

5

Build-up to Attack

The president's 8 November announcement did not change General Yeosock's conception of his command. Third Army would continue to be *three armies*: service component, theater, and numbered field. It would expand its heretofore limited operational responsibilities. The new circumstances, with two assigned corps conducting an operational offensive instead of one corps defending in depth, required a dramatic restructuring of the headquarters and the army-level force structure. This had to be done while bringing VII Corps on line and seeing to it that the logistic build-up and operational redeployment were properly executed. New units arriving from Europe and the continental United States (CONUS) had to be fitted into the transportation sequence, so they did not arrive a day before they were required, but just in time to participate in the offensive.

Some environmental acclimation was desirable for combat units, though this was not always possible. Much of the 3d Armored Division became acclimated on the way to the line of departure. However, February weather in Saudi Arabia is nothing like the heat of the summer; rain can be heavy as a monsoon and accompanied, notwithstanding, by blowing sand. Temperatures range well into the thirties during the night while remaining cool throughout the day. (It was reported one morning at the ARCENT command briefing that, during the night, temperatures had reached 27 degrees Fahrenheit in the area occupied by the 24th Infantry Division.)¹ Adapting to desert conditions, of course, requires a good deal more than becoming accustomed to temperature. The sheer emptiness and unlimited vistas make orientation difficult and distort estimates of time and distance. For those more used to houses and trees, the desert can contribute to a sort of melancholy.

The process of concentrating an expanded Third Army in the Arabian Peninsula was not easy to manage. An unavoidable delay occurred between identification of a need and mobilization, shipment, arrival, and deployment in theater. Anything required in February had to be identified by the end of the previous November. The deficits left by the ceiling on the size of the initial army and corps organizations had to be corrected and a new corps force structure built. This was made easier after ARCENT's various force structure excursions, both to hold down the size of the force (minimum essential force guidance) and to examine the requirements involved in making

Third Army an Army MACOM (major army command). Much of the design work, too, had been ongoing in Europe for some time. The VII Corps and U.S. Army Europe had long anticipated possible calls for forces to reinforce the Persian Gulf army.

The new deployments involved bringing together in the theater of war, at the proper time, units from Europe and the United States. The new units had to be introduced quicker and in larger numbers than during the initial XVIII Corps deployment.² (See figure 20.) This, of course, implied the acquisition, through call-up or contract, of additional strategic transportation resources by the joint service transportation command. Often there were no good answers. Choices involved trade-offs, each possessing attendant risks.

The U.S. Army was not structured or trained for an operational offensive in open desert terrain such as that now confronting its commanders. Because it had been designed for war in Europe, it was seriously suboptimized and required significant augmentation. The operation required tactical and operational movement of large units that rarely had assembled in one place for training, let alone maneuvered tactically in formation. The means of operational transport, both vehicles and drivers, were not readily available and could not be assembled in time. A number of expedients had to be formulated in December and January, then coordinated with the Department of the Army as well as the host nation, to make up for the deficiencies.

Yeosock continued to define his task as "unencumbering" the two corps so that they could concentrate on training and fighting. In addition to bringing the VII Corps into the theater, it was also his job to project the gathering forces to the west and deploy them with all the means necessary to launch and sustain both corps for up to two weeks of intense combat. For the most part, accomplishing this would be the task of General Pagonis and the 22d Support Command. The ARCENT commander focused most of his efforts on solving problems, while his staff concentrated on planning and coordination. Meanwhile, subordinate maneuver units prepared for battle.

Before 8 November, Third Army's responsibilities for operational oversight of its single corps were minimal. It is probable that, had the Desert Shield defensive plan ever been executed, General Schwarzkopf would have taken direct operational command of the 1st Marine Expeditionary Force and XVIII Corps. Moreover, the defensive plan, which was limited in geographic scope, did not require a large echelon-above-corps structure. Logically, then, Third Army headquarters had

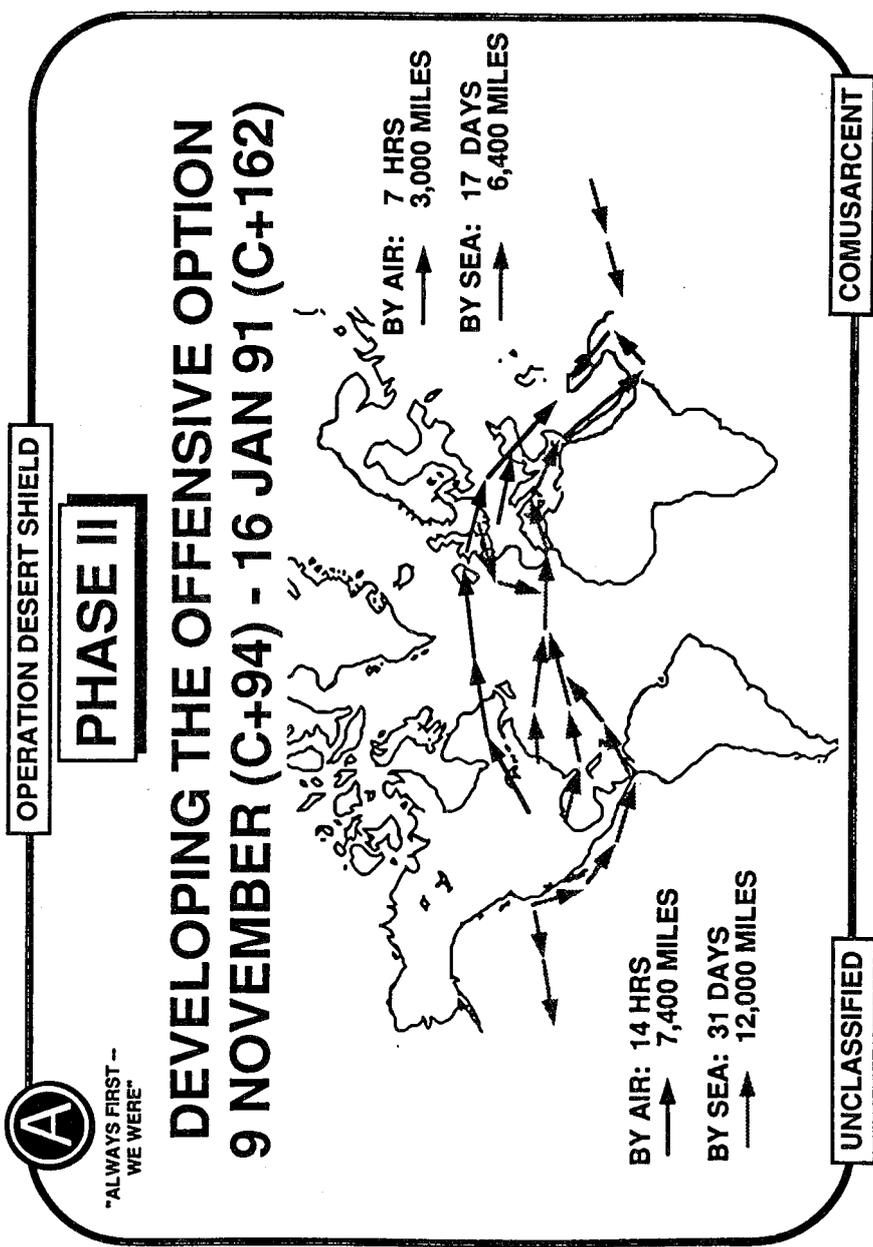


Figure 20.

been one of the biggest bill payers for the minimum essential force ceiling, retaining only, with limited exceptions, its peacetime premobilization size and structure and even providing the personnel to man the U.S.-Saudi C3IC staff.

Now that ARCENT would command two corps operationally and a substantially larger echelon-above-corps force, the headquarters structure, and even its way of thinking about itself, had to be changed in very short order. To assist in this change of orientation, the army commander developed a system of liaison teams, "directed telescopes," that were to be located in all key headquarters across the front and offer, not just to ARCENT but to CENTCOM, a quick, extra-bureaucratic source of immediate information on the situation of friendly forces. These teams provided one more vital bridge to cover the gaps in the allied command structure to compensate for the coalition's lack of true unity of command. Third Army also created an advanced mobile command post (CP) called "Lucky TAC," or "Lucky Wheels," since it was housed in wheeled expando-vans.

How all this was done and why provides insights into the nature of operational command and coalition and joint warfare. It is also a story that is only complete when various human aspects of what was done are examined; for the headquarters restructuring had social as well as organizational consequences that had to be dealt with on a daily basis.

In the fall of 1990, Colonel John Jorgenson, the ARCENT deputy chief of staff, expressed the view to General Yeosock that the army headquarters was, to its detriment, dominated by light infantrymen and field artillery officers, particularly in the operations staff.³ The observation was partially correct. General Arnold, the G3, had been a brigade commander in the 82d Airborne Division, then an assistant division commander in the 2d Division in Korea. Colonel Bob Beddingfield, the deputy G3 (and displaced premobilization G3), and Colonel Glenn Lackey, the G3 operations chief, were field artillery officers. Colonel Gene Holloway, the G3 plans, was an aviator. Major Steve Holley, the principal staff planner for Desert Storm, was an air defense officer—and so on!

The Army, like any large organization, has its unofficial unions and organizational shibboleths. The issue raised by Jorgenson, that only heavy maneuver arms officers could understand large-unit heavy-force operations, is typical of these and, in the main, perhaps, quite valid—if not in the specific case of all the officers named above. It is worth pointing out that, although Arnold had commanded a light

(airborne) infantry brigade, he had held a number of posts in the 8th Infantry Division in Germany, to include battalion command, so heavy forces were not entirely foreign to him. These general beliefs, however, are not unimportant. To the extent they are honored, they affect the legitimacy of an organization's members to do their business. It is also true that experience, if not the best, is ordinarily the most effective teacher.

So an effort was made to infuse the staff with what were called "long ball hitters." These were up-and-coming officers, drawn by the Army Personnel Command from throughout the Army on the basis of training, education, and experience to fill specific requirements in the Third Army headquarters. Their arrival supplemented and sometimes displaced the proprietary Third Army staff officers, while bringing in a good bit of talent. Among those selected were Lieutenant Colonel Dave Mock, Major Paul Hughes, Major Dan Gilbert, Major Rick Halblieb, and Major Clay Newman.

Dave Mock is a quiet, firm, and rock-solid cavalryman. He was the balance wheel in the army's forward operations cell, maintaining a modicum of order and rationality in an environment that could, on occasion, resemble a futures market. Paul Hughes is a tall, shy, but extraordinarily competent communicator. He played a vital role in establishing the communications network, linking the forward headquarters with army units in the forward area of operations. Dan Gilbert, a bright and studious infantryman, became a principal Desert Storm planner, while Rick Halblieb, an aggressive, articulate, and sometimes obsessive intelligence officer, became the principal targeting-battle damage assessment officer in General Stewart's G2 section. Indeed, when Stewart arrived to be G2 in late December, his "long ball hitters" all but marginalized the existing G2 organization. Clay Newman, a persistent logistician, served as a logistics expediter for the army staff, helping to locate lost or misdirected equipment during the build-up and redeployment. All but Newman were SAMS graduates.

Obviously, this rapid expansion produced some strains in the headquarters organization. Colonel Jorgenson himself was a victim of the process. Jorgenson was one of the most talented senior staff officers in Third Army. He was a former heavy maneuver brigade commander who had, in a previous assignment, served as Yeosock's squadron executive officer in the Third Armored Cavalry. Professionally frustrated by nonselection for general, Jorgenson was looking toward retirement when Desert Shield broke out. Faced with the need to fill his primary staff positions with general officer principals, Yeosock also

had to find a general officer chief of staff. This was particularly the case since the G4, Brigadier General Jim Monroe, had served on the Third Army staff, under Jorgenson as "chief."⁴ Yeosock appointed his deputy commander, General Bob Frix, ARCENT chief of staff as well as deputy commanding general. Jorgenson became his deputy.

Had General Schwartz returned to ARCENT in December, when C3IC was absorbed by CENTCOM, he would have become Yeosock's principal deputy for operations, leaving Frix to act as a traditional chief of staff. But Schwartz did not return. Frix, as deputy commanding general, continued to work primarily as Yeosock's main troubleshooter and "outside man," ultimately moving forward in January with the advanced command post and then heading Task Force Freedom to reconstruct Kuwait after the war. Jorgenson did the work of running the staff through the staff section deputies (colonels) and acted as the principal mediator between the field grade staff and the commander. But he did not attend the daily general officer meetings where major decisions were made and command guidance was provided. Once General Frix moved forward, the chief of staff functions were picked up by the commander himself, his G3 General Arnold, Colonel Jorgenson, and the commander's executive officer, Lieutenant Colonel Michael Kendall.

Restructuring the army headquarters had to accord with a fundamental belief on the part of Yeosock that, as an army commander, he commanded two corps commanders, not two corps. He believed his principal role was ensuring the sustainment of the force and the allocation of force multipliers not otherwise accessible to the corps—especially logistics, air power, and intelligence. He was also charged with organization of such necessary but generally neglected functions as postal services, graves registration, enemy prisoner of war (EPW) operations, and medical support and evacuation. Yeosock recognized that corps commanders were men largely capable of synchronizing their own battles and that, in any event, corps were large organizations whose response to new orders was bound to take some time, given the number of echelons of command between the army and the level where orders are carried out, i.e., the platoon and squad. Yeosock was determined to deal only in major issues and only with large units. Moreover, he was disposed to take a somewhat Jeffersonian view of high command as something done best when done least. This view was probably necessary because of the compulsive-activist behavior of the CINC, not to mention a sense of lingering ambiguity about the extent to which Schwarzkopf might intend to deal

directly with his corps commanders and their restiveness under a peer who had not commanded at their level.

So as long as ARCENT, as the operational headquarters, could assign missions, allocate forces, set objectives and boundaries, conduct deep fires, and monitor progress, it was, in Yeosock's view, synchronizing the operations of the two corps. That could be done from wherever the army commander had communications and a picture of what was going on in an operational level of detail. Unstated was a realization that there were two geographic and two "environmental" conditions requiring, in Yeosock's view, his presence in Riyadh.

The geographic considerations were the location of the theater intelligence apparatus and the proximity of General Pagonis in Dhahran, or at least his headquarters. Pagonis himself seemed to be in continuous motion all over the theater. Operational intelligence was critical to decision making, and the immediate linkages with strategic and operational systems were at Riyadh. Proximity to Support Command (SUPCOM) was important to the demands of keeping the movement process from the ports to the corps in order, a process in which Yeosock took a personal daily interest from December through February.

The first "environmental" condition was the need to stay close to the commander in chief. This was a consequence of the personality of the CINC himself. Schwarzkopf, an active, mercurial, highly emotional, and often impatient man, was best dealt with face to face and one on one.⁵ In many ways, Schwarzkopf used Yeosock as Grant used Meade. In both cases, higher duties no doubt mandated such a solution, but such working relationships are seldom comfortable for either partner. Yeosock believed proximity was vital.

The second "environmental" requirement was the need to be able to work face to face with major coordinating commands, especially the Saudis and the CENTAF commander, General Horner, with whom Yeosock shared quarters. Yeosock knew from his experience as PMSANG that proximity to principal Saudi decision makers, often civilians, was essential to coordinate the fight and to address vital issues of host-nation support, particularly transportation, fuel supply, and prisoner of war support.⁶ Circumventing the bureaucratic Army-Air Force interface by direct discussions with Horner permitted Yeosock to understand Schwarzkopf's view of the Air Force as a distinct operational instrument. Thus, Yeosock could work on a personal level for Army needs within the broader theater-strategic vision.

Yeosock was confident that army communications could give him a picture of the battlefield adequate to provide his forces the appropriate guidance and coordination while he remained in the capital. He had his communication system designed accordingly, and his G2 built a massive intelligence structure next door to his headquarters. In November and December, Yeosock also created two additional elements of the headquarters to ensure his concept could be realized—a mobile CP and seven liaison teams designed to be “shadow staffs,” or “directed telescopes.” The commander’s intentions for the mobile CP seem always to have been largely misunderstood by key subordinates. Yeosock would call the liaison teams one of the three chief reasons for success in Operation Desert Storm.⁷

As early as 27 October, General Frix, as ARCENT chief of staff and deputy commanding general, alerted General Taylor at Forces Command (and deputy commander, ARCENT rear) that a great deal of attention was being given to the headquarters’ ability to act as a field army, an operational headquarters. Taylor was told to expect requests for both “senior officers with experience in Armored/Mechanized Operations and Communications Equipment and signal personnel capable of communication over great distances.”⁸ About the same time, Colonel Glenn Lackey, G3 operations officer at ARCENT, was to build an Operations and Intelligence Center (war room) in the Eskan Village school house, from which the commander and his G3 could monitor operations and communicate with higher, lower, and adjacent headquarters. He was to create six, later seven, liaison teams to send to adjacent and subordinate headquarters. And he was to develop a mobile command post.

Lackey received his guidance from both Yeosock and Arnold. Colonel Chuck Suttan, the G6 (communications electronics and information management staff officer), provided technical advice and designed the communications system. Assistance in obtaining the equipment and manpower for the mobile CP and liaison teams was provided by Major General Jerry Granrud’s Force Development Office at the DCSOPS in the Pentagon, and the two projects were tied together under the titles of Project 5 and 5A (liaison parties and mobile CP respectively). A related project to obtain a mobile armored CP for the XVIII Corps was undertaken at the same time.

Yeosock had a clear vision of what he wanted from the liaison parties. Arnold observed that his own first idea was simply provision of traditional two- or three-man teams whose purpose would have been limited largely to communications. Yeosock was thinking bigger, especially in the case of those teams assigned to the Arab-Islamic

coalition's two commands. He wanted an organization "that could be a minicorps headquarters if it had to be."⁹

The broad concept was similar to that of the C3IC organization. The liaison party was not just to be a means of communication but an instrumentality to influence how the allies did business, even to assist them in complex staff work if necessary. This put a premium on the quality and seniority of the officers and men assigned. Team chiefs, with one exception, were colonels who were War College graduates. The one exception, Lieutenant Colonel Rick Gutwald, was a talented staff officer who became team chief when the colonel originally assigned clashed with corps staff and was reassigned to another team to promote harmony. Gutwald's team was assigned to XVIII Airborne Corps.

In the case of the Arab-Islamic allies, the liaison parties provided an ARCENT linkage with Special Operations Forces (SOF) assigned by Central Command to Arab tactical units to provide advice and training.¹⁰ By cooperating and combining ARCENT efforts with the SOF liaison parties, the U.S. command, in fact, had a communications and command information net in the Arab forces more reliable than that possessed by the Northern and Eastern Area Commands themselves. The ARCENT liaison teams assisted in planning and obtaining deep targeting support for the Arab forces from CENTAF, offered Arab tactical commanders intelligence not otherwise available, provided immediate "ground truth" to the ARCENT commander and, during the ground campaign, to the CENTCOM commander as well. A team was also provided to the Egyptian Corps, which was subordinate to Joint Forces Command North but closely associated diplomatically and militarily with the Americans. The presence of this team ensured both close cooperation with VII Corps' eastern neighbor and often ensured communication between the Egyptians and their own higher operational commander at Joint Forces Command North. (See figure 21.)

The liaison parties with U.S. coordinating forces facilitated the army commander's provision of various types of support to MARCENT. It allowed him to influence positioning of the CENTCOM reserve division, 1st Cavalry Division(-), prior to commitment, as well as to keep the reserve division commander informed about Third Army's current intentions. For principal subordinate forces (VII and XVIII Corps), the mission was more conventional but more substantial in light of the caliber of officers assigned and their ability to achieve immediate access to the army commander when necessary. On one occasion after the cease-fire, for example, a liaison team was able to

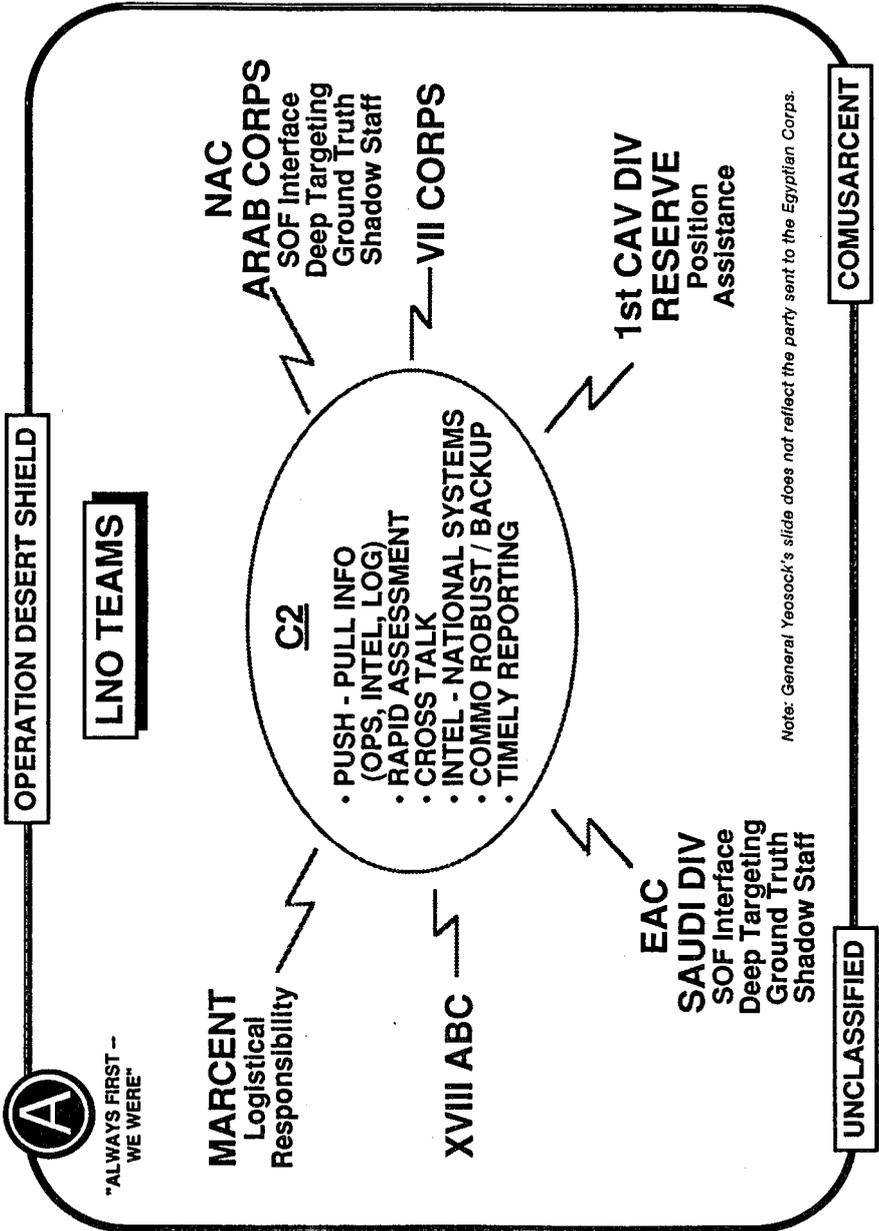


Figure 21. Liaison teams

report to the Third Army commander the premature withdrawal of occupation forces from Iraq by a senior subordinate commander understandably interested in getting his forces home.¹¹ Another team, in what must have been the loneliest job in the theater, acted as the permanent point of contact with Iraqi representatives after the cease-fire agreement in March.

These parties were to be large—up to thirty or so officers and enlisted soldiers—and multifaceted, to cover all staff functions. They were to have several vehicles and redundant robust communications, particularly multichannel TACSAT (tactical satellite) equipment.¹² Liaison officers (LNOs) were not just to pass on information but to evaluate it from the point of view of the army commander. They were, in fact, to provide information that distances and circumstances prevented the army commander from obtaining firsthand. The chief LNOs were to be “directed telescopes”—the eyes and ears of the commander. In Yeosock’s words after the war, the key was “to bridge” the command and control functions of the land component commander (in the absence of such a figure). The solution was to use LNO teams that had capabilities in command, operations, logistics, plans, and communication. “For U.S. forces it was overkill, but for Arab-Islamic forces it became in many respects a shadow staff to make up for their inability to deal with planning at the level required.”¹³

While these parties were created by ARCENT, those teams assigned to duty with the Marines and Joint Command East were virtually taken over by CENTCOM once operations were under way. Particularly with the Arab forces, the teams became a means of addressing a variety of coalition problems whose resolution was required to ensure the success of Desert Storm. During the conduct of the battle, the two parties with the American corps and those with the Egyptians and the Joint Forces Command North acted as an extension of the army commander’s personal staff and reported not through the G3, though they kept him informed, but through the commander’s executive officer. This allowed Yeosock to circumvent the bureaucratic delay imposed by a large general staff structure. All seven team chiefs reported to the army commander’s executive officer at least twice daily to update the commander on the situation where they were located.

If the idea of large liaison staffs was the commanding general’s, the mobile CP seems to have been General Arnold’s. Arnold was thinking in terms of a division or corps tactical CP.¹⁴ Indeed, he took the idea from his experiences as G3 in the 9th Division and, later, I Corps. For Yeosock, the facility was never to be more than an alternative command post that he could use if the main CP were

destroyed or interfered with.¹⁵ In either case, the facility had to be mobile (the Department of the Army provided nine expando vans), have a sophisticated communications package approximating that of the main CP, and be manned with a talented staff to monitor ongoing operations.

After 12 January, Yeosock used the mobile CP as a base for his deputy, General Frix, and Frix's de facto deputy (actually a deputy G3 who had arrived in theater as director of the Army's Training and Doctrine Command [TRADOC] Battle Command Training Program), Colonel Carl Ernst. They could act as ARCENT expeditors—that is, as informed representatives of the commander, who could go and see what was happening, interpret guidance, synchronize ongoing operations, and provide feedback to the commander. This was done in a situation where the corps headquarters maintained communications with the main CP and the army commander. Subordinate commanders could refer to either when the interpretation of the expeditors did not fit their own notions.¹⁶

Third Army was working out its command and control structure and processes as it deployed two corps and re-created itself from a basic shell. The mobile CP was an entirely new creation with a scratch team, like the rest of ARCENT, and its place in the command and control structure was unclear. It had to be developed even as it coordinated a major operational redeployment. The difference of creative vision between the tactical CP and the mobile alternate, as well as the presence of so much talent forward, sometimes produced a sort of schizophrenia in the headquarters. Moreover, both Arnold and Stewart, back at the main CP, seemed to be convinced that army command should be conducted forward. Yeosock, however, had always maintained he needed to be in the capital.

The principals at the forward CP clearly did perform as the field army "tactical" headquarters—that is, the operational center of the command and control apparatus for near-term actions during the assembly of the army around King Khalid Military City and for its redeployment to the west. The forward CP, "Lucky TAC" (after Patton's forward headquarters in World War II), included cells from the Support Command's 318th Movement Control Agency and the 89th Military Police Brigade, which had responsibility for ensuring the one east-west MSR operated efficiently. A small plans element headed by Major Kevin Reynolds developed contingency plans and served as something of an alter ego to the Plans Cell at "Lucky Main" in Riyadh. The G3 argued that the tactical CPs (TACs) should talk to corps TACs, the main CP to the corps' main CP, that fragmentary

orders (FRAGOs) should be issued by the TAC (this was granted, but approval still came from the main CP and, when time was scarce, was not always observed anyway), and that contingency planning should be the sole province of the TAC, while long-term plans would be drawn up in the main CP.¹⁷

What all this "structure" failed to comprehend was that command takes place where the commander is. Throughout, Yeosock, who did not believe operational command and tactical command are analogous, maintained limits on the initiative of the mobile CP, which frustrated its aspirations to operational control. In the end, the army's war was run largely by the commander, through his personal staff at Eskan Village and his liaison teams (with key subordinate and adjacent headquarters), while using his general staff for detail and longer-term work. The mobile CP, as Yeosock always intended, was an alternate command post, a base for expeditors who could untangle immediate problems and a headquarters to oversee the operations of the various echelon-above-corps troops. It did oversee important actions leading up to the initiation of the ground attack, not only redeployment but prisoner of war camp construction, development of echelon-above-corps communications systems, the conduct of mass casualty drills (in anticipation of chemical warfare), and replacement system operations—thereby freeing the army commander and his G3 to focus on future operational issues. The mobile CP also served as an aggressive seeker of information, supplementing the work of the liaison officers and main CP. One mark of its capabilities was that General Waller, who served as interim commander from 17–23 February while Yeosock underwent surgery in Germany, indicated that he intended to command from the mobile CP rather than the main CP.¹⁸

Whether Waller's solution would have been more or less successful than Yeosock's is speculative. The communication net at the mobile CP was not as robust as that at the main CP, which had been designed as the center of a communications web. Moreover, selection of the commander's location depended upon the respective officer's assessment of his relationships, not just with subordinates but with his superior and coordinate commanders. To have made the mobile CP a TAC was more congenial with most officers' cultural values, but it seems to have implied a great deal more direct control of tactical events than Yeosock intended or thought necessary. Waller's view also reflected greater confidence in his personal ties to Schwarzkopf and less concern with maintenance of personal contact with the joint air

component commander and Arab officials once the ground attack began.

The third of Colonel Lackey's projects, the war room, was the least novel, though perhaps the most important one, since it was from here and the commander's office adjacent to it that the ARCENT war was run. The war room, a large bay-like facility, was built in the courtyard of the Eskan Village school house. Staff officers and liaison officers were placed in parallel banks of desks, with secure phones, in front of a large operational map. It was a sort of field expedient version of the NASA operations rooms. The war room had an extraordinary communication network that allowed the commander or G3 to speak to anyone from the JCS to the divisional CPs. G2 and G3 operations were integrated. This was underpinned by Generals Arnold and Stewart having held corresponding positions in the 9th Division earlier in their careers. Thus, the physical layout was backed up on the more personal level.

One external influence on the expansion of the army staff (and those of the corps and Support Command) should be addressed. This had to do with the Battle Command Training Program (BCTP), of which Colonel Carl F. Ernst was the director prior to his seconding to Third Army. BCTP is important because its multilevel involvement in planning and organizational activities is indicative of the extent to which the entire Army immediately focused its energies on supporting the forces in theater, sometimes overwhelming the actors with good ideas but generally making a large and positive contribution.

The BCTP is an organization designed to exercise and stretch the capabilities of senior staffs by providing an evaluated, interactive, computer-based war game to division and corps headquarters. It is the headquarters' combat training center. The BCTP evaluators are a group of bright, skilled, and often aggressive staff officers who critique in detail the staff processes and applications of doctrine by the units that are required to contend with their unforgiving opponent. To the extent that Colonel Purvis and his colleagues from SAMS represent the intellectual legacy of General William E. DePuy's organization of TRADOC, BCTP represents the countervailing tendency to a technical and positivist view of war reflected in the Army Training and Evaluation Program (ARTEP) and the national training centers. Its creed is tough, evaluated, realistic training to standard.¹⁹

Upon the initiation of Desert Shield, Colonel Ernst immediately offered his services and those of his organization to XVIII Airborne Corps, and as the crisis developed, he supported both the corps and the

army headquarters by running staff exercises, developing simulations to test different planning options and, perhaps most important, seeding the various staffs with BCTP evaluators who became full working members of the organization (while retaining their contact with Ernst).²⁰ Two of these, Lieutenant Colonel Bob Schmidt and Major Kevin Reynolds, played key roles in writing operations plans for both corps and ARCENT.

BCTP members also set the standards for staffs coming together under pressure, as a large number of new members flowed in, particularly at ARCENT but also at VII Corps. This was not always without friction with the proprietary staff members, but most of the BCTP people were able to provide instruction without appearing to be Field Marshal Montgomery coming to "save" the Americans at the Bulge.

Ernst was ultimately retained as deputy G3 at ARCENT. Colonel Mike Hawk, one of his team chiefs, was deputy chief of staff at VII Corps. Ernst kept three BCTP members, among them Major Reynolds, with him in the mobile CP as a sort of alternate plans cell. Lieutenant Colonel Schmidt became chief of plans at VII Corps. The BCTP network, whatever else it did, provided another channel for information to flow between headquarters, sometimes to get previously rejected ideas reconsidered, often to get new ideas on the table. It is a measure of the trust vested in Ernst and his team that XVIII Corps took liberties with security surrounding the war plan to allow the colonel to test various offensive options against simulation, thereby widening significantly the circle of those privy to the ground attack plan, to include stations in CONUS.²¹ The secret was held and useful insights were developed that subsequently assisted the command in preparing for Operation Desert Storm.

With the late December-early January forward deployment of the liaison teams and mobile CP and the development of the war room, ARCENT-Third Army had become a warfighting headquarters. At the same time, ARCENT continued to be a theater army, the departmental command in theater. In addition to, and simultaneous with, introducing a new corps, ARCENT had to expand its echelon-above-corps force structure to provide for a significantly greater demand for operational (theater) transportation, intelligence information, and such practical functions as engineer construction, graves registration, enemy prisoner of war operations, and civil affairs—matters generally not addressed in Army schools or on peacetime exercises. The 416th Engineer Command, 352d Civil Affairs Command, and the 800th Military Police Brigade were Reserve

Component units. ARCENT also formed an echelon-above-corps personnel command.

At the same time, ARCENT had to continue, indeed expand, the force modernization programs already under way, work out a scheme for replacement operations in anticipation of heavy combat losses, and organize a vast medical support structure built almost entirely on Reserve Component hospitals.

The expansion of the intelligence capabilities was extraordinary. When the ARCENT mission had called for a defense fought only by a single corps, that corps' intelligence organization had been deemed adequate. The intermediate army intelligence structure had been limited, and the ARCENT G2, unlike the G3 and G4, was a colonel, Beauford W. Tuton. Tuton had planned for expansion of the intelligence structure but had not been able to bring the desired augmentees forward under the minimum essential force guidance. Then, in November, the mission changed.

On 1 November, the echelon-above-corps intelligence brigade (the 513th Military Intelligence Brigade) had only 453 personnel in country; by 1 December, only 647. On 21 December, General Stewart was appointed Third Army G2 upon the medical evacuation of Colonel Tuton. Stewart had been commander of the Army Intelligence Agency. On 15 January, 1,546 members of the 513th had arrived in theater, and by 14 February, there were 1,792.²²

Stewart was not responsible for calling forward the remainder of the 513th, but he did bring to the problem of establishing a theater army intelligence structure the rank and authority of a general officer, a great deal of dynamic energy (he was a tireless promoter of intelligence systems), and a fund of personal knowledge of the wider Army intelligence community that allowed him to bring in a number of talented assistants and several developmental systems for managing and distributing intelligence information. He thoroughly integrated the 513th into the G2 organization until, to all intents and purposes, he headed a staff section of almost 2,000, housed in a high-rise apartment complex next to the "School House," surrounded by barbed wire, and marked by a large number of satellite antenna dishes, communication vans, people in civilian clothes, and other attributes of a little "Langley." In essence, Stewart assembled and energized the theater ground intelligence structure in the month prior to D-day.

Stewart has provided a massive classified history of intelligence in the desert war and a personal executive summary.²³ The major

issues from the standpoint of Army operations would seem to be these. Intelligence, prior to G(day)-8, was, by virtue of the deception plan and the nature of tactical intelligence systems, largely top-down. Because the echelon-above-corps intelligence structure arrived only late in the day, a good deal of operational and necessary tactical intelligence was not available when VII Corps arrived. Indeed, General Franks has noted that he could get little intelligence upon which to base his offensive plans when he began responding to the CINC's initial briefing in November.²⁴

The lack of photographic support was particularly troublesome for forces that would have to breach the enemy defenses. Engineer diagrams on maps did not give breaching units the same confidence that overhead photography might have. Photographic imagery would be a continuous and emotional issue with tactical commanders, a consequence of paying for sophisticated strategic satellite systems by retiring older, but more numerous, operational and tactical aviation and Air Force systems without adequate replacements. Satellite imagery was excellent in quality, but its capability was limited in the number of targets it could handle at any given time. Because priorities for strategic systems were set elsewhere and because system design has been based largely on strategic needs, there was a clear loss of the capability that most division and brigade commanders had known in Vietnam. They were not happy about it.

On the other hand, in December Schwarzkopf had decided to bring in joint surveillance target attack radar system (J-STARS), a joint Army-Air Force system that was clearly the greatest operational intelligence success of the war. J-STARS are sets of down-looking airborne radars carried in old Boeing 707s that are capable of tracking moving targets on the ground. It lets operational commanders look on the other side of the hill, both for purposes of targeting and responding to operational initiatives by the enemy. In the uncharacteristically bad weather that marked Desert Storm, J-STARS was essential both to read the battlefield and interdict retreating Iraqi units.

Stewart was also successful in linking the ARCENT intelligence community with other departmental and extradepartmental sources and in introducing new intelligence information distribution systems still in the developmental stage.²⁵ The support and direct involvement of the Army Intelligence Agency seems to have been exceptional.

Some problems could not be solved. A shortage of Arabic linguists was overcome partially by the use of Kuwaiti student volunteers, but there were never enough. Stewart was forced to create a special

intelligence distribution communications network from developmental systems, and VII Corps had to borrow an unmanned aerial vehicle (UAV), while the Navy was using drones to adjust naval gunfire from its battleships. Investment in tactical and operational intelligence had not kept pace, or else maneuver commanders had not been prepared for the economies of scale with which they were forced to contend.

In light of the comparatively late arrival of intelligence units and a general officer G2, the potential contribution of intelligence was underestimated, particularly in view of the implications of the theater deception plan and the key role battle damage assessment (BDA) played in the synchronization of ground and air operations. On the other hand, delay in bringing in the 513th Military Intelligence (MI) Brigade was consistent with policy on minimum essential forces that obtained until November and the ARCENT commander's decision to delay introduction of echelon-above-corps units until the last minute to give priority to combat forces and, after December, essential logistics support. It would be hard to find something brought in that could have been left out of the flow in order to introduce the remainder of the 513th MI Brigade any sooner than was done. As it was, artillery units were still flowing in country on G-day, and a large number of HETs arrived only in time to evacuate units from Iraq. Unquestionably, the 513th did arrive in time, if only just.

There was no G2 present at the ARCENT commander's daily general officer meetings prior to Stewart's arrival to argue army issues from the standpoint of likely Iraqi responses and to represent the intelligence field for a place on the priority list. However, Yeosock believed that he benefited from the council of Brigadier General Jack Leide, the CENTCOM J2, whom he believed to be one of the best intelligence professionals in the business.²⁶ In short, Yeosock did not feel that he was short of good intelligence for the major decisions required of him under the circumstances. After December, Stewart was the right man in the right place to deal with the problems of the "unforgiving minute."

More characteristic of the role of ARCENT were the actions undertaken to wrestle with the problem of operational transport. Once the two corps were in theater, the Third Army had to oversee and harmonize their movement to operational assembly areas and the build-up of their respective logistic bases. Although General Pagonis, as 22d Support Command commander and deputy commander for logistics, was responsible for the executive effort, the anticipation of requirements and oversight of the execution remained Yeosock's

responsibilities. When need be, he acted as a referee between consumers (the two corps commanders) and supplier (the SUPCOM commander).

As has been said before, operational art is conducted in the offensive by trucks, HETs, lowboys (another form of heavy equipment transport vehicle), other line-haul vehicles, and cargo and fuel carriers that are able to accompany fighting vehicles into an enemy's operational depths. In Europe, where the Army was designed to fight, an extensive highway infrastructure permitted heavy dependence on commercial line-haul vehicles and the superb German rail system. In the Iraqi desert, there was no road net to speak of, and rough terrain vehicles capable of carrying ammunition and fuel had to be found to make the large units employed capable of continuous movement to the enemy's operational depth (about 300–400 kilometers).

To deploy VII Corps to its assembly area east of King Khalid Military City (274 or 334 miles away, depending on the arrival port) and to redeploy the 1st Cavalry Division, the 24th Infantry Division, and 3d Armored Cavalry of XVIII Corps to the west of Wadi al Batin (330 to 375 miles away, depending on the unit), heavy equipment transporters and lowboys had to be found. (See figure 22.) Furthermore, none of these initiatives would be of any use at all if drivers could not be located for the vehicle trains. Yeosock invested his time and energies in December and January resolving these problems. The nature of the solutions, again, is instructive for those who would understand the role of the theater army.

The most sensitive problem had to do with the HETs required to move tanks (and the lowboys, which move only smaller-tracked vehicles). Based upon the arrival dates of tanks from Europe, the intention to complete the movements within two weeks of the onset of air operations, and various force modernization initiatives, ARCENT planners arrived at a requirement for 1,295 HETs against a supply of only 897 in the entire Army inventory.²⁷

In late November and throughout December and January, Yeosock and his chief supplier, General Gordon Sullivan, the Army vice chief of staff, began the great HET hunt. Pagonis networked the logistics community, and CENTCOM approached the European allies through U.S. European Command.²⁸ On 14 January, there were only 461 HETs in theater, 335 from the host nation, 126 from U.S. sources. On 29 January, there were 653 including 100 Egyptian HETs. On 14 February, there were 759 HETs, including U.S. commercial and Italian models, compared to an expectation in December that 788

would be in theater by 15 January.²⁹ The 1,295 requirement would be met only after Desert Storm, when a total of 1,404 HETs had been acquired from various sources.³⁰

HETs were of sufficient importance that they gradually moved up the priority list in the ARCENT situation report until, on 7 December, they became the number-one equipment issue. Material-handling equipment was also considered a "war stopper."³¹ The goal was to complete the movement to the tactical assembly areas and stock the two eastern logistic bases by 31 January. In December, it was clear that this was to take an extraordinary effort given the shortfall in trucks, the limitations in the road net, the distances involved, and the sheer scale of the problem.

Use of various line-haul assets became the ARCENT commander's principal command issue in December and January. Each day, following his morning operational update and general officers meeting, Yeosock would retreat to his office, where he would figure the progress on land movement to date. During the night, Colonel Bob Kliemon, the transportation officer in the ARCENT G4 office, provided information on vehicle availability. Colonel Dave Whaley, the commander of the 7th Transportation Group, would provide information about what was in the port requiring movement forward. In this way, Yeosock could manipulate the limited resources in hand and ensure that various problems—a poor run of HET tires, the need for repair parts, whatever it took to keep the flow going—were addressed at the highest levels of the Army.³² Ultimately (12 January), he dispatched General Frix and the mobile CP to King Khalid Military City to provide overwatch of the various pieces for the great trek west. Yeosock's problem was far different from that of the planner who figures the requirements to do a job. His task was to take the "glass half-full" and make sure it met the demands of the situation at hand. And, of course, the people who had to live up to the expectations were the transportation managers of the 22d Support Command.

Besides centralized management of all aspects of the movement, Yeosock and Pagonis used what the former referred to as "work arounds," temporary expedients to compensate for shortages. The 1st Cavalry Division began moving to King Khalid Military City in late December in anticipation of the shift west. This move also reduced the surge load anticipated for mid-January when the VII Corps was to arrive at the same time the XVIII Corps was to begin its movement westward and the Support Command was to initiate the army logistics build-up west of the wadi. When the "Tiger Brigade" shifted north to

join MARCENT in January (to replace the 1st U.K. Armored Division that came to VII Corps), it was sent overland rather than mounted on wheeled carriers. Repair parts were surged behind the brigade from the base at Dhahran to compensate for wear and tear on the vehicles. In similar fashion, two Bradley battalions of the 1st Armored Division self-deployed to the VII Corps assembly area.³³ Still, out on the MSR, a wheeled vehicle passed the MP at Hafar al Batin intersection about every fifteen seconds.

The forces in Saudi Arabia were heavily dependent upon host-nation vehicles and donated equipment from many nations to meet line-haul transportation needs. These vehicles were of limited use without American drivers or, in the case of vehicles driven by third-country nationals, "assistant drivers."³⁴ On 22 December, ARCENT laid out its requirements for drivers, and the 10th Personnel Command, the newly formed echelon-above-corps personnel manager, addressed itself to the task of obtaining no fewer than 7,444 soldiers to drive buses and trucks and to serve as "supercargoes" and back-up drivers on third country vehicles in case the civilian drivers decided not to come to the war.³⁵ To fill these requirements, the Army called up Reserve Component units and deployed them without vehicles. The Army accelerated training for new soldiers and even converted an air defense battalion (3/2d Air Defense Artillery) wholesale.³⁶ A number of highly trained light infantrymen went to war in the cab of a third-country line-haul truck.

The measure of the success was in the doing. By 9 February, the date of the briefing to the secretary of defense, SUPCOM had moved the two corps to their new assembly areas. It had stocked logistic bases that had not existed thirty days before with more than five days' rations—close to 100 percent of the forward fuel stockage objective (VII Corps' Log Base E was at 100 percent; XVIII Corps' Log Base C was at 73 percent) and ammunition (60 percent or better in the forward bases).³⁷

The time required to complete the build-up past the 31st was a consequence of continued shortages in line-haul trucks, delays in ship arrivals, and the general constraints in the system. In the event, a line-haul truck took three days for a round trip—a day going, a day returning, and a day for maintenance and crew rest. Sometimes, the average was more like four days. That meant that two-thirds of the fleet was not productively engaged at any one time. Efficiency could be further reduced when maintenance availability declined. (The original SUPCOM plan had assumed only a 60 percent operational rate.) The delay in build-up was compensated for by the additional time involved

in arriving at the 50 percent attrition of the Iraqi forces in the KTO. That, as it happened, was achieved as the troop build-up and force redeployment was coming to an end.

In addition to finding thousands of drivers, Personnel Command (PERSCOM) also established a replacement system that would provide trained squads, teams, and crews (with their combat systems) as unit replacements. PERSCOM also oversaw the normal individual replacement flow as well. Designated replacement battalion commanders were collected in theater against potential losses.³⁸ The scale of the medical system that backed up the combat forces and the investment in the replacement systems is indicative of an Army prepared for significant combat losses and another indication that, before 24 February, no one in authority expected an easy victory. About 13,580 beds were available in the ARCENT area of operations on G-day, backed up by facilities in Europe and CONUS.³⁹ The Army located a training team from the 7th Army Training Command in Europe at King Khalid Military City. This detachment set up a training program for the replacement squads, crews, and teams.⁴⁰ The presence of these basic combat units in Saudi Arabia represented a great cost to the total Army but reflected the corporate effort invested in victory.

The force modernization (the replacement of older systems with newer models) of Bradley and Abrams units that had begun before the dispatch of VII Corps continued. All units were not modernized before the offensive, however. Two armored battalions of the 1st Infantry were not upgunned (the 3d and 4th Battalions of the 37th Armor). And the 197th Infantry Brigade (Mechanized) (Separate) in the 24th Infantry Division attacked with infantry still in M113 armored personnel carriers rather than Bradley infantry fighting vehicles. In addition to combat vehicles, units swapped old commercial four-wheel-drive trucks for the ubiquitous high-mobility multipurpose wheeled vehicles (HMMWVs), the successor to World War II Jeeps.⁴¹ Perhaps most important, by 23 February, in order to improve divisional off-road logistic mobility, 203 heavy expanded mobility tactical truck (HEMTT) fuelers and 435 HEMTT cargo trucks had been issued to ARCENT units, including the 1st Cavalry Division and "Tiger Brigade."⁴² HEMTT fuelers were so important that significant air transport was dedicated to bringing in 269. Without the 100 HEMTT fuelers issued to the 24th Division, it is unlikely that the "Victory Division" would have made it to the Euphrates valley.

The principal addition to the Third Army was the VII Corps, designated to be the striking force for the coalition ground offensive.

The VII Corps started its preparation for Desert Storm in August 1990, although no one knew it at the time. Almost at once, following the Iraqi invasion, General Franks convened a small planning group in his headquarters "to get our heads in the game a little bit."⁴³

Franks would command the largest armored force concentrated in a single attack in U.S. military history. He is not a typical cavalryman in appearance or demeanor. He is short, circumspect, and deliberate. A lot of U.S. service members are very likely alive today because of that circumspection. Franks is one of the few generals in the Army who wears a mustache, and he holds a Master of Philosophy degree in literature from Columbia University. He is a gentleman, a man of quiet firmness, extraordinary character, and self-discipline. Franks lost a leg in Vietnam (as did his G3, Colonel Stan Cherrie) while a staff officer in the 11th Armored Cavalry Regiment. He remained in the service, rising to command of the 11th Cavalry, the 1st Armored Division, and the VII Corps. He served between command tours as deputy commandant of the U.S. Army Command and General Staff College at Fort Leavenworth. In Desert Storm, he would move five heavy divisions against the Iraqi flank, maneuvering two of them and an armored cavalry regiment north, then east, in formation while retaining concentration—a maneuver reminiscent of another Frederick at a place called Leuthen.

At first, VII Corps' problem was to deploy various small formations and individuals from Europe to reinforce XVIII Corps, but Franks and his staff also speculated on the possibility of having to send larger elements, for example an armored division. Later, Franks would say he had been reminded, by the end of the cold war and the drawdown then in progress, of the transfer of European divisions to the Pacific in World War II following VE-Day. In addition, Franks had recognized the operational implications of the collapse of the Soviet bloc and had reoriented corps training to focus on movement to contact and attack from the march, in contrast with the European General Defense Plan scenario of linear forward defense that had dominated Army thinking since the fall of South Vietnam.⁴⁴

When ordered to deploy the corps, Franks' earlier exploratory work proved invaluable. General Crosbie Saint, the commander of U.S. Army Europe, met with Franks on 4 November, even before the presidential deployment announcement, to decide on what units to deploy. Saint assumed responsibility for the deployment itself, thus freeing Franks and VII Corps to concentrate on their responsibilities in Saudi Arabia.⁴⁵

It was decided that two armored divisions would be sent with the corps, as well as the corps troop package that included its armored cavalry regiment (the 2d Armored Cavalry). The decision was made, too, to take only units already modernized in favor of those still requiring new M1A1 tanks and M2 or M3 Bradleys. The 3d Armored Division from V Corps, the other U.S. Europe-based corps, was to be one of the divisions. VII Corps' own 1st Armored Division was the second. The 3d Armored Division was commanded by Major General Paul Funk. Coincidentally, Funk's son, who served as a captain in the Persian Gulf, was married to General Yeosock's daughter. The 1st Armored was commanded by Major General Ron Griffith. Later, the 1st Infantry Division, a Reformer unit from Fort Riley, Kansas, was added at Yeosock's request.⁴⁶ The 1st Infantry was commanded by Major General Tom Rhame.

Accommodation had to be made for units already in the process of deactivation and for certain NATO political sensitivities concerning reversion of U.S.-operated facilities to German control.⁴⁷ Saint and Franks elected to send a brigade package of the 3d Infantry Division (built around the 3d Brigade of the 3d Infantry) in lieu of one brigade of the 1st Armored. They also decided to replace the 1st Infantry Division (Forward), a brigade group of the 1st Infantry Division based in Germany, with V Corps' 2d Armored Division (Forward), another Europe-based brigade group of the U.S.-based 2d Armored Division.⁴⁸ The 1st Infantry Division (Forward), whose connection with its parent division was limited, was in an advanced stage of deactivation. Moreover, sending the 2d Armored Division (Forward) configured the 1st Infantry Division as an armored division, title notwithstanding. An armored battalion and air defense battalion of the 8th Infantry Division rounded out the 3d Armored Division.⁴⁹

The 1st Infantry Division (Forward) went to Saudi Arabia to operate the ports that received the VII Corps, thus speeding the corps to the front. The men of the brigade were retained through the ground war as part of the potential replacement pool.⁵⁰

In addition to forming the combat force, another task required coordination between U.S. European Command (USAREUR), Forces Command, and CENTCOM. The VII Corps support command had to be raised to a wartime strength suitable for an out-of-theater deployment. This involved an expansion of about 300 percent, largely by Reserve Component soldiers deployed by Forces Command from the United States. The VII Corps added 19,908 Reserve Component soldiers to its force structure.⁵¹

Deployment, of course, had to be in consonance with the Third Army plan. General Franks went to Saudi Arabia almost at once to meet with General Yeosock to discuss deployment and to conduct a reconnaissance. Before departing, Franks had received a call from Yeosock and General Pagonis to provide general guidance on preparing for the transfer of forces. Unlike XVIII Corps, which was involved in rapidly building a deterrent combat force, VII Corps could front-load sufficient engineers, command and control, and sustainment elements to prepare the corps assembly area for the inbound combat forces. Not surprisingly, Pagonis told Franks to bring all the HETs he could get his hands on.⁵² An additional advantage enjoyed by VII Corps was the ability to talk to commanders already on the ground in advance of deployment. The corps made up a draft time-phased force deployment list, and Franks took it to Saudi Arabia for Yeosock's approval.⁵³

Just as the 1st Infantry Division (Forward) was dispatched to handle inbound port operations for the corps, the 3d Infantry Division, one of the Army's proudest combat units, took responsibility for supporting port operations in the three ports used to depart Europe. The 3d also provided weapons and support personnel so the corps could conduct final predeployment training at the 7th Army Training Area at Grafenwöhr, Germany.⁵⁴ An Army that had prepared for reception of state-side Reforger units for war in NATO now reversed the process and moved divisions, regiments, brigades, and groups to the ports of Antwerp, Bremerhaven, and Rotterdam by train, barge, and road.⁵⁵ Some aviation units simply flew to ports in Italy. One of the unique features of Desert Shield-Desert Storm was that units in both CONUS and Europe moved to deployment ports on inland waterways by barge, not a normal way of doing business in either theater.

On 30 November, the ARCENT SITREP contained an entry concerning VII Corps that read: ". . . INITIALLY, THE CORPS WILL ESTABLISH A STRONG C2 AND LOGISTICAL CAPABILITY, DEPLOY A REINFORCED CAV REGT, AND PREPARE TO RECEIVE THE REMAINDER OF THE CORPS."⁵⁶

By then, fifteen ships were en route to the ports. Of the corps equipment, 40 percent had departed the home station. XVIII Corps continued to modernize tanks and infantry units, and the 24th Division was conducting joint training with Saudi units.⁵⁷ XVIII Corps' 1st Corps Support Command (1st COSCOM) was completing its deployment, still playing catch-up from the earlier minimum essential

force guidance. Meanwhile, the strength of Iraqi forces was estimated to have reached 3,790 tanks and 2,390 armored personnel carriers.⁵⁸

By 15 December, as CENTCOM prepared to brief the secretary of defense, VII Corps could report forty-eight ships en route to the theater, four unloading, and two more due that day. Two days later, the 24th Division conducted a combined-arms live-fire exercise with a combined U.S.-Saudi force, the culmination of the corps' efforts at combined training.⁵⁹

By the end of the year, the 2d Armored Cavalry Regiment, reinforced by the 210th Field Artillery Brigade, was screening the corps' assembly area west of the XVIII Corps, while the divisions prepared to receive their combat battalions. The 1st Cavalry Division was en route to assembly area Wendy, southwest of King Khalid Military City. At that time, 27 January, the last of VII Corps' equipment was expected.⁶⁰

The new deployment was not without difficulties. To speed VII Corps to the theater, ships were loaded without regard to unit integrity. That meant a good bit of confusion existed, and sorting was necessary at the reception ports. The shortage of HETs led to clogged ports and concentrations of soldiers, who arrived by plane, then waited for up to three weeks for their equipment.⁶¹ As late as 14 January, General Arnold observed to General Taylor at Forces Command that "Early deployment of combat units over CSS units and equipment continues to haunt us. MHE [materiel handling equipment] shipped and enroute will solve many of our problems. HETS, Low Boys & S.&Ps. continue to be well short of requirements. Backlog at the ports is considerable and growing."⁶²

On 16 January, HET tires were identified as one of the highest-priority items, with 3,000 required immediately.⁶³ The estimate of Iraqi strength had reached 4,280 tanks and 2,880 armored personnel carriers. The next night the war began. (See figure 23.)

Notes

1. The British SAS had a good bit of trouble with winter weather conditions in Iraq and lost one soldier to hypothermia. See de la Billiere, *Storm Command*, 225, 239.
2. HQ, 22d Support Command, briefing titled, "Theater Logistics Concept," dated 27 December 1990, slide titled, "ARCENT Strength Projection," shows that the ARCENT target for 15 December to 15 January was 4,265 soldiers per day compared to 1,168 from 7 August to 6 December. General Pagonis compared the effort to Reforger in which only about 10,000 total soldiers were moved to the theater after a year's preparation. A transcript of General Pagonis' 27 December briefing prepared by 44th MHD, 4. A 27 December briefing was presented at the ARCENT MAPEX. The transcript reflects what General Pagonis said as he presented briefing slides. Hereafter, both documents will be referred to as HQ, 2d Support Command, briefing titled, "Theater Logistics Concept," dated 27 December 1990, with the transcript or slides indicated thereafter.
3. Interview with Colonel Jorgenson at HQ, ARCENT, 9 March 1991, 31. In fact, General Arnold had attended the armor school officer advanced course, had been a battalion and division staff officer, and a battalion commander in the 8th Infantry Division in Europe. He was not entirely innocent of heavy experience.
4. Colonel Jorgenson attributed this "demotion" to the CINC's refusal to talk to colonels. Interview with Colonel Jorgenson at HQ, ARCENT, 9 March 1991, 18. The explanation in the text was given the author by General Yeosock and is a more reasonable account.
5. De la Billiere, *Storm Command*, 42, 148-49.
6. Logistic support for enemy prisoners of war was largely provided by a Saudi contractor. Construction of facilities was done by the 416th Engineers, and custody and administration was in the hands of the 800th Military Police Command, which also had to do a good deal of the building.
7. The other two were global positioning systems and the 22d Support Command. HQ, ARCENT, Command Group, command briefing titled, "Theater Operations Desert Shield/Desert Storm," slide titled, "Commander's Keys to Success," dated 15 August 1991.
8. HQ, ARCENT, Command Group, Memorandum for Major General Taylor, ARCENT Rear, Subject: ARCENT Command SITREP as of COB 27 Oct (C + 81), signed R. S. Frix, BG, USA.
9. Interview with Major General Steve Arnold, Eskan Village, 15 March 1991, 19. Description of parties as minicorps headquarters was a common metaphor in General Yeosock's explanations of his liaison parties.
10. On the special forces teams, see Dr. Richard W. Stewart, USASOC Command Historian, *Roles and Missions of Special Operations in Desert Storm: An Initial Historical Summary*. There are a number of after-action reports from ARCENT liaison parties. The quality of each is largely dependent upon the time remaining from redeployment to Riyadh and departure for CONUS. Interest was not always high. The best account concerning working with the Arab forces is that by Colonel

Daniel M. Ferezan, who was in charge of the team with the Egyptian Corps, Memorandum for Commander, Third U.S. Army, Attn: G3, APO NY 09772, Subject: Project 5/Liaison Team Golf After-Action Report, dated 31 March 1991. A testier report was prepared by Colonel Joseph D. Molinari, team chief to Joint Forces Command North, Subject: After-Action Report for the United States Liaison [sic], Advisory and Assistance Team to Joint Forces Command North during Operation Desert Shield-Storm, n.d. The teams were, by necessity, thrown together hurriedly at Fort Bragg, deployed to Saudi Arabia, and then sent almost at once to the field. Some seem to have taken being "jerked around" in this fashion better than others. The author attended the liaison officer after-action review in Kuwait City at Task Force Freedom in March 1991.

11. The author was in the ARCENT main CP when the matter was reported and discussed by CG and ARCENT staff. The unit was XVIII Corps.
12. Equipment is listed on a series of messages between ARCENT and CONUS (see for example, Message, 272015Z NOV 90, FM CDR XVIIIABNCORPS FT BRAGG NC//AFZQ-MS//, Subject: ARCENT Projects 5, 5A, and 9) and in a briefing titled, "ARCENT Communications Laydown," n.d.; and slide titled, "Field Army Liaison Team Commo Package (6 Required)." This briefing was prepared early in the planning process from notes on final sheet. See also liaison officer after-action reports.
13. Quoted in HQ, ARCENT, Command Group, undated memorandum written by Lieutenant Colonel Mike Kendall, titled, "CG Comments on the Context of ARCENT Operations." Memorandum will be retired with General Yeosock's personal papers to the Military History Institute, Carlisle Barracks, Pennsylvania.
14. Interview with Major General Steven Arnold, Eskan Village, 15 March 1991, 21-22.
15. Ibid. General Yeosock was entirely consistent in his view of the mobile CP and in the instructions he gave his staff and G6, Colonel Suttin. He intended to command from the main CP. Guidance is given in HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, dated 2 January 1991, paragraph 4; and HQ, ARCENT, Command Group, Memorandum for Record, Subject: (Executive Officer's) Daily Memo, dated 29 January 1991, paragraph 5 (filed with General Yeosock's personal records at the Army Military History Institute); and interview with Colonel Jorgensen, 6, 16. Both General Yeosock and Colonel Suttin indicated to the author that command could have been shifted first to the Royal Saudi Land Forces Building within Riyadh had that been necessary before moving to the mobile CP.
16. Lieutenant Colonel Hentsch was a German General Staff officer who visited the front in August 1914 and is sometimes blamed for causing the Schlieffen Plan to be halted by way of his interpretation of the wishes of the High Command.
17. A briefing was prepared to align the relative responsibilities of both CPs by the G3 for presentation at the MAPEX in late December. Slides are titled, "USARCENT OPLAN 001—Desert Storm, Command and Control—Fwd," and "USARCENT OPLAN 001—Desert Storm, Command and Control—Main," all marked 122735D. According to Lieutenant Colonel Kendall, the CG's XO, General Yeosock did not allow the presentation. At the mobile CP, General Frix instructed the members, while the author was present, that there was only one "integrated staff" and the

mobile CP should think of itself in that way, each section as part of its parent division in the main CP.

18. Interview with Major General Steven Arnold, Eskan Village, 15 March 1991, 22-23. The author was in the mobile CP when General Frix announced General Waller's intent.
19. If General (Ret.) Donn Starry was the intellectual father of AirLand Battle—first as commandant of the Armor Center then as TRADOC commander following General DePuy—General (Ret.) Paul Gorman was the founder of the Army training system as a brigadier general of DePuy's TRADOC staff in the seventies. For the organization of TRADOC and the background on the two threads of TRADOC's approach to preparing for war, see Major Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Paper No. 16 (Fort Leavenworth, KS: Combat Studies Institute, 1988).
20. See interview with Colonel Carl F. Ernst, director, Battle Command Training Program, by W. Glenn Robertson in U.S. Army Combined Arms Command, 1990 Annual Command History, CAC History Office (Fort Leavenworth, Kansas), 297, et seq. Much of what follows is based on the author's observations as well as Colonel Ernst's interview.
21. Ernst interview, 335.
22. Message, 012359Z NOV 90, FM COMUSARCENT MAIN//AFRD-CS//, MSGID/SITREP/USARCENT MAING3//PERID/312400Z//TO:012400Z//ASOF:012400Z, 8. Message, 012359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//, MSGID/SITREP/USARCENT MAING3//PERID/302400Z//TO:0102400Z//ASOF:012400Z, 11. Message, 152359Z JAN 91, FM COMUSARCENTMAIN//AFRD-DT//, MSGID/SITREP/USARCENT MAING3//PERID/142400Z//TO:1502400Z//ASOF:152400Z, 10. HQ, ARCENT, G3, ARCENT Morning Brief, Friday, 15 February 1991 (D+29), slide titled, "ARCENT Personnel Strength."
23. A complete report was returned to the Intelligence School for further analysis. The executive summary is by Brigadier General John F. Stewart, Jr., *Operation Desert Storm: The Military Intelligence Story: A View from the G2, 3d U.S. Army* (April 1991).
24. Interview with General Frederick Franks, by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, at the Pentagon on 31 October 1991, 22. The author was present.
25. Stewart, *Operation DESERT STORM*, 12 et seq.
26. General Yeosock to author.
27. For the total number of Army HETs, Appendix R to Department of Defense, Office of the Secretary of Defense, *Conduct of the Persian Gulf Conflict: A Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991* (Public Law 102-25), January 1992 Final Coordinating Draft, R-G-64. For 1,295 figure, see HQ, 22d Support Command, briefing titled, "Theater Logistics Concept," dated 27 December 1990, slide titled, "Theater Heavy Lift Capability, Requirement to Move XVIII Corps."

Transcript of briefing makes it clear 1,295 was total figure for two corps notwithstanding title of slide. Ibid., 13-18.

28. General Pagonis in *ibid.* General Yeosock to author. ARCENT SITREP for 4 December requests CENTCOM intervention with EUCOM. Author's assumption is that ARCENT would not have asked were CENTCOM and EUCOM not dealing with the issue. Message, 042359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//, MSGID/SITREP/USARCENT MAIN G3/PERID/032400Z/TO:042400/ASOF:042400, 11-12.
29. HQ, ARCENT, SUPCOM (Prov) LOGSITREP #163, 152300CJAN91, 1. HQ, ARCENT, SUPCOM (Prov) LOGSITREP D+14 day 302300JAN91, 1. HQ, ARCENT, SUPCOM LOGSITREP D+30 152300FEB91, 1. Projection in December is in HQ, ARCENT, Command Group, briefing titled, "Sec Def Brief" (handwritten, no title slide), 15 December 1990, slide titled, "HET Status." These appear to be slides prepared for the commanding general to use during briefing the secretary of defense and chairman on 20 December. Numbers were soft as reference to December SITREPS will show.
30. Appendix R to Department of Defense, Office of the Secretary of Defense, Conduct of the Persian Gulf Conflict; A Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991 (Public Law 102-25), January 1992 Final Coordinating Draft, R-G-64, lists total shipped. On 24 February, there were only 761 reported in theater. HQ, ARCENT, SUPCOM LOGSITREP D+39, 242300FEB91, 1.
31. Message, 072359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//, MSGID/SITREP/USARCENT MAIN G3// PERID/062400/TO:072400Z/ASOF:072400Z, 13. Paragraph 7 read: Our greatest need is transportation to move armored/mechanized forces great distances. HETs and like transportation is considered an integral and vital part of the force to be moved. It is not an add on. If adequate transportation is not shipped with the force, then the force will not be able to get to their tactical assembly areas on time. On Materiel Handling Equipment, see HQ, 22d Support Command, briefing titled, "Theater Logistics Concept," dated 27 December 1990, transcript, 4-5.
32. Lieutenant Colonel Mike Kendall, General Yeosock's XO, to author. HQ, ARCENT, Command Group, Memorandum for Record, Subject: (XO's) Daily Memo, 5 January 1991, dated 5 January 1991 and HQ, ARCENT, Command Group, Memorandum for Record, Subject: (XO's) Daily Memo, 16 January 1991, dated 16 January 1991. Daily Memos will be retired to the Army Military History Institute with General Yeosock's personal papers.
33. Message, 260300Z JAN 91, FM COMUSARCENT MAIN//DT//, M S G I D / S I T R E P / U S A R C E N T / D + 9 / J A N // , PERID/250300Z/TO:260300Z/ASOF:260300Z, 9.
34. The drivers issue was raised in 2 December ARCENT SITREP, Message, 022359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//, MSGID/SITREP/USARCENT MAIN G3//PERID/302400Z/TO:012400Z/ASOF:012400Z, 13-14. See also, HQ, 22d Support Command, briefing titled, "Theater Logistics Concept," dated 27 December 1990, transcript, 17-18. HQ, 10th Personnel Command Command Report, Operation Desert Shield, 23 August 1990 to 16 January 1991, 19-20. General Yeosock tracked

influx of drivers in his morning briefings in late January and February, not without some confusion as to whether requirement was for 3,444, 4,000, or 7,444. The problem resulted from the fact that the second increment (4,000) was worked directly by COMUSARCENT and the vice chief to the bewilderment of their respective staff bookkeepers who finally ended up keeping two sets of books on both increments until the first was completely filled.

35. There were in fact two separate requests, one for 3,444 and one for 4,000, the latter made by General Yeosock in conversation with General Sullivan. It would appear that the first increment of 3,444 was received by 7 February and that 2,052 of the second increment of 4,000 would have arrived by 24 February to total 5,496. See slides titled, "Drivers Update in HQ, ARCENT, G3, ARCENT Morning Briefing, Saturday, 2 February 1991 (D+16)" and "HQ, ARCENT, G3, ARCENT Morning Briefing, Saturday, 23 February 1991 (D+37)." On 12 January, as the 15 January UN deadline approached, General Frix noted to General Taylor that host-nation drivers were starting to quit in large numbers. HQ, ARCENT, AFRD-DCG (122359Z January 1991), Memorandum for Major General Taylor, ARCENT Rear, Subject: ARCENT Command SITREP as of COB 12 Jan (C+158). After it became apparent that dire predictions about indiscriminate use of chemicals were not likely to prove correct, drivers came back, and, in some cases, even took their trucks into Iraq with the invasion forces.
36. HQ, 3d Battalion, 2d Air Defense Artillery Regiment, Memorandum for Major General Thomas H. Tait, Director Desert Storm Study Project, Subject: Study Project Team Visit. HQ, 702d Transportation Battalion (Provisional), Battalion Operations Diary, Saudi Arabia, 1990-91. The 702d was the Support Command unit responsible for direction of host-nation transportation.
37. HQ, ARCENT G4, ARCENT Morning Briefing Logistics Status slides for 9 February 1991. The stockage objective for the forward bases was five days' food and fuel.
38. HQ, 10th Personnel Command Command Report, Operation Desert Shield, 23 August 1990 to 16 January 1991, 17-29. After-action report implies issue only arose at MAPEX. When Army chief of staff was briefed on 24 December, he was asked for 116 tank crews, 120 Bradley crews, 18 AH-64 crews, and 24 UH-60 crews. HQ, ARCENT, Command Group, Chief of Staff U.S. Army Briefing, Monday, 24 December 1990 (C+139). The author flew to Saudi Arabia with a group of commanders being "repositioned."
39. HQ, ARCENT, Command Group, command briefing titled, "Theater Operations Desert Shield/Desert Storm," dated 15 August 1991, slide titled, "Medical Force Structure-15 Feb 91."
40. HQ, 10th Personnel Command Command Report, Operation Desert Shield, 23 August 1990 to 16 January 1991, 29-1 to 31-7, contains relevant message traffic between chief of staff Army, DCSOPS, and Army MACOMS. Ibid., 17-18, addresses concept in broad terms.
41. In fact, the secretary of the Army was briefed on 14 March that of twenty-one M1A1 battalions requiring force modernization, seventeen had been completed. Eleven of thirteen M2A2/M3A2 Bradley battalions/squadrons were complete. HQ, ARCENT, G3 Force Modernization Branch, briefing titled, "ARCENT Force Modernization,"

- dated 13 March 1991, slides titled, "M1A1" and "M2A2/M3A2." Briefing was given to Secretary of the Army Michael Stone on 14 April.
42. According to the final Title V Report, 1,343 HEMTTs were issued in excess of normal unit allowances. Department of Defense, Office of the Secretary of Defense, Conduct of the Persian Gulf War: Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991 (Public Law 102-25), April 1992, Appendix T, Performance of Selected Weapon Systems, T-159. Numbers come from the ARCENT G3 files briefing slide titled, "Plus-Up HEMTT Distribution (as of 23 February 1991)."
 43. Interview with General Frederick Franks at the Pentagon by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 2.
 44. Lieutenant Colonel Peter Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for Desert Storm," *Military Review* 72 [sic] (January 1992), 4. Lieutenant Colonel Kindsvatter was VII Corps' historian during Operation Desert Storm.
 45. Interview with General Frederick Franks at the Pentagon by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 5-6, 8. Interview with Colonel Stan Cherrie at Fort Leavenworth, Kansas, 19 August 1991, 15.
 46. Ibid. Reforger units were units committed to NATO's General Defense Plan but located in the United States. Each year during the cold war there was an annual exercise to rehearse the return of forces to Germany (Reforger).
 47. Interview with Colonel Stan Cherrie at Fort Leavenworth, Kansas, 19 August 1991, 12-13. Interview of General Franks conducted in the Pentagon, Washington, D.C., by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 5-7.
 48. Two brigades of the 2d Armored served in the Persian Gulf, the 2d Armored Division (Forward) and the "Tiger Brigade." The division itself was in the process of deactivation at Fort Hood, Texas.
 49. Interview of General Franks conducted in the Pentagon, Washington, D.C., by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 5-7. The 1st Infantry Division was configured with three mechanized infantry battalions and six armored battalions. The 24th Infantry Division had five mechanized battalions and four armored battalions; the two U.S. armored divisions had four mechanized battalions and six armored battalions each. HQ, ARCENT, Command Group, command briefing titled, "Theater Operations Desert Shield/Desert Storm," dated 15 August 1991, slides titled, "Warfighting Command and Control VII Corps and XVIII Corps."
 50. HQ, 1st Infantry Division (Forward), Desert Shield/Desert Storm After-Action Report: VII Corps Debarkation and Onward Movement, 30 May 1991.

51. Interview of General Franks conducted in the Pentagon, Washington, D.C., by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 7.
 52. *Ibid.*, 10-11. Pagonis, *Moving Mountains*, 127.
 53. Interview of General Franks, conducted in the Pentagon, Washington, D.C., by the Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, Pennsylvania, on 31 October 1991, 7.
 54. *Ibid.*, 9.
 55. Ports listed by Colonel Cherrie in interview with Colonel Stan Cherrie at Fort Leavenworth, Kansas, 19 August 1991, 22.
 56. HQ, ARCENT, Message, 302359Z NOV 90, FM COMUSARCENT MAIN//AFRD-CS//MSGID/SITREP/USARCENT MAIN
G3//PERID/292400Z/TO:302400Z/ASOF:302400Z, 3-4.
 57. *Ibid.*, 4.
 58. HQ, ARCENT, Command Group, ARCENT UPDATE, C + 115 (30 November 1990), slide titled, "Threat Summary, 30 Nov 90."
 59. HQ, ARCENT, Message, 152359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//MSGID/SITREP/USARCENT MAIN
G3//PERID/142400Z/TO:152400Z/ASOF:152400Z, 4. HQ, ARCENT, Message, 172359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//MSGID/SITREP/USARCENT MAIN
G3//PERID/162400Z/TO:172400Z/ASOF:172400Z, 3, 5.
 60. HQ, ARCENT, Message, 312359Z DEC 90, FM COMUSARCENT MAIN//AFRD-CS//MSGID/SITREP/USARCENT MAIN
G3//PERID/302400Z/TO:312400Z/ASOF:312400Z, 14. HQ, ARCENT, Command Group, ARCENT UPDATE, C + 146 (31 December 1990), slide titled, "Current Situation, 31 Dec 90."
 61. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for Desert Storm," 9-11.
 62. HQ, ARCENT, AFRD-DT (142359Z Jan 91), Memorandum for Major General Taylor, ARCENT Rear, Subject: ARCENT Command SITREP AS OF COB 14 Jan (C + 160).
 63. HQ, ARCENT, Message, 16312359Z JAN 91, FM COMUSARCENT MAIN//AFRD-DT//MSGID/SITREP/USARCENT MAIN
G3//PERID/152400Z/TO:162400Z/ASOF:162400Z, 9.
-

