOPAR cars that they have restored in the corridors of its Headquarters and Technology Center in Auburn Hills, Michigan. This provides both staff and visitors a hands-on experience with the company's history (besides giving the employees a place to keep their cars). Some national laboratories have classified museums exhibiting engineering models of nuclear weapons the lab has developed, vividly demonstrating the progress the organization has achieved over the years.

Symbols and Icons. Trademarks, logos, and style manuals—"branding"—can help create a corporate identity that reinforces organizational culture, though even experts have confused this concept by attempting, unsuccessfully, to fabricate a culture simply by introducing a new brand.[4]

Some of the best-known missteps in organizational culture have been the result of trying to do exactly that. Recall, for example, NASA's misbegotten effort to replace its "meatball" insignia with the modernized "worm" script in the 1970s (Daniel Goldin immediately reversed the policy when becoming NASA Administrator in 1992). Also recall the infamous "N Block" logo NBC developed in 1975 (at a cost of $6 million), only to replace it with the "peacock" it had used in an animation to introduce color programs. Viewers had come to assume the bird was the network's trademark, and NBC recognized the reality by adopting it as such in 1986.

4 A concept, interestingly enough, famously invented in 1931 by Neil McElroy, then a rising executive at Procter and Gamble. McElroy, who later became President of P&G, went on to serve as President Eisenhower's Secretary of Defense from 1957 to December 1959—where he approved the launch vehicle and satellite programs that formed the nucleus of the NRO when it was established in 1961.

The power of brands is a result of success—and, implicitly, the associated lessons learned. Throughout its history the NRO's successes have created powerful "brands" that could reinforce its organizational culture. For example, program codewords like Corona and Grab are, in effect, brands evoking performance under pressure. Program patches—even more of a grassroots-driven iconology—is yet another example.

Rather than trying to manufacture culture artificially, the NRO might do better by capturing and managing the culture it has already created. In this sense, the veteran officials and technicians that the NRO honors as Pioneers are also part of the organization's iconology. So are case studies developed by CSNR. A good case study—sea tales of success and perseverance—becomes part of an organization's lore, inspiring successive generations of possible Pioneers and teaching them, often at a subliminal level, what works and what are the NRO community values.

The More Important Question

Some might say that the NRO *has* been developing a culture, but that for an organization at the end of the first decade of the 21st century, it is an excessively bureaucratic culture, one that values following the Federal Acquisition Regulation and formal quality assurance procedures more than building the latest and greatest collection systems. Also, by over-emphasizing the systems acquisition side of its mission, another aspect of the NRO culture suffers—the side that tells its personnel that they are intelligence officers, whose mission is to identify, develop, and deliver whatever space-based technology or operation we need to beat our adversaries.

It is genuinely hard to reconcile the requirements for a risk-taking intelligence officer with those of a risk-limiting acquisition manager. Both have their place. The question is, who do we want, and when? And, by extension, which organizational culture do we want, and when?

Though the NRO has often been cited as a center of excellence for acquisition during the 1960s and 1970s, as I observed earlier, it was not an "acquisition organization" in the usual sense of the term. In reality, the NRO was constantly designing and delivering new systems, one after another, as the threat demanded, or in developing a new use for a system that had originally been designed for something else. In other words, its greatest success has been as an innovative *development* organization.

Nevertheless, in the 1990s, the NRO was required to adopt DoD-style acquisition practices. This was partly a reaction to controversies over "forward funding" and the construction of the Chantilly headquarters (Senate Select Committee on Intelligence, 1995; Fitzgerald, 2005b; Weiner, 1996).[5] But it was also a natural result of systems generally becoming more expensive and as more users became dependent on NRO products (often

5 In the early 1990s some legislators believed that they were not fully informed of plans for the headquarters construction; the Senate Select Committee on Intelligence audit was critical of the how the project was planned, carried out, and presented to Congress. "Forward funding" referred to accumulated unused margin accumulated across individual NRO programs. In 1995, this margin became the subject of controversy when it was found to total $3.8 billion. Though reviews concluded that no funds had been spent improperly, some reporters labeled it a "slush fund," and Congress and the Intelligence Community adopted measures to curtail the margins by using more stringent cost estimates. This reduced the amount of carried-over contingency funds, but also reduced the ability of program managers to move money from "well programs" to "sick programs."

in critical ways, such as targeting precision weapons). As the potential consequences of a program failing to deliver grew, overseers naturally wanted more assurances to limit the chance of failure.

Unfortunately, acquisition procedures appropriate for building hundreds of aircraft or buying thousands of munitions are a poor fit for an organization expected to deliver new systems on a regular basis, each offering new capabilities—and significant inherent risks. The procedures, experience—and thus, culture—required for an agile, innovative development organization are, by necessity, very different from those expected of a reliable deliverer of critical infrastructure. Think of, say, DARPA and FedEx; both are respected organizations, but both have different roles, need different skills and mindsets—and each has different organizational cultures.

That is why the most important question officials need to ask before trying to integrate lessons learned into the NRO's culture is—what kinds of lessons do they want the NRO to learn? What kind of culture do they want to develop? This gets to the heart of the issue, which is what kind of organization—or collection of organizations—they want the NRO to be.

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