Chapter 3

Creating Effective Command and Control

"Whoever can make and implement his decisions consistently faster gains a tremendous, often decisive advantage. Decision making thus becomes a time-competitive process, and timeliness of decisions becomes essential to generating tempo."

—FMFM 1, *Warfighting*

Having reached a common understanding of the nature of command and control and having laid out its key theories, we can develop the characteristics of an effective command and control system. How do we create effective command and control, both in our units and within the Marine Corps as a whole?

THE CHALLENGES TO THE SYSTEM

Before we discuss the features of our command and control system, it might help to review the challenges that the system, as a complex blend of people, information, and support, must face. What obstacles must our command and control system overcome and what must it accomplish? First and foremost, the system must deal effectively with the twin problems of uncertainty and time. It must be compatible with our doctrine of maneuver warfare. It must function effectively across a broad spectrum of conflicts and environments—that is, in "any clime and place." Moreover, while designed principally to work effectively in war, it should also apply to peacetime activities, operational or administrative.

Our command and control must improve our ability to generate a higher tempo of action than the enemy. It should help us adapt to rapidly changing situations and exploit fleeting opportunities. It should allow us to withstand disruptions of all kinds, created by the enemy, the environment, or our- selves,

since we recognize that disruption will be a normal course of events. It should help to gather information quickly, accurately, and selectively and to get the right information to the right person at the right time and in the right form—with- out creating information overload. It should improve our abil- ity to build and share situational awareness.

Our command and control should help provide insight into the nature of the problem facing us and into the nature and designs of our enemy. It should help us to identify critical enemy vulnerabilities and should provide the means for focus- ing our efforts against those vulnerabilities. At the same time, it should help conceal our true designs from the enemy. It should help establish goals which are both meaningful and practicable, and it should help devise workable, flexible plans to accomplish those goals.

It should facilitate making timely and sound decisions despite incomplete and unclear information, and it should provide the means to modify those decisions quickly. It should allow us to monitor events closely enough to ensure proper execution, yet without interfering with subordinates' actions. It should help us communicate instructions quickly, clearly, and concisely and in a way that provides subordinates the necessary guidance without inhibiting their initiative.

With this in mind, what should such a command and control system look like?

MISSION COMMAND AND CONTROL

First and foremost, our approach should be based on mission command and control. Mission command and control is central to maneuver warfare. We realize that the specific combination of command and control methods we employ in a particular situation depends on the unique requirements of that situation. We also realize that, within an overall mission approach, detailed command and control may be preferable for certain procedural or technical tasks. That said, however, for the overall command and control of military actions, we should use mission command and control as much as the situation allows. Why? Mission command and control deals better with the fundamental problems of uncertainty and time. Since we recognize that precision and certainty are unattainable in war anyway, we sacrifice them for speed and agility. Mission command and control offers the flexibility to deal with rapidly changing situations and to exploit fleeting windows of opportunity. It provides for the degree of cooperation necessary to achieve harmony of effort yet gives commanders at all levels the latitude to act with initiative and boldness.

Mission command and control relies on the use of *mission tactics* in which seniors assign missions and explain the underlying intent but leave subordinates as free as possible to choose the manner of accomplishment. Commanders seek to exercise a sort of *command by influence*, issuing broad guidance rather than detailed directions or directives. The higher the level of

command, the more general should be the supervision and the less the burden of detail. Commanders reserve the use of close personal supervision to intervene in subordinate's actions only in exceptional cases. Thus all commanders in their own spheres are accustomed to the full exercise of authority and the free application of judgment and imagina- tion.[1] Mission command and control thus seeks to maximize low-level initiative while achieving a high level of cooperation in order to obtain better battlefield results.

Orders should include restrictive control measures and should prescribe the manner of execution only to the degree needed to provide necessary coordination that cannot be achieved any other way. Orders should be as brief and as simple as possible, relying on subordinates to work out the details of execution and to effect the necessary coordination. Mission command and control thus relies on lateral coordination between units as well as communications up and down the chain.

The aim is not to increase our *capacity* to perform command and control. It is not more command and control that we are after. Instead, we seek to decrease the amount of com- mand and control that we *need*. We do this by replacing coercive command and control methods with spontaneous, self-disciplined cooperation based on low-level initiative, a commonly understood commander's intent, mutual trust, and implicit understanding and communications.

LOW-LEVEL INITIATIVE

Initiative is an essential element of mission command and control since subordinates must be able to act without instructions. Our warfare doctrine emphasizes seeking and rapidly exploiting fleeting opportunities, possible only through low-level initiative. Initiative hinges on distributing the authority to decide and act throughout an organization rather than localizing it in one spot. And as we have already discussed, where there is authority, there is also responsibility. Being free to act on their own authority, subordinates must accept the corresponding responsibility to act.

Our command and control must be biased toward decision and action at all levels. Put another way, the command and control process must be self-starting at every level of command as all commanders within their own spheres act upon the need for action rather than only on orders from above.

It is important to point out that initiative does not mean that subordinates are free to act without regard to guidance from above. In fact, initiative places a special burden on subordinates, requiring that they always keep the larger situation in mind and act in consonance with their senior's intent. The freedom to act with initiative thus implies a greater obligation to act in a disciplined and responsible way. Initiative places a greater burden on the senior as well. Delegating authority to subordinates does not absolve higher command-ers of ultimate

responsibility. They must frame their guidance in such a way that provides subordinates sufficient understanding to act in consonance with their desires while not restricting freedom of action. Commanders must be adept at expressing their desires clearly and forcefully—a skill that requires practice.

Beyond its tactical utility, initiative has an important psychological effect on the members of an organization. Recognizing what needs to be done and taking the action necessary to succeed is a satisfying experience and a powerful stimulant to human endeavor. People not merely carrying out orders but acting on their own initiative feel a greater responsibility for the outcome and will naturally act with greater vigor. Thus, initiative distributed throughout is a source of great strength and energy for any organization, especially in times of crisis.[2]

As we emphasize initiative, we must recognize that subordinates will sometimes take unexpected actions, thus imposing on commanders a willingness to accept greater uncertain- ty with regard to the actions of their subordinates.

COMMANDER'S INTENT

In a decentralized command and control system, without a common vision there can be no unity of effort; the various actions will lack cohesion. Without a commander's intent to

express that common vision, there simply can be no mission command and control.

There are two parts to any mission: the task to be accomplished and the reason, or intent. The task describes the action to be taken while the intent describes the desired result of the action. Of the two, the intent is predominant. While a situation may change, making the task obsolete, the intent is more enduring and continues to guide our actions. Understanding our commander's intent allows us to exercise initiative in harmony with the commander's desires.

The commander's intent should thus pull the various separate actions of the force together, establishing an underlying purpose and focus. It should provide topsight. In so doing, it should provide the logic that allows subordinates each to act according to their unique circumstances while maintaining harmony with one another and the higher commander's aim. While assigned tasks may be overcome by events, the commander's intent should allow subordinates to act with initiative even in the face of disorder and change.

In a system based on mission command and control, providing intent is a prime responsibility of command and an essential means of leading the organization.

MUTUAL TRUST

Mission command and control demands mutual trust among all commanders, staffs, and Marines—confidence in the abilities and judgment of subordinates, peers, and seniors. Trust is the cornerstone of cooperation. It is a function of familiarity and respect. A senior trusts subordinates to carry out the assigned missions competently with minimal supervision, act in consonance with the overall intent, report developments as necessary, and effect the necessary coordination. Subordinates meanwhile trust that the senior will provide the necessary guidance and will support them loyally and fully, even when they make mistakes.

Trust has a reverse side: it must be earned as well as given. We earn the trust of others by demonstrating competence, a sense of responsibility, loyalty, and self-discipline. This last is essential. Discipline is of fundamental importance in any military endeavor, and strict military discipline remains a pillar of command authority. But since mission command and control is decentralized rather than centralized and spontaneous rather than coercive, discipline is not only imposed from above; it must also be generated from within. In order to earn a senior's trust, subordinates must demonstrate the self-discipline to accomplish the mission with minimal supervision and to act always in accord with the larger intent. Seniors, in order to earn subordinates' trust, must likewise demonstrate that they will provide the subordinate the framework within which to act and

will support and protect subordinates in every way as they exercise initiative.

Mutual trust also has a positive effect on morale: it increases the individual's identity with the group and its goals. Mutual trust thus contributes to a supportive, cooperative environment.

IMPLICIT UNDERSTANDING AND COMMUNICATION

The final essential ingredients of effective mission command and control are implicit understanding and communication which are the basis for cooperation and coordination in maneuver warfare.[3] These intangible human abilities allow us to harmonize our actions intuitively with others.

Implicit understanding and communication do not occur automatically. They are abilities we must actively foster and are the product of a common ethos and repeated practice—as with the members of a basketball team who think and move as one or the members of a jazz band who can improvise freely without losing their cohesion. Gaining this special state of organizational effectiveness has significant implications for doctrine, education, and training, as we will discuss.

DECISIONMAKING

Effective decisionmaking at all levels is essential to effective command and control. Several general principles apply. First, since war is a clash between opposing wills, all decisionmaking must first take our enemies into account, recognizing that while we are trying to impose our will on them, they are trying to do the same to us. Second, whoever can make and implement decisions faster, even to a small degree, gains a tremendous advantage. The ability to make decisions quickly on the basis of incomplete information is essential. Third, a military decision is not merely the product of a mathematical computation, but requires the intuitive and analytical ability to recognize the essence of a given problem and the creative ability to devise a practical solution. All Marine decisionmakers must demonstrate these intuitive, analytical, and creative skills which are the products of experience, intelligence, boldness, and perception. Fourth, since all decisions must be made in the face of uncertainty and since every situation is unique, there is no perfect solution to any battlefield problem; we should not agonize over one. We should adopt a promising scheme with an acceptable degree of risk, and do it more quickly than our foe. As General George Patton said, "A good plan violently executed *Now* is better than a perfect plan next week."[4] And finally, in general, the lower the eche-

lon of command, the faster and more direct is the decision process. A small-unit leader's decisions are based on factors

usually observed firsthand. At successively higher echelons of command, the commander is further removed from events by time and distance. As a consequence, the lower we can push the decisionmaking threshold, the faster will be the decision cycle.

Maneuver warfare requires a decisionmaking approach that is appropriate to each situation. We must be able to adopt and combine the various aspects of both intuitive and analytical decisionmaking as required. Because uncertainty and time will drive most military decisions, we should emphasize intuitive decisionmaking as the norm and should develop our leaders accordingly. Emphasizing experienced judgment and intuition over deliberate analysis, the intuitive approach helps to generate tempo and to provide the flexibility to deal with uncertainty. Moreover, the intuitive approach is consistent with our view that there is no perfect solution to battlefield problems and with our belief that Marines at all levels are capable of sound judgment. However, understanding the factors that favor analytical decisionmaking—especially when time is not a critical factor—we should be able to adopt an analytical approach or to reinforce intuitive decisionmaking with more methodical analysis.

INFORMATION MANAGEMENT

Our management of information should facilitate the rapid, distributed, and unconstrained flow of information in all directions. At the same time, it should allow us to discriminate as to importance, quality, and timeliness as a means of providing focus and preventing information overload. It should enhance the ability of all commanders to communicate a concept and intent with clarity, intensity, and speed.

We should supply information, as much as possible, in the form of meaningful images rather than as masses of data. This means, among other things, that our system must have the means of filtering, fusing, and prioritizing information. By filtering we mean assessing the value of information and culling out that which is not pertinent or important. By fusing we mean integrating information into an easily usable form and to an appropriate level of detail. And by prioritizing we mean expediting the flow of information according to importance. All information management should focus on critical information requirements. This demands vision on the part of the commander and understanding on the part of subordinates in order to recognize critical information when they see it.

Our command and control system should make use of all the various channels and methods by which information flows—implicit as well as explicit and informal as well as formal. Our system must facilitate communications in all

directions, not only vertically within the chain of command, and should ensure that information flow is interactive rather than one-way. Our system should provide redundant channels as a safeguard against disruption and battle damage; which channel information follows is less important than whether it reaches the right destination.

Since information is changed by each person who handles it, important information should pass directly between principal users, eliminating intermediaries, such as equipment operators or clerks. Wherever possible, person-to-person information should be communicated by word of mouth and face-to-face since humans communicate not only by what they say but also by how they say it. The desire to have principals communicate directly and by voice does not mean that we do not need to keep a record of communications; permanent records can be important as a means of affirming understanding and for reasons of later study and critique.

Our information management system should be a hybrid exhibiting the judicious combination of broadcast and point-to-point transmission and supply-push and demand-pull.[5]

Generic information of value to many users at a variety of echelons may be broadcast, the transmission method which reaches the broadest audience most quickly. However, we must exercise discipline with respect to broadcast transmissions to avoid the danger of information overload. In comparison, we

should use point-to-point transmission for information that needs to be tailored to suit the needs of individual users.

Our information management system should also combine the best characteristics of supply-push and demand-pull. We recognize that supply-push is the most efficient way to provide much of the information needed routinely—whether broadcast or point-to-point. Through the implicit understanding and shared images of its members, the system should attempt to anticipate commanders' needs and should attempt to push routine information to an easily accessible, local data base. Commanders then pull from the base only that information they need. In this way, we avoid the danger of information overload associated with supply-push and broadcast and circumvent some of the delays normally associated with demand-pull. (See figure 10.)

We also recognize that commanders will likely be unaware of the need for certain information, so we must ensure that truly critical, time-sensitive information is pushed directly to them without delay, even if it means skipping intermediate echelons of command. Echelon-skipping does not mean, however, that intermediate echelons are left uninformed. After critical information has passed directly between the primarily concerned echelons, both those echelons should inform intermediates by normal channels.

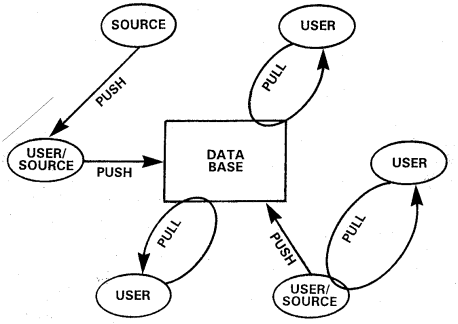

Figure 10. Hybrid information management system.

Additionally, since no system can effectively anticipate all information needs, commanders must have available directed telescopes by which they can satisfy their own information needs quickly. It is important, however, that the directed telescope not interfere (or be perceived to interfere) with the normal functioning of the chain of command: the perception of spying or intruding on the province of subordinate commanders can damage the vital trust between senior and subordinate.

LEADERSHIP

Because people are the first and most important element of our command and control system, strong and effective leadership is of essential importance to our command and control. Mission command and control requires predominantly a persuasive or delegating approach to leadership. It becomes the role of the leaders to motivate Marines to perform to the highest standards and to instill self-discipline. Leadership is thus a matter of enlisting the committed, enthusiastic, and loyal performance of subordinates, both as a habitual quality and in support of each specific mission. A good part of this comes from keeping subordinates informed and from one's own demonstration of commitment.

Mission command and control does not imply a depersonalized or detached demeanor. Since leaders who employ mission tactics are not overly involved in the details of execution, one of their primary roles will thus be to provide the intent which holds together the decentralized actions of subordi- nates.

Another important role of leadership will be to create a close-knit sense of team which is essential to developing trust and understanding within the organization. Leaders should reinforce the common core values which are the basis for implicit understanding and trust. Leaders should strive to create an atmosphere of mutual support in which subordinates are encouraged to demonstrate initiative and to effect the necessary

coordination locally. Importantly, this means avoiding a "zero-defects" mentality which tends to penalize initiative.

Leadership also becomes a matter of developing subordinate maturity—which means engendering in subordinates a willingness to exercise initiative, the judgment to act wisely, and an eagerness to accept responsibility. Leader-as-teacher is an essential component of our approach to leadership.

PLANNING

Planning is an essential element of effective command and control. Our philosophy of command and control calls for planning methods that are based on the particulars of each situation, especially on the nature of the activity being planned. In general, we should not think of planning as a scripting process which establishes specific actions to be taken and often establishes timetables for those actions. This approach seeks to narrow possibilities in order to minimize uncertainty and simplify preparations and coordination. Rather, we should view planning as a learning process which helps us understand how to exploit the various possibilities an uncertain future may hold. The intent should be to maximize opportunities in order to generate freedom of action and not to minimize possibilities in order to simplify coordination.

Whether done rapidly or deliberately, effective planning requires a sensitive awareness and judicious use of time. If time is available, there can be little excuse for not planning adequately. A company commander who spends an hour deliberately developing a detailed plan in the heat of a crisis when seconds matter is no better than a division commander who has several days to prepare for an amphibious landing and hastily develops an ill-conceived ship-to-shore plan. Just because time may be available does not mean that we should use it to develop lengthy, detailed directives. Elaborateness and detail are not generally measures of effective plans. Instead, directives should convey the *minimum* amount of instruction necessary for execution. *Directives should be as clear, simple, and concise as each situation permits.*

Planning should be participatory. The main benefits of planning are not from consuming the product but from engaging in the process. In other words, the planning matters more than the plan. We should view any plan as merely a common starting point from which to adapt as the situation requires and not as a script which must be followed. We should think of the plan as a scheme for solving a problem. Since the future will always be uncertain, plans must be flexible and adaptable, allowing the opportunity to pursue a variety of options.

Effective planning must involve an appreciation for time horizons. We must project far enough into the future so that we can maintain the initiative and prepare adequately for upcoming action, but not so far into the future that plans will have

little in common with actual developments. Effective planning should facilitate shaping the conditions of the situation to our advantage while preserving freedom to adapt quickly to real events. As actions approach and our ability to influence them grows, planning should have helped us develop an appreciation for the situation and get into a position to exploit it.

As with decisionmaking, we should decentralize execution planning to the lowest possible levels *so that those who must execute have the freedom to develop their own plans.* A plan should dictate a subordinate's actions only to the minimum degree essential to provide necessary coordination unattainable any other way. Ideally, rather than dictating a subordinate's actions, a good plan should actually create opportuni- ties for the subordinate to act with initiative.

Without question, planning is an important and valuable part of command and control. However, we must guard against overcontrol and mechanical thinking. A properly framed commander's intent and effective commander's planning guidance create plans which foster the environment for subordinate commanders to exercise initiative to create tempo while allowing for flexibility within execution of operations. The object of planning is to provide options for the commander to face the future with confidence. The measure of a good plan is not whether it transpires as designed but whether it facilitates effective action in the face of unforeseen events.

FOCUSING COMMAND AND CONTROL

The focus of the command and control effort should reflect the overall focus of efforts. We should focus the command and control effort on critical tasks and at critical times and places. We can do this by a variety of means. We concentrate information-gathering assets and other command and control resources where they are needed most. We concentrate planning, coordination, analysis, and other command and control activities on the most important tasks, and we exercise economy elsewhere. We prioritize information requirements and concentrate gathering, processing, and communications on the critical elements. We filter, prioritize, and fuse information to ensure that critical, time-sensitive information moves quickly and effectively and that less important information does not clutter communications channels. We manage that most precious of all commodities, time, to ensure that the most important tasks receive our earliest and utmost attention. We especially ensure that commanders devote their time and energies only to critical tasks, and that they are protected against routine distractions. The commander should do only those things which only the commander can do or which nobody else can do adequately. Routine tasks must be delegated to others.

A key way commanders can provide focus is by personal attention and presence. In the words of Field Marshal Sir William Slim, "One of the most valuable qualities of a commander is the flair for putting himself in the right place at the

vital time." As we have mentioned, by positioning themselves at the critical spot, commanders can observe events more directly and avoid the delays and distortions that occur as information filters up the chain of command. In so doing, commanders can gain firsthand the essential appreciation for the situation which can rarely be gained any other way. Equally important, they can *influence* events more directly and avoid the delays and distortions that occur as information filters *down* the chain of command. By their personal presence, commanders can provide the leadership that is so essential to success in war. And simply by the moral authority that their presence commands, commanders direct emphasis to the critical spot and focus efforts on the critical task.

We have discussed the need to gain several different images. Commanders go wherever they must to get the most important image. For the closeup image, this often means at the front—which does not necessarily mean at the forwardmost point of contact on the ground, but wherever the critical action is taking place or the critical situation is developing. For ground commanders, even senior ones, this may in fact mean at or near the point of contact. But for others, and even for ground commanders, this may mean with a subordinate commander in the critical sector—in a ready room listening to flight debriefs during an important phase of an air operation, at a critical point along a route of march, or in an aircraft flying over the battlefield. If the critical view at a particular moment is the overall picture, the commander may want to be in the command post's operations center, piecing together various reports from far-

flung sources, or even at a higher headquarters, learning about the larger situation (although in general it is better for senior commanders to come forward than for subordinate commanders to go rearward to exchange information). And for that matter, if a commander is trying to get inside the mind of an adversary who has made a bold and unexpected move that has shattered situational awareness, the best place may be sequestered from distractions, sitting against a tree, alone with a map.

Our philosophy of command calls for energetic and active commanders with a flair, as Slim says, for being in the critical place, lending leadership, judgment, and authority wherever it is needed most. The commander might start at the command post to piece together an overall image and supervise the development of the plan, but should then usually move forward to supervise execution at the critical spot, returning to the command post only long enough to regenerate an image of the overall situation before moving out again to the next critical spot. The important point is that commanders must not feel tied to the command post, unable to leave it for fear of missing a valuable report—especially since modern communications increasingly allow commanders to stay informed even when away from the command post. When commanders leave the command post, it is imperative that they empower the staff to act on their behalf. The staff must be able to act with initiative when the commander is away and therefore must understand the commander's estimate of the situation, overall intent, and designs. Mutual trust and implicit understanding apply to the staff as much as to subordinate commanders. Commanders

who do not empower the staff to act on their behalf will become prisoners in their own headquarters, out of touch with reality and limited in their ability to influence events.

THE COMMAND AND CONTROL SUPPORT STRUCTURE

It is important to keep in mind that the command and control support structure merely provides the supporting framework for our command and control; it does not constitute the system itself. The sole purpose of the support structure is to assist people in recognizing what needs to be done and in taking appropriate action. In addition to supporting our approach to command and control, the components of our command and control support structure must be compatible with one another. And since people are the driving element behind command and control, the components of the structure, together and alone, must be user-friendly—that is, designed first and always with people in mind.

TRAINING, EDUCATION, AND DOCTRINE

Collectively, training, education, and doctrine prepare people for the roles they play in command and control. First, since mission command and control demands initiative and sound decisionmaking at all levels, training, education, and doctrine must aim at fostering initiative and improving decisionmaking ability among all Marines. It is not enough to allow initiative; we must actively encourage and demand an eagerness to accept responsibility. This means that we must develop an institutional prejudice for tolerating mistakes of action but not inaction. Training and education should seek to develop in leaders the pattern-recognition skills that are essential to intuitive decisionmaking.

Second, training, education, and doctrine must prepare Marines to function effectively in varying environments amid uncertainty and disorder and with limited time. Exercise scenarios should purposely include elements of disorder and uncertainty—an unexpected development or mission change, as examples. Field exercises and command post exercises should purposely include disruption of command and control, for example, "destruction" of a main command post or loss of communications during a critical phase of an evolution. Planning exercises should incorporate severe time limits to simulate stress and tempo. As Field Marshal Erwin Rommel said, "A commander must accustom his staff to a high tempo from the outset, and continuously keep them up to it."

Third, education and training should teach the appropriate use of techniques and procedures. Training should provide techniques and procedures which emphasize flexibility, speed, and adaptability—fast and simple staff planning models, for example. Education should provide an understanding of when to apply different techniques and procedures—when to use intuitive or analytical decisionmaking techniques, for example.

Last and perhaps most important, training, education, and doctrine should provide a shared ethos, common experiences, and a shared way of thinking as the basis for the trust, cohesion, and implicit communication that are essential to maneuver warfare command and control. They should establish a common perspective on how Marines approach the problems of command and control.

PROCEDURES

Used properly, procedures can be a source of organizational competence—by improving a staff's efficiency or by increasing planning tempo, for example. Procedures can be especially useful to improve the coordination among several people who must cooperate in the accomplishment of repetitive tasks—such as the internal functioning of a combat operations center. Used improperly, however, procedures can have the opposite effect: applied blindly to the wrong types of tasks or

the wrong situations, they can lead to ineffective, even dysfunctional performance.

We must recognize that procedures apply only to rote or mechanical tasks. They are not acts of judgment, nor are they meant to replace the need for judgment. The purpose of procedures "is not to restrict human judgment, but to free it for the tasks only it can perform." [6] We must keep in mind that procedures are merely tools to be used, modified, or discarded as the situation requires. They are not rules which we must follow slavishly.

Our command and control procedures should be designed for simplicity and speed. They should be designed for simplicity so that we can master them easily and perform them quickly and smoothly under conditions of extreme stress. They should be designed for speed so that we can generate tempo. Streamlined staff planning sequences, for example, are preferable to deliberate, elaborate ones. The standard should be simple models which we can expand if time and circumstances permit, rather than inherently complicated models which we try to compress when time is short—which is likely to be most of the time. As Second World War German General Hermann Balck used to say to his staff, "Don't work hard, work fast."

MANPOWER

Since people are the first and driving element of our command and control system, effective manpower management is essential to command and control. Since mission command and control relies heavily on individual skills and judgment, our manpower management system should recognize that all Marines of a given grade are not interchangeable and should seek to put the right person in the right billet based on specific ability and temperament. Additionally, the manpower management system should seek to achieve personnel stability within units and staffs as a means of fostering the cohesion, teamwork, and implicit understanding that are vital to mission command and control. We recognize that casualties in war will take a toll on personnel stability, but the greater stability a unit has initially, the better it will absorb those casualties and incorporate replacements.

ORGANIZATION

The general aims of organization with regard to command and control should be to create unity of effort, reasonable spans of control, cohesive mission teams, and effective information distribution. Organization should not inhibit communications in any way but instead should facilitate the rapid distribution of

information in all directions and should provide feedback channels.

In general, we should take a flexible approach to organization, maintaining the capability to task-organize our forces to suit the situation which might include the creation of nonstandard and temporary task groupings. However, the commander must reconcile this desire for organizational flexibility with the need to create implicit understanding and mutual trust which are the product of familiarity and stable working relationships.

Mission command and control requires the creation of self-reliant task groups capable of acting semiautonomously. By task-organizing into self-reliant task groups, we increase each commander's freedom of action and at the same time decrease the need for centralized coordination of support.

We should seek to strike a balance between "width" and "depth" so that the organization is suited to the particular situation. The aim is to flatten the organization to the greatest extent compatible with reasonable spans of control. Commanders should have the flexibility to eliminate or bypass selected echelons of command or staff as appropriate in order to improve operational tempo. Additionally, it is not necessary that all echelons of command exercise all functions of command. Just as we task-organize our force, so should we task-organize our command and control structure.

A word is in order about the size of staffs. The larger and more compartmented the staff, the more information it requires to function. This increase in information in turn requires an even larger staff, and the result is a spiraling increase in size. However, the larger a command and control organization, the longer it generally takes that organization to perform its functions. In the words of General William T. Sherman, "A bulky staff implies a division of responsibility, slowness of action and indecision, whereas a small staff implies activity and concentration of purpose." [7] Also, a large staff takes up more space, emits a larger electromagnetic signature, and is less mobile than a small one, and consequently is more vulnerable to detection and attack. A large staff, with numerous specialists, may be more capable of detailed analysis and planning than a small one, but we have already established that we generally value speed and agility over precision and certainty. We should therefore seek to keep the size of staffs to a minimum in order to facilitate a high operating tempo and to minimize the space and facilities that the headquarters requires. The ideal staff would be so austere it could not exercise fully detailed command and control.

EQUIPMENT AND TECHNOLOGY

Equipment, to include facilities, is an integral part of any command and control support structure, but we must re- member

that it is only one component. As we have mentioned, there are two dangers in regard to command and control equipment, the first being an overreliance on technology and the second being a failure to make proper use of technological capabilities. The aim is to strike a balance that gets the most out of our equipment and at the same time integrates technology properly with the other components of the system.

We believe very strongly that the object of technology is not to reduce the role of people in the command and control process, but rather to enhance their performance—although technology should allow us to decrease the *number* of people involved in the process. As a first priority, equipment and facilities should be user-friendly. Technology should seek to automate routine functions which machines can accomplish more efficiently than people in order to free people to focus on the aspects of command and control which require judgment and intuition. We may even use technology to assist us in those human activities so long as we do not make the mistake of trying to replace the person who can think with the machine that cannot.

Command and control equipment should help improve the flow and value of information within the system. But as we have said repeatedly, improving information is not simply a matter of increasing volume; it is also a matter of quality, timing, location, and form. To the greatest extent possible, communications equipment should connect principals directly, minimizing the need for specialized operators. Ad- ditionally,

equipment should minimize the input burden placed on people; ideally, the input of information into the system should be automatic. Last, but hardly least, technological developments should focus on presenting information in a way that is most useful to humans—that is, in the form of meaningful visual images rather than lists of data.

As with all the components of our command and control support structure, our command and control equipment should be consistent with our overall approach to command and control. For example, equipment that facilitates or encourages the micromanagement of subordinate units is inconsistent with our command and control philosophy. Moreover, such technological capability tends to fix the senior's attention at too low a level of detail. A regimental commander, for example, does not as a rule need to keep track of the movements of every squad (although with position-locating technology it may be a temptation); a regimental commander needs a more general appreciation for the flow of action. Commanders who focus at too low a level of detail (whether because the technology tempts them to or not) risk losing sight of the larger picture.

The reality of technological development is that equipment which improves the ability to monitor what is happening may also increase the temptation and the means to try to direct what is happening. Consequently, increased capability on the part of equipment brings with it the need for increased understanding and discipline on the part of users. Just because our technology allows us to micromanage does not mean that we should.

CONCLUSION

Our approach to command and control recognizes and accepts war as a complex, uncertain, disorderly, and time-competitive clash of wills and seeks to provide the commander the best means to win in that environment. We seek to exploit trust, cooperation, judgment, focus, and implicit understanding to lessen the effects of the uncertainty and friction that are consequences of war's nature. We rely on mission command and control to provide the flexibility and responsiveness to deal with uncertainty and to generate the tempo which we recognize is a key element of success in war. We focus on the value and timeliness of information, rather than on the amount, and on getting that information to the right people in the right form. We seek to strike a workable balance among people, procedures, and technology, but we recognize that our greatest command and control resource is the common ethos and the resulting bond shared by all Marines.