Three Cultures of Management: The Key to Organizational Learning in the 21st Century

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The purpose of this article is to provide some possible explanations for the failure of organizational innovations to occur in the first place, or to survive and proliferate. In other words, why do organizations fail to learn how to learn and therefore remain competitively marginal. The typical explanations revolve around vague concepts of "resistance to change," or "human nature," or failures of "leadership." I will propose a more fundamental reason for such learning failures deriving from the fact that in every organization there exist among its sub-cultures three particular cultures, two of which have their roots outside the organization and are therefore more fundamentally entrenched in their particular sets of assumptions. Every organization develops an internal culture based on its operational success, what I will call the "operator culture." But every organization also has in its various functions the designers and technocrats who drive the core technologies of the organization. I will call this the "engineering culture" and note that their fundamental reference group is their world wide occupational community. Every organization also has its executive management, the CEO and his or her immediate subordinates, what I will call the "executive culture." CEO's because of the nature of their jobs and the structure of the capital markets also constitute a world wide occupational community in the sense that they have common problems that are unique to the CEO role.

These three cultures are often out of alignment with each other, and it is this lack of alignment that causes the failures of organizational learning as the below examples will show. This will raise thi question of whether we have misconceived the initial problem by focusing on organizational learning when, in fact, it is the executive and engineering *communities* that must begin their own learning process if 21st century challenges are to be met.

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The Predicament: Organizations Don't Learn, Innovations Don't Last or Diffuse

The ability to create new organizational forms and processes, to innovate both in the technical and organizational arenas, is crucial to remaining competitive in an increasingly turbulent world. But this kind of organizational learning requires not only the invention of new forms, but their adoption and their diffusion to the other relevant parts of the organization and to other organizations in a given industry. Organizations still have not learned how to manage that process. The examples of successful organizational learning we have seen either tend to be short-run adaptive learning, doing better at what we are already doing, or, if they are genuine innovations, they tend to be isolated and eventually subverted and abandoned.

Example 1. A new product development team in a large auto company worked with the MIT Organizational Learning Center to develop their capacity for learning. By using various techniques derived from "action science" (Argyris, et al, 1985), systems dynamics (Senge, 1990), and organization development (Beckhard & Harris, 1987) high levels of openness between hierarchical levels and increased communication and trust among members of the teams were created. This openness and trust permitted team members to reveal engineering design problems as they arose instead of waiting until they had solutions, as prior traditions in this company had dictated (OLC Learning History, 1995).

Early identification of those problems was crucial in order to avoid later interactive effects that would require costly and complex redesigns. For example, changing the chassis design might increase weight which might require a different tire design which, in turn, might cause more internal noise, and so on. By revealing such problems early, the team could view the whole car more systemically and re-design could therefore be speeded up.

However, the pile-up of early problems caused higher management to make a false attribution. They considered the team to be "out of control" and ordered it to get itself back under control. The team realized that higher management did not understand the value of early problem identification and continued to use its new learning, assuming that the ultimate results would speak for themselves. The team was able to complete the design well ahead of schedule and with considerably lower costs, but, contrary to expectations, higher management never understood the reasons for these notable results nor gave the team credit for having learned a new way of solving problems. Instead, higher management gave itself credit for having gotten the team "under control." The team was not considered to be particularly innovative and was disbanded. Several of its members and leaders were subsequently encouraged to take early retirement as part of a general downsizing program in the company.

Example 2. An insurance company decided to move toward the paperless office (Roth, 1993). Top management hired a key manager to implement the new system, mandated a schedule, and provided whatever resources the manager needed to accomplish the task. In order to use the new system, employees had to learn a complex new set of computer routines to replace their familiar work with paper. Because the company was also under financial pressure, it had instituted a number of productivity programs that caused line managers to be very insistent that all the daily work continue to be performed even while the learning of the new system was supposed to take place. The new manager was equally insistent that the system be implemented on schedule causing employees to short-circuit certain routines, to learn only the rudiments of the new system, and even to misrepresent the degree to which they were now working without paper.

The new manager, based on partial and incorrect information, declared that the system was implemented "on schedule" and was given public credit for this achievement. However, the end result was that the employees did not learn the new system well enough to make it more productive than the old paper system. In fact, productivity was lower with the new system because it was so imperfectly implemented.

Example 3. A company decided to introduce automatic machine tools into their production process (Thomas, 1994). The idea originated with the engineers who saw an opportunity to do some "real engineering." The engineers and the vendors developed a proposal based on technical elegance but found

that middle management would not push the proposal up to executive management unless it was rewritten to show how it would reduce costs by cutting labor. No accurate figures were available so the team more or less invented a set of numbers to justify the purchase of the expensive new machines.

As the proposal worked its way up the hierarchy, the union got wind of the project and insisted that they would not go along unless management guaranteed that no jobs would be lost and that all the present operators would be retrained. This not only delayed the project but, when the machines were finally installed, the production process proved to be much less effective and much more costly than had been promised in the proposal. The engineers were highly disappointed that their elegant solution had, from their point of view, been subverted and that all the operators that were to have been replaced had merely been retrained and kept on jobs that the engineers considered superfluous.

Beyond these three specific cases the history of organizational development, change, innovation and learning shows over and over again that certain lessons seem not to take hold. As early as the Hawthorne studies of the 1920's it was recognized that employee involvement increased both productivity and motivation. Lewin, Argyris, McGregor, Likert, and many others showed how managers who treated people as adults, who involved them appropriately in the tasks that they were accountable for, who created conditions that allowed employees to obtain good feedback so that they could monitor their own performance were more effective than those who did not.

Programs such as the National Training Labs' sensitivity training groups (Schein & Bennis, 1965) and Blake's Managerial Grid (Blake, Mouton, and McCanse, 1989) were for several decades touted as providing the solution to all our productivity problems, just as the human relations and participatory management programs of the 40's had promised. Yet these and other similar programs have come and gone, and it is not at all clear what organizations learned from them or why these innovations have disappeared only to be re-invented again under new labels such as empowerment, self-managed groups, and servant leadership.

The lesson of these and similar cases is complicated. On the one hand, one can say that this is just normal life in organizations. It is just politics or just human nature. Or one can say that these projects and programs were mismanaged, either by the project teams or the executive managements above them. Or one can say that all of these human relations oriented programs were misguided in the first place. However, I have begun to see a deeper set of phenomena at work here.

The deeper issue is that we have in most organizations three different major occupational cultures that do not really understand each other very well and that often work at cross-purposes with each other. These cultures cut across organizations and are based on what have been described as "occupational communities" (Van Maanen & Barley, 1984).

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The Concept of Culture and Occupational Communities

A culture is a set of basic tacit assumptions about how the world is and ought to be that is *shared* by a set of people and determines their perceptions, thoughts, feelings and, to some degree, their overt behavior (Schein, 1992). Culture manifests itself at three levels, the level of the deep tacit assumptions that are the essence of the culture, the level of espoused values which often reflect what a group wishes to be ideally and the way it wants to present itself publicly , and the day to day behavior which represents a complex compromise between the espoused values, the deeper assumptions and the immediate requirements of the situation. Overt behavior alone cannot be used to decipher culture because situational contingencies often make us behave in a manner inconsistent with our deeper values and assumptions. It is for this reason that one often sees "inconsistencies" or "conflicts" in overt behavior or between behavior and espoused values. To get at the basic elements of culture one must either observe behavior over a very long period of time or get directly at the underlying values and assumptions that drive the perceptions and thoughts of the group

members.

For example, many organizations espouse "team work" and "cooperation," but the behavior that is rewarded and encouraged by the incentive and control systems of the organization is based more on a shared tacit assumption that only individuals can be accountable and that the best results will come from a system of individual competition and rewards. If the external situation demands teamwork the group will develop some behavior that looks on the surface like teamwork by conducting meetings and seeking consensus, but members will continue to share the belief that one gets ahead by individual effort and will act accordingly when rewards are given out. I have heard many executives tell their subordinates that they expect them to act as a team but remind them in the same sentence that they are all competing for the boss's job!

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Cultures and Sub-Cultures

Cultures in this sense arise within *organizations* based on their own histories and experiences. Starting with the founders, those members of the organization who have shared in the successful growth of an organization will have developed a set of assumptions about the world and how to succeed in it, and will have taught those assumptions to new members of the organization (Schein, 1983). Thus IBM, HP, Ford, and any other company that has had several decades of success will have an organizational culture that drives how its members think, feel, and act.

Shared assumptions also typically form around the functional units of the organization. They are often based on a similarity of educational background in the members or a similarity of organizational experience, what we often end up calling "stove pipes" or "silos." We all know that getting cross-functional project teams to work well together is difficult because the members bring their functional cultures into the project and, as a consequence, have difficulty communicating with each other, reaching consensus, and implementing decisions in an effective manner. The difficulty of communication across these boundaries arise not only from the fact that the functional groups have different goals, but from the more fundamental issue that the very meaning of the words they use will differ. The word "marketing" will mean product development to the engineer, studying customers through market research to the product manager, merchandising to the salesman, and constant change in design to the manufacturing manager. When they try to work together they will often attribute disagreement to personalities and fail to notice the deeper shared assumptions that color how each function thinks.

Another kind of sub-culture, less often acknowledged, reflects the common experiences of given *levels within a hierarchy*. Culture arises through shared experiences of success. If first line supervisors discover ways of managing their subordinates that are consistently successful, they will gradually build up a set of shared assumptions about how to do their job that can be thought of as the "culture of first line supervision." In the same way middle management and higher levels will develop their own shared assumptions, and, at each level, those assumptions will be taught to newcomers as they get promoted into that level. It is these hierarchically based cultures that create the communication problems associated with "selling senior management on a new way of doing things," or "getting budget approval for a new piece of equipment," or "getting a personnel requisition through." As each cultural boundary is crossed, the proposal has to be put into the appropriate language for the next higher level, and has to reflect the values and assumptions of that higher level. Or, from the point of view of the higher levels, decisions have to be put into a form that lower levels can understand, often resulting in "translations" that actually distort and sometimes even subvert what the higher levels wanted.

So far I have focused on the cultures that arise within organizations from the unique experiences of the members of a given organization. But "occupational communities" also generate cultures that cut across organizations (Van Maanen & Barley, 1984). For example, fishermen around the world develop similar world views, as do miners, and, as do the members of a particular industry based on a particular

technology. In these cases the shared assumptions derive from a common educational background, the requirements of a given occupation such as the licenses that have to be obtained to practice, and the shared contact with others in the occupation. The various functional cultures that we see in organizations are, in fact, partly the result of membership in broader cross-organizational occupational communities. Salesmen the world over, accountants, assembly line workers and, most importantly, engineers, share some tacit assumptions about the nature of their work regardless of who their particular employer is at any given time.

We are also increasingly discovering that such similar outlooks across organizations apply to executive managers, particularly CEO's. CEO's face similar kinds of problems across all organizations and in all industries throughout the world, and because executives are likely to have somewhere in their history some common education and indoctrination, they form a common world view, a common set of assumptions about the nature of business and what it takes to run a business successfully.

The learning problems that I have identified above can be directly related to the lack of alignment between three cultures, two of which are based on occupational communities--1) the culture of engineering, 2) the culture of CEO's, and 3) the culture of operators--the shared assumptions that arise in the "line units" of a given organization as it attempts to operate efficiently and safely. In order to understand how these three cultures interact, let us examine their shared assumptions.

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Three Cultures of Management

The Operator Culture. The culture of operators is shown in Table 1. This culture is the most difficult to describe because it evolves locally in organizations and within operational units. Thus one can identify an operator culture in the nuclear plant, in the chemical complex, in the auto manufacturing plant, in the cockpit, and in the office, but it is not clear what elements make this culture broader than the local unit. To get at this issue we must consider that the operations in different industries reflect the broad technological trends in those industries. At some fundamental level, how one does things in a given industry reflects the core technologies that created that industry. And as those core technologies themselves evolve, the nature of operations changes. For example, as Zuboff (1988) has persuasively argued, information technology has made manual labor obsolete in many industries and replaced it with conceptual tasks. In a chemical plant the worker no longer walks around observing, smelling, touching and manipulating. Instead he or she sits in a control room and infers the conditions in the plant from the various indexes that come up on the computer screen.

The operator culture is based on human interaction and most line units learn that high levels of communication, trust and teamwork are essential to getting the work done efficiently. Operators also learn that no matter how clearly the rules are specified of what is supposed to be done under different operational conditions, the world is to some degree unpredictable and one must be prepared to use one's own innovative skills to deal with them. If the operations are complex as in a nuclear plant, operators learn that they are highly interdependent and that they must work together as a team especially when unanticipated events have to be dealt with. Rules and hierarchy often get in the way under unpredicted conditions. Operators become highly sensitive to the degree to which the production process is a system of interdependent functions all of which must work together in order to be efficient and effective. These points apply to all kinds of "production processes" whether we are talking about a sales function, a clerical group, a cockpit, or a service unit.

The tragedy of most organizations is that the operators know that to get the job done effectively they must adhere to the assumptions stated above, but neither the incentive system nor the day to day management system may support those assumptions. Operators thus learn to subvert what they know to be true and "work to rule," or use their learning ability to thwart management's efforts to improve productivity. In order to understand why this happens we must examine how two other major cultures operate in

organizations.

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The Engineering Culture.

In all organizations there is a group that represents the basic design elements of the technology underlying the work of the organization and has the knowledge of how that technology is to be utilized. This occupational community cuts across nations and industries and can best be labeled the "engineering culture" (Kunda, 1992). A colleague to whom I mentioned this recently works for a company driven by the engineering culture. He told me that in the parking lot of this organization are signs that say "Maximum Speed Limit--5.8 Miles Per Hour." Though this culture is most visible in traditional engineering functions one can see it in operation equally in the designers and implementers of all kinds of technologies--information technology, market research, financial systems, and so on. The shared assumption of this community are based on common education, work experience, and the requirements of their job and are shown in Table 2.

Engineers and technocrats of all persuasions are attracted to engineering in the first place because it is abstract and impersonal. Their education reinforces the view that problems have abstract solutions and those solutions can, in principle, be implemented in the real world with products and systems that are free of human foibles and errors. Engineers, and I am using this terms in the broadest sense, are designers of products and systems that have utility, elegance, permanence, efficiency, safety, and maybe, as in the case of architecture, even aesthetic appeal, but they are basically designed to require standard responses from their human operators, or, ideally, to have no human operators at all.

In the design of complex systems such as jet aircraft or nuclear plants, the engineer prefers a technical routine to insure safety rather than relying on a human team to manage the contingencies that might arise. Engineers recognize the human factor and design for it, but their preference is to make things as automatic as possible. Safety is built into the designs themselves. I once asked an Egyptian Airlines pilot whether he preferred the Russian or U.S. planes. He answered immediately that he preferred the U.S. planes and gave as his reason that the Russian planes have only one or two back-up systems, while the U.S. planes have *three* back-up systems. In a similar vein I overheard two engineers saying to each other during a landing at the Seattle airport that the cockpit crew was totally unnecessary. The plane could easily be flown and landed by computer.

In other words, one of the key themes in the culture of engineering is the pre-occupation with designing humans out of the systems rather than into them. Recall that the San Francisco Bay Transit Authority known as BART has totally automated trains. In this case it was not the operators but the customers who objected to this degree of automation forcing management to put human operators onto each train even though they had nothing to do except to reassure people by their presence.

In Thomas's study, the engineers were very disappointed that the operations of the elegant machine they were purchasing would be constrained by the presence of more operators than were needed, by a costly retraining program, and by management imposed policies that had nothing to do with "real engineering." In my own research on information technology I found that the engineers fundamentally wanted the operators to adjust to the language and characteristics of the particular computer system that was being implemented and were quite impatient with the "resistance to change" that the operators were exhibiting. From the point of view of the users, the operators, not only was the language arcane, but the systems were not considered useful for solving the operational problems (Schein, 1992).

Both the operators and the engineers often find themselves out of alignment with a third critical culture, the culture of executives.

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The Executive Culture

The third culture of management to be explored is the "executive culture," the set of shared tacit assumptions that CEO's and their immediate subordinates share world wide. This executive world view is built around the necessity to maintain the financial health of the organization and is fed by the pre-occupations of boards, of investors, and of the capital markets. Whatever other pre-occupations executives may have, they cannot get away from having to worry about and manage the financial issues of the survival and growth of their organization (Donaldson & Lorsch, 1983). The essence of this executive culture is described in Table 3.

What I am identifying as the executive culture applies particularly to CEO's who have risen through the ranks and have been promoted to their jobs. Founders of organizations or family members who have been appointed to these levels exhibit different kinds of assumptions and often can maintain a broader focus (Schein, 1983). It is especially the promoted CEO who adopts the exclusively financial point of view because of the nature of the executive career. As managers rise higher and higher in the hierarchy, as their level of responsibility and accountability grows, they not only have to become more pre-occupied with financial matters, but they also discover that it becomes harder and harder to observe and influence the basic work of the organization. They discover that they have to manage at a distance, and that discovery inevitably forces them to think in terms of control systems and routines which become increasingly impersonal. Because accountability is always centralized and flows to the tops of organizations, executives feel an increasing need to know what is going on while recognizing that it is harder and harder to get reliable information. That need for information and control drives them to develop elaborate information systems alongside the control systems and to feel increasingly alone in their position atop the hierarchy.

Paradoxically, throughout their career managers have to deal with people and surely recognize intellectually that it is people who ultimately make the organization run. First line supervisors, especially, know very well how dependent they are on people. However, as managers rise in the hierarchy, two factors cause them to become more "impersonal." First, they become increasingly aware that they are no longer managing operators, but other managers who think like they do, thus making it not only possible but likely that their thought patterns and world view will increasingly diverge from the world view of the operators. Second, as they rise, the units they manage grow larger and larger until it becomes impossible to know everyone personally who works for them. At some point they recognize that they cannot manage all the people directly and, therefore, have to develop systems, routines, and rules to manage "the organization." People increasingly come to be viewed as "human resources" and are treated as a cost rather than a capital investment.

The executive culture thus has in common with the engineering culture a predilection to see people as impersonal resources that generate problems rather than solutions. Or, another way to put this point is to note that both the executive culture and the engineering culture view people and relationships as means to the end of efficiency and productivity, not as ends in themselves. If one must have human operators, so be it, but let's minimize their possible impact on the operations and their cost to the enterprise.

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Dysfunctional Interactions Among the Three Cultures

In many industries there is enough initial alignment between the needs of the task as defined by the operators, the needs of the engineers for reliable and efficient operations, and the needs of the executives for minimizing costs and maximizing profits so we do not observe any problems. It is when organizations attempt to learn in a generative way, when they attempt to reinvent themselves because the technologies and environmental conditions have changed drastically that these three cultures collide and we observe frustration, low productivity, and the failure of innovations to survive and diffuse.

For example, in their research on nuclear plants, Carroll and Perin (1995) found that operators in the plants understood very well the inter-dependencies and interactions of all the systems. They lived in an environment that had its own ecology in which inter-dependence was visible and in which the management of inter-dependencies through teamwork was crucial to safety and productivity. But one or two levels above the plant, management only saw specific technical and financial issues, driven very much by the outside forces of the Nuclear Regulatory Agency and their own world view as executives, a world view that could best be described as a "machine bureaucracy," while the world view of the operators could better be described as a "socio-technical system."

The plants were different in how they operated but each developed its own concept of how to improve its operations. Such improvement plans often required additional allocations of money for training and redesign of the plant, and also often required a bending of some of the formal rules and procedures mandated by the industry and the government. When such requirements were articulated the engineering community focused primarily on finding standard solutions to problems, preferably solutions free of human intervention, and executive management focused primarily on money and cost control. The lack of alignment between the three cultures often led to inaction and the continuation of practices that were viewed as less efficient or effective.

In some situations like airplane cockpits the executive and operator cultures can collide in a drastically dysfunctional way, as illustrated by Blake's research (Blake, Mouton, and McCanse, 1989). There is considerable evidence that some airline crashes are due to communication failures in the cockpit resulting from obsession with rank and hierarchy. For example, in one crash a few miles short of the runway, the flight recorder revealed that the flight engineer had been shouting for several minutes that they were running out of gas while the pilot functioning as the CEO continued to circle and tried to fix a problem with the landing gear. When this situation was run in the simulator, the same phenomenon occurred--the pilot was so busy with his operational task and so comfortable in his hierarchical executive position that he literally did not hear critical information that was shouted at him. Only when the person doing the shouting was a fellow pilot of equal or higher rank did the pilot pay attention to the information. In other words, the hierarchy actually got in the way of solving the problem. It was also found that the engineering solution of providing more warning lights or sounds would not solve the problem because those could easily be rationalized away as computer or signal malfunctions.

At the boundary between the engineering and executive cultures other conflicts and problems of communication arise. I saw this clearly in my research on executive views of information technology (IT) as contrasted with the view of the IT specialists who clearly had an engineering mentality (Schein, 1992a, 1992b, 1994). Whereas the IT specialists saw information as discrete, packageable, and electronically transmittable, executives saw information as holistic, complex, imprecise, and dynamic. Whereas the IT specialist saw networking as a way of eliminating hierarchy, executives saw hierarchy as intrinsic to organizational control and coordination. Whereas IT specialists saw the computer and expert systems as the way to improve management decision making, executives saw the computer as limiting and distorting thinking by focusing only on those kinds of information that can be packaged and electronically transmitted. And if executives did buy into IT implementations for reasons of cost reduction and productivity, they often mandated it in a way that made it difficult for the operators to learn to use the systems effectively because insufficient time and resources were devoted to the relearning process itself as the above Example 2 showed.

The way in which technology is used is, of course, influenced by the values and goals imposed by the executive culture as some of the above examples have shown. And those values are sometimes more stable than the technological possibilities, causing technologies like information technology to be underutilized from the point of view of the engineering culture (Thurow, 1995). In Thomas's research the engineers were thwarted by the executive culture and the final solution which resulted from union pressure reflected the short run financial fears of the executives.

The lack of alignment between the executive, the engineering and the operator culture can be seen in other industries such as health care where the needs of the primary care physicians (the operators) to do health maintenance and illness prevention runs both into the engineering desire to save life at all costs and the executive desire to minimize costs no matter how this might constrain either the engineers or the operators.

In the educational world we see the same conflict between teachers who value the human interaction with students and the proponents of sophisticated computerized educational systems on the one hand and the cost constraints imposed by school administrators on the other hand. If the engineers win, money is spent on computers and technologically sophisticated classrooms. If the administrators win, classes become larger and undermine the classroom climate. In either case, the operators, the teachers lose out and human innovations in learning are lost.

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Implications

Several important points need to be noted about these three cultures. Two of them, the executive and engineering cultures are world wide occupational communities that have developed a common world view based on their education, their shared common technology and their work experience. What this means is that even if in a given organization the executives and/or the engineers learn to think like operators and becomes more aligned with the operator culture, their replacement will most probably push the organization back to where it was. The field of organization development is replete with examples of innovative new programs that did not survive executive succession. In other words, for the executive or the engineer, the reference group is often outside the organization in his or her peer group whose definition of "best practice" may differ sharply from what is accepted inside the organization. Executives and engineers learn from each other more than from their subordinates.

Second, it is important to note that each of the three cultures is from its point of view "valid," in the sense of doing what it is supposed to do. Executives are supposed to worry about the financial health of their organization and engineers are supposed to innovate toward the most creative people free solutions. To create alignment between these three cultures, then, is not a case of deciding which one has the right point of view, but of creating enough mutual understanding between them to evolve solutions that will be understood and implemented. Too often in today's organizational world either the operators assume that the executives and engineers don't understand so they resist and covertly do things their own way, or executives and/or engineers assume that the operators need to be controlled more tightly and be forced to follow policies and manuals of procedure. In either case effectiveness and efficiency will suffer because there is no common plan that everyone can understand and commit to.

A third point to note is that both the executive and engineering culture are primarily task focused and operate on the implicit assumption that people are the problem, either as costs or as sources of error. In the case of the engineering culture the assumption is already implicit in their education and training. The ultimately elegant solution is one that always works and works automatically, in other words, without human intervention. In the case of the executive culture the situation is more complex. Executives either have come from the engineering culture where people were not important in the first place or learned as they rose and began to feel responsible for hundreds and thousands of people that they had to think in terms of systems, routines, rules, and abstract processes for organizing, motivating, and controlling. And as they become chief executives accountable to the financial markets and their stockholders they *learn* to focus more and more on the financial aspects of the organization. The gradual depersonalization of the organization and the perception that employees are mostly a cost instead of a capital investment is thus a learned occupational response.

It is not accidental that chief executives tend to band together and form a culture of their own because they come to believe that no one except another chief executive really understands the lonely warrior role

that they come to experience. With that sense of aloneness come related assumptions about the difficulty of obtaining valid information, the difficulty of insuring that subordinates down the line will understand and implement what they are asked to do, leading ultimately to fantasies of having to spy on their own organizations reminiscent of the tale of the Caliph of Baghdad donning beggar's clothes to mingle among the people and find out what they were really thinking. Even though the immediate subordinates of the chief executive are humans, increasingly they are seen as part of a larger system that must be managed impersonally by systems and rules. Norms about not fraternizing with subordinates are often felt strongly at this level because if the organization gets into trouble those subordinates are often the first to be sacrificed as evidence of "fixing" things.

Fourth, the engineering and executive cultures may agree on the assumption that people are a problem, but they disagree completely on how to make organizations work more effectively. Executives recognize that their world is one of imperfect information, of constant change, and of short-run coping while attempting to maintain a strategic focus. Engineers seek elegant permanent solutions that are guaranteed to work and be safe under all circumstances, and, therefore, typically produce solutions that cost much more than the executives believe they can afford. So the executives and the engineers are in a constant battle of how good is good enough and how to keep costs down enough to remain competitive.

What is most problematic in this kind of scenario is that we have come to accept the conflict between engineering and management as "normal," leading members of each culture to devalue the concerns of the other culture rather than looking for integrative solutions that will benefit both. A few creative companies have found devices such as sending more engineers to talk to customers directly to acquaint them with business realities and customer needs. And those executives who realize this dilemma tend to involve themselves from time to time in operations and in product development so that they do not lose touch with the realities and strengths of the other cultures. But this kind of remedy deals only with the organizational level. The dilemma of 21st century learning is broader.

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The Dilemma of 21st Century Learning

To recapitulate, I believe that organizations will not learn effectively until we recognize and confront the implications of the three occupational cultures I have emphasized. Until executives, engineers, and operators discover that they use different languages, make different assumptions about what is important, and until they learn to treat the other cultures as valid and normal, we will continue to see failures in organizational learning efforts. We will see powerful innovations at the operator level that are ignored, subverted or actually punished, we will see technologies that are grossly under-utilized, we will see angry employees railing against the impersonal programs of re-engineering and down-sizing, we will see frustrated executives who know what they want to accomplish but feel impotent in pushing their ideas through complex human systems, and we will see frustrated academics wondering why certain ideas like employee involvement, socio-technical systems analyses, high commitment organizations, and concepts of social responsibility continue to be ignored, only to be reinvented under some other label a few decades later.

First, we must take the concept of culture more seriously than we have. Instead of fooling around with superficial notions of manipulating a few priorities and calling that "culture change," we must recognize and accept how deeply embedded the shared tacit assumptions of executives, engineers, and employees really are. After all, we have lived in this industrial system for a century or more and have evolved these assumptions as an effective way for dealing with our problems. Each of these cultures can justify itself historically, and each has contributed to the success of the industrial system we have evolved.

Second, we must acknowledge that one of the main consequences of technological complexity, globalism, and universal transparency is that some of the old assumptions no longer work. Neither the executives, nor the engineers alone can solve the problems that a complex socio-technical system like a nuclear plant

generates. We will have to find ways of communicating across the cultural boundaries, first, by establishing some communication that stimulates mutual understanding rather than mutual blame.

Third, we must learn how to create such communication by learning how to conduct cross-cultural "dialogues." The concept of "dialogue" has in recent years substantially improved our understanding of human thought and communication, and promises to make it possible to gain some understanding across cultural boundaries (Isaacs, 1993; Schein, 1993). If we can get people from the different cultures into the room together, which is hard enough, we must get them to reflectively listen to themselves and to each other which is even harder. Fortunately, the understanding of what it takes to create effective dialogues is itself coming to be better understood.

The engineering and executive cultures I have described are not news. We have known about them all along. What is news is that the operator culture in all industries has become much more complex and inter-dependent, and that has thrown it more out of alignment with the other two cultures. The implication is that each of these communities will have to learn how to learn and evolve some new assumptions. Our efforts have been directed primarily at the operational levels of organizations. The executive and engineering cultures have been viewed as problems or obstructions, partly because they do not sufficiently consider the human factor. Yet these cultures have evolved and survived and have strengths as well as weaknesses.

It may well be that the key to organizational learning is for us to help executives and engineers learn how to learn, how to analyze their own cultures, and how to evolve those cultures around their strengths. It may well be that these communities learn in different ways, and we will have to develop appropriate learning tools for each community. Learning may have to be structured along industry lines through consortia of learners rather than along individual organizational lines (Schein, 1995). And business and engineering education itself will have to examine whether the assumptions of academics in these fields are evolving at a sufficient rate to deal with the realities of the current world.

We are a long way from having solved the problems of organizational learning, but I am convinced that thinking about occupational communities and the cultures of management will begin to structure these problems in a way that solutions for the 21st Century will become visible.

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TABLE 1
The Operator Culture

- The action of any organization is ultimately the action of people.
- The success of the enterprise therefore depends on people's knowledge, skill, Learning ability and commitment
- The knowledge and skill required are "local" and are based on the Organization's core technology
- No matter how carefully engineered the production process is or how carefully Rules and routines are specified, operators will have to deal with Unpredictable contingencies
- Therefore operators have to have the capacity to learn and to deal with Surprises
- Most operations involve inter-dependencies between separate elements of the Process hence operators must be able to work as a collaborative team in which Communication, openness, mutual trust and commitment are highly valued.

II. **The Engineering Culture (Global Community)**

- Pro-actively optimistic, nature can and should be mastered: "that which is Possible should be

done"

- Based on science and available technology
- Stimulated by puzzles and problems to be overcome
- Pragmatic, oriented toward useful products and outcomes
- Perfectionistic, oriented toward elegance, simplicity, precision: "keep it Neat and simple"
- Preference for "people free" solutions, for working with "things"
- The ideal world is one of elegant machines and processes working in perfect Precision and harmony without human intervention
- Safety oriented, overdesign for safety: "u.S. Built planes have three Back-up systems"
- Preference for linear, simple cause and effect, quantitative thinking
- Absolutist view of reality
- Attractive to people whose careers are oriented in "technical/functional Competence," and "pure challenge"

III. **The Executive Culture (Global Community)**

1. Financial focus
    - Absolute focus on finances--without financial survival and growth there Are No returns to shareholders or to society
    - Financial survival is equivalent to perpetual war with one's Competitors
2. Self image: the embattled lone hero
    - The economic environment is perpetually competitive and potentially hostile; "in a war one cannot trust anyone"
    - Therefore, the ceo must be "the lone hero," isolated and alone, yet appearing To be omniscient, in total control, and feeling indispensable: "i'm o.K., After All i'm here; they are not o.K., They have not made it to the top"
    - One cannot get reliable data from below because subordinates will tell one What they think one wants to hear; therefore as ceo one must trust one's own Judgment more and more (i.E. Lack of accurate feedback increases own sense of Rightness and omniscience)
    - One has to shout to be heard at all, and then the message has to be simple And of high amplitude
3. Hierarchical and individualistic focus
    - Organization and management are intrinsically hierarchical; the hierarchy Is the measure of status and success and the primary means of maintaining Control
    - We have to be a team, but accountability has to be individual; "you are all Competing for my job"

- People have to be empowered, one must delegate, and one must trust people, Yet the more one does, the more one loses control. Because control is Paramount, empowerment must be tempered and limited.

- Therefore the willingness to experiment and take risks extends only to those Things that permit one to stay in control.

4. Task and control focus

    - Because the organization is very large it becomes depersonalized and Abstract, and, therefore, has to be run by rules, routines (systems), and Rituals ("machine bureaucracy")

    - Personal relationships are a means to the end of motivation and control, they Are not ends in themselves (the inherent value of relationships and community Becomes lost as one rises in the hierarchy)

    - The attraction of the job is the challenge, the high level of responsibility, And the sense of accomplishment (not the relationships)

    - The ideal world is one in which the organization performs like a well oiled Machine, needing only occasional maintenance and repair

    - Though people are necessary, they are a necessary evil not an intrinsic Value; people are a resource like other resources to be acquired and managed, Not ends in themselves

    - The well oiled machine organization does not need whole people, only the activities that are contracted for

These three cultures are often not aligned with each other, and it is this lack of alignment that causes the failures of organizational learning that I will discuss. The question is whether we have misconceived the initial problem by focusing on organizational learning, when, in fact, it is the executive and engineering communities that must begin their own learning process if we are to meet the challenges of the twenty-first century.Â The examples of successful organizational learning we have seen either tend to be short-run adaptive learning â€" doing better at what we are already doing â€" or, if they are genuine innovations, tend to be isolated and eventually subverted and abandoned. Read the Full Article. Create Account Buy as a PDF. Learning to be effective at cultural code-switching is the key to becoming a truly global leader. Andrew L. Molinsky is an associate professor of organizational behavior at Brandeis Universityâ€™s International Business School, with a joint appointment in the department of psychology. Skill 2: Wielding Digital Influence. As companies become less hierarchical, the effective use of online networks will be crucial to success.Â In the future, continuous partial attention will perhaps be seen not as a problem but as a critical new skill. And maybe we wonâ€™t call it multitaskingâ€"weâ€™ll call it multi-inspiring. Cathy Davidson is the John Hope Franklin Humanities Institute Professor of Interdisciplinary Studies at Duke University. Agility and Organizational Design. Merger Management. Culture and Change. Talent Management. This third book focuses on the topic of Culture and Change.Â The challenge for executives now is that they must learn to apply the model in new and imaginative ways that would not have been possible when we first published our research, at a time when the world was a very different place (exhibit). Back in 2003, the iPhone had yet to be released.Â Two key features of the modern workplace are particularly important in the context of change. One is the increasingly advanced technological and digital landscape, including mobile connectivity and social media, that has opened up exciting new possibilities for influence. The second is the new generation of millennial employees. Learn about 21st Century skills, why they're important, and how to teach them. Skills include: Critical thinking, creativity, collaboration, communication, information literacy, media literacy, technology literacy, flexibility, leadership, initiative, productivity, and social skills.Â The key element of collaboration is willingness. All participants have to be willing to sacrifice parts of their own ideas and adopt others to get results for the company. That means understanding the idea of a â€œgreater good,â€ which in this case tends to be company-wide success. Related ResourcesÂ Without understanding proper communication, students in the 21st Century will lack a pivotal skill to progress their careers. Related Resources