SECTION F. ALTERNATIVE PATTERNS OF ORGANIZATION AND MANAGEMENT

Midway in the conduct of the study, attention was centered on the formulation of various organizational arrangements that might satisfy the Basic Considerations discussed in the preceding section. For this purpose, a review was conducted of previous studies of Department of the Army organization, the organization of the other Services, and of the British War Office. In addition, the possibility of so-called functional organization was considered. To assist in the phase of the study, a summary of all activities and functions of the Army was compiled for use as a check-list and as a stimulus to consideration of groupings of related activities. Review was made of headquarters and field organizations, separately and together. In all, some six headquarters and eight field organizational possibilities were considered. From this survey, two headquarters patterns, three "logistic" field command patterns, a "combat development" field agency pattern, and three "training" field command patterns, plus the existing pattern in each case, were selected for analysis. Actually, combinations of parts of the several patterns can be made, so the alternatives are more numerous than the above numbers indicate.

In order to facilitate evaluation of alternative patterns, the problem will be subdivided into convenient segments. Ultimately all segments must be considered together, but the span of attention for the whole is so great that it will be expedient first to consider selected areas separately, and then consider the whole. The evaluation will therefore be presented in terms of the following principal segments:

The Secretariat and Army General Staff;
The Special Staff and Headquarters, Department of the Army Operating Agencies:
CONUS Operating Agency and Command Patterns;
Individual and Unit Training;
The Combat Development System;
The Materiel System;
Research and Development.

The two new possibilities described as alternative organizational arrangements for the Secretariat and Army General Staff can be utilized with any of the patterns considered for the field organization. Only one new basic pattern for the special staff and Headquarters operating agencies will be presented, but it is compatible with any of the new patterns which organizationally fit above or below it. The new patterns considered for the "training-doctrine-concepts" area are compatible with each of the new patterns of the "logistic" area.

With these considerations in mind, the various alternatives will be presented for each segment separately. Relationships which must exist between or among segments will be noted, as appropriate. The summary evaluation will concentrate on major features of the various patterns. More detail will be provided in the following section -- Conclusions and Recommendations -- with respect to that pattern considered best suited to the Army's need.

In presenting the various alternatives, names are assigned to the commands or agencies discussed. It should be noted that these names were chosen merely as convenient identifying devices for the purposes of this discussion.

1. The Secretariat and Army General Staff

Three patterns of organization and management have been given consideration for the Secretariat and General Staff. Various parts of each of the patterns could conceivably be put together to form other patterns; and with this thought in mind, it is believed the three patterns provide a basis for consideration of any feasible alternative. In this connection, it is the conclusion of this study that there are no known advantages and many disadvantages in departing from the general staff concept for the Headquarters, Department of the Army, in which Army officers have been grounded from the time they entered the service as enlisted men, cadets, or Reserve component second lieutenants. In fact, it is believed that to depart from this traditional concept would

introduce confusion instead of improvement.

In the presentation which follows, the present organization and practices will be identified as Pattern I, and the other possibilities discussed will be identified as Patterns II and III. Throughout this report, with respect to the total Army and with respect to the various parts examined, the existing situation will be referred to as Pattern I.

Pattern I -- Current Situation

The principal features of the current organization were shown by Figure 1.

The Headquarters, Department of the Army incorporates the now traditional pattern of a military general staff which serves the Secretary, and a Secretariat which is a part of the Administration team.

The strong points of the present organization are:

It is patterned generally after basic staff concepts which have been followed throughout the Army for decades, and hence are well understood by its members. It provides for unified direction from the top, in that the Secretary and the Chief of Staff constitute a single command channel; this feature provides a ready focal point for important decisions. The organization provides for centralized control of certain activities, such as communications and construction services that, by their nature, must be directed from the seat of Government. It accords recognition to some important aspects of the Army's mission that are sensitive to public opinion, such as civil affairs, legislative liaison, public information, National Guard and Army Reserve affairs, and the like. Having so many elements physically consolidated in the Washington area permits considerable use of personal conference as a medium for control and coordination. Internal staff procedures are such as to assure that Army positions have been painstakingly coordinated prior to adoption, and that joint actions are handled accurately and expeditiously.

There are, however, a number of ways in which the present pattern of organization and management falls short of the standard reflected in the Basic Considerations. In particular, the present Headquarters does not provide the degree of clarity and continuity of Army objectives desirable for more effective operation of the Army Establishment; planning and programming are not interrelated to the extent needed; there is not yet adequate provision for the relation of Army programs to Army missions, tasks and end products; provision for General Staff functions related to project management and systems coordination has not yet been made; there are divisive influences in the Army Staff resulting, in part, from the directorate or command responsibilities of General Staff divisions, and, in part, from the limited time available to the Chief of Staff and Vice Chief of Staff for positive coordination of the Army Staff; control of assignments of military personnel is distributed among many agencies; the command directorate responsibilities of some Army Staff agencies conflict with performance of staff responsibilities, and vice versa; overall review and analysis leave a good deal to be desired both with respect to coverage and with respect to independence; employment of outstanding scientists at the top level is extremely limited; there is little integrated utilization of automation for the closely related Army Staff-wide processes of planning, programming, and budgeting; and there is need for more positive and universal acceptance of the practicability and need for continuing improvement of the machinery of management in conjunction with the processes of command. At the Secretariat level, the role of the General Counsel needs to be more clearly defined.

A few specific examples of some of the foregoing problems may be cited. The command function of the Deputy Chief of Staff for Logistics conflicts with his staff functions. The demands of joint actions are so preemptive that internal military planning, training, and related functions do not occupy the strong position they should. The Army Staff is so large, its detailed director-type functions are so dominant, and the time available to the Chief of Staff and Vice Chief of Staff

for its coordination is so limited, that it is not as cohesive and united in effort as is desirable.

Some of the shortcomings of the present Headquarters pattern can be overcome by changes in policies and procedures and by modifications of the structure within the General Staff alone. Other requirements for strengthening would require concurrent changes in the operating agency structure. These features will be brought out subsequently.

Before taking up specific new organizational patterns for the General Staff, one partial alternative (equally applicable to Patterns I, II, or III) will be described. It is the possibility of integrating the Offices of the Secretary of the Army, the Under Secretary, the Assistant Secretaries, and the Office of the Chief of Staff. This entire echelon could be served by one organization, in lieu of the present Administrative Office of the Secretary and the present Secretary of the General Staff. All but the personal staffs of the Assistant Secretaries, the Under Secretary, and the Secretary himself would be eliminated under this arrangement. Such integration could be expected to save personnel and reduce administrative processing time. On the other hand, it would tend to intermingle political and military direction of the Army, risking degradation of the capability of the civilian Secretariat to represent the Army to higher authority, and similarly risking degradation of the responsibility and authority of the Chief of Staff.

General Staff -- Pattern II

The first new pattern to be considered is shown on Figure 2. It differs from the current structure in the following principal respects:

The activities of the present Office of the Deputy Chief of Staff for Military Operations would be distributed between two new offices, one part to handle joint strategy and international affairs, the other to concentrate on the internal Army affairs involving Army plans, programs and systems. The Office of the Deputy Chief of Staff for Strategy and International Affairs would include those elements of the present

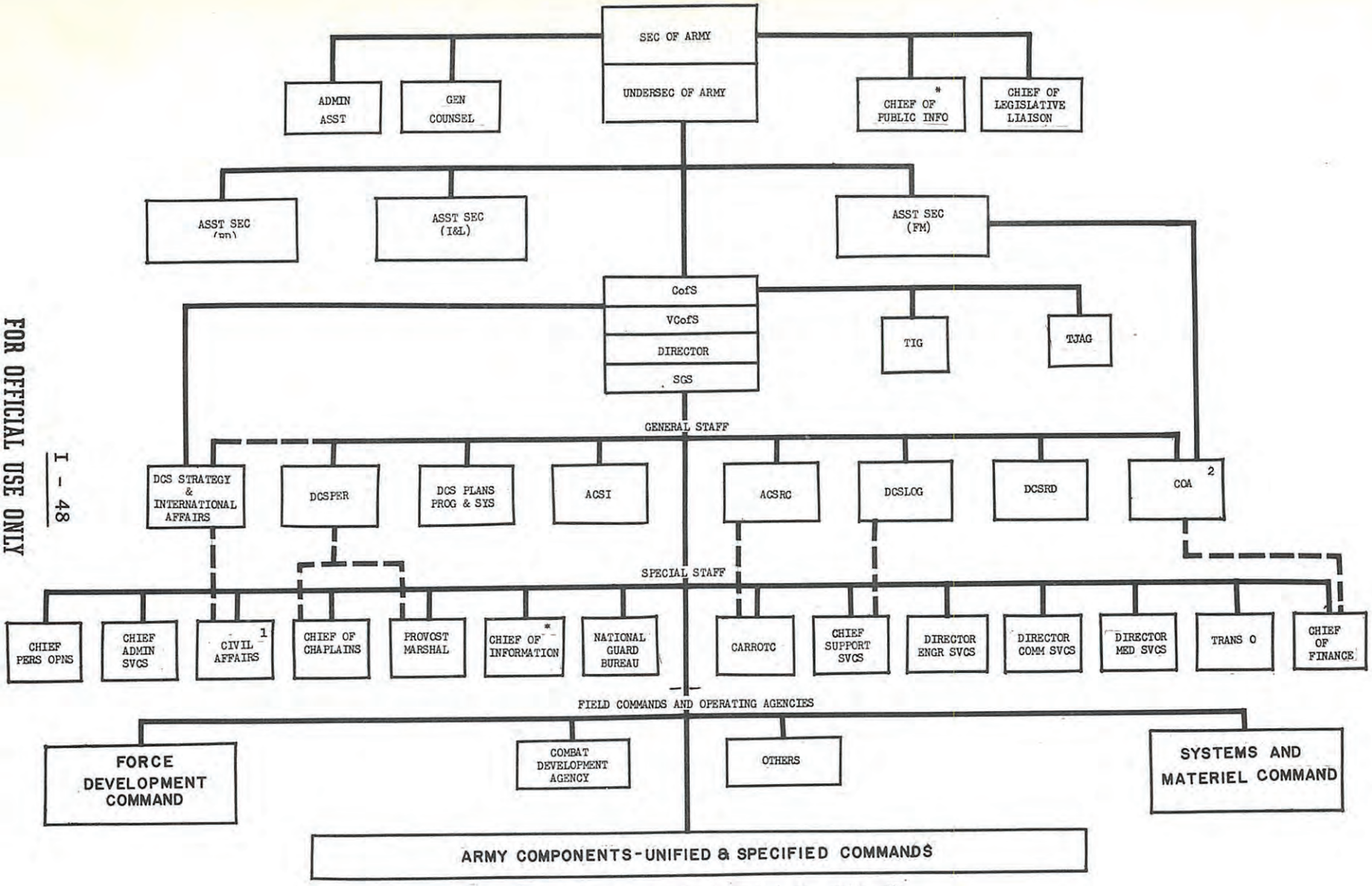


Figure 2. Headquarters, Department of the Army Pattern II

* CHIEF OF PUBLIC INFORMATION ALSO SERVES AS CHIEF OF INFORMATION

1 GENERAL STAFF AGENCY

2 NO CHANGE CONTEMPLATED IN STATUS OF ARMY AUDIT AGENCY

ODCSOPS predominantly engaged in joint actions, plus General Staff officers trained in personnel, intelligence, and logistic matters (not more than four each) and also familiar with joint activities. This Deputy would exercise general coordination of the Office of the Chief of Civil Affairs. The principal reason for this placement of the civil affairs function is that much of the General Staff work in this field has joint implications and also has an inherent affinity with special warfare activities. This Deputy would report directly to the Chief of Staff and Vice Chief. He would coordinate laterally with other General Staff agencies.

The new position of Deputy Chief of Staff for Strategy and International Affairs would carry the responsibility for joint actions. Its head would be the Operations Deputy of the Army in joint activities and international activities such as civil affairs, military assistance program, and cold war.

The Office of the Deputy Chief of Staff for Plans, Programs, and Systems would include the elements of the present ODCSOPS that are predominantly engaged in internal Army, as opposed to joint, activities. These elements would include the bulk of the present Organization and Training, Army Aviation, and Combat Developments Directorates, the Long Range Analysis Group, and the Programs and Budget Directorate (which is mainly concerned with Tactical Forces and Training portions of the O&MA budget, program, and funding). It would also include the programming and control function (including the Programs and Analysis Group), and a new "Systems Management Office." These two additions are designed to associate planning and programming for total Army operations more closely than at present, and to provide through systems management continuing emphasis on the timely completion of selected overall important developments which affect the Army as a whole. The functions of the Systems Management Office, briefly stated, would be to determine what systems and projects should be managed, and to what extent, and to provide the coordination and support needed at the General Staff level, as generally described in the discussion of Basic Consideration Number 5. This arrangement is not intended to replace or duplicate any project or systems management machinery

that might exist in a subordinate command, but rather to supplement the work of such subordinate systems management, and coordinate it with the related activities of other General Staff agencies and between or among field commands.

Another significant feature of this pattern would be the addition of a Director of the Army Staff. It is envisaged that this position would be senior to that of the Deputies. The incumbent would coordinate their activities in relation to one another, not merely relieving the Chief and Vice Chief of this burdensome task but also providing for a degree of coordination not now practical. The duties of this officer would closely approximate those of the chief of staff in the headquarters of a major command, such as CONARC or USAREUR. As conceived, he would not be an additional "layer" between the Deputies and the Chief of Staff, and therefore would not take part in the actions upon which he could not act for the Chief; his principal functions would be to resolve the numerous normal differences that arise. This arrangement is designed to compensate for the overriding demands made on the time of the Chief of Staff and Vice Chief of Staff by the press of duties extraneous to internal Army management. The functions of the present Coordination Group concerned with long range anticipation of the future would fall under the direct supervision of the Director of the Army Staff; current functions of this Group that are essentially secretarial would pass to the direct supervision of the Secretary of the General Staff.

In this pattern, the Chief of Research and Development is retitled Deputy Chief of Staff for Research and Development.

It is envisaged that all General Staff agencies of this and the succeeding pattern would be divested of major operating or command-type functions to the maximum practical extent. Later portions of this section will describe patterns for the special staff and subordinate commands which will permit substantial delegation of operating-type functions.

The pattern currently under discussion has several advantages, viz: The creation of a General Staff agency for Army Plans, Programs, and Systems is addressed to the need for the establishment of realistic objectives and corresponding long term programming, and to the need for increased capability of the Headquarters to define and effectuate Army

purposes. The separation, to the extent practicable, of staff officers from the exercise of command-like functions is addressed to the same objective, and to the need for unity of purpose in the Headquarters, as is the creation of the post of Director of the Army Staff. Responsiveness to the Joint Chiefs of Staff would be enhanced slightly by the establishment of a staff agency having joint affairs as a main interest, freeing the bulk of the staff for responsiveness to the Secretary of Defense and the Secretary of the Army. The Chief of Staff and Vice Chief of Staff would not be harassed with the detailed work of staff coordination, as this task would be assigned to a Director.

This pattern also has some disadvantages. The pattern would interpose an additional individual between Army Staff agency heads and the Chief of Staff. An additional General Staff agency would be created, with attendant increases in the complexity of coordination, particularly as between joint and internal Army planning. The difficulty of coordination could conceivably be increased because of the direct access of the Deputy Chief of Staff for Strategy and International Affairs to the Chief of Staff and Vice Chief of Staff, while other staff officers would be subject to coordination by the Director. The pattern is sufficiently different from the current organization to induce transitional stresses inimical to stability and continuity.

It appears, then, that Pattern II offers definite improvements in the areas identified with the following Basic Considerations: Number 2 (clarity and continuity of Army objectives); Number 3 (integration of planning, programming, and budgeting); Number 4 (programs directly related to missions, tasks, and end products); Number 5 (project or systems management); Number 11 (closely coordinated Army Staff); Number 12 (decentralization of functions and removal of command functions from the Army Staff); and Number 9 (effective relationships with higher authority). As noted above, it would involve substantial change, thus running counter to Basic Consideration Number 23 (stability and continuity).

General Staff -- Pattern III

The second new pattern to be considered is shown on Figure 3. In this one, a Deputy for Joint Plans would be established without a relatively complete staff of his own, who would receive primary staff support from an Assistant Chief of Staff for Joint Actions, and be supported in such joint action functions as intelligence, logistics, and personnel by the offices of the functional Assistant Chiefs of Staff for those areas.

The remaining top-level coordination would be divided between two other Deputies, one for Operations and Readiness and one for Plans and Resources. The former would, in effect, be the focal point for the Department of the Army Headquarters' major missions: the provision of trained and equipped Army forces, support of unified and specified commands, and maintenance of a mobilization and CONUS defense base. The Deputy for Plans and Resources would be responsible for anticipation of future environment and demands, for long range planning and programming, and for related research. As his personal staff, he would have the present Coordination Group, augmented by a small number of highly qualified, scientifically oriented personnel. His general area of responsibility would be the pattern for the Army of the future.

The Systems Management Office, in this pattern, would be placed in support of the three Deputies. As in the case of the other elements of the Staff, it would report to whichever Deputy was handling the matter at hand.

In this pattern, the heads of the principal General Staff agencies are entitled Assistant Chiefs of Staff, in view of the coordinating role played by the three Deputies.

The principal advantage which might be achieved under this pattern is that it would place greater emphasis on long range planning and programming. It may be argued that it would facilitate faster decisions on major problems and correspondingly rapid responsiveness to the Office, Secretary of Defense, but these results are by no means clear or sure.

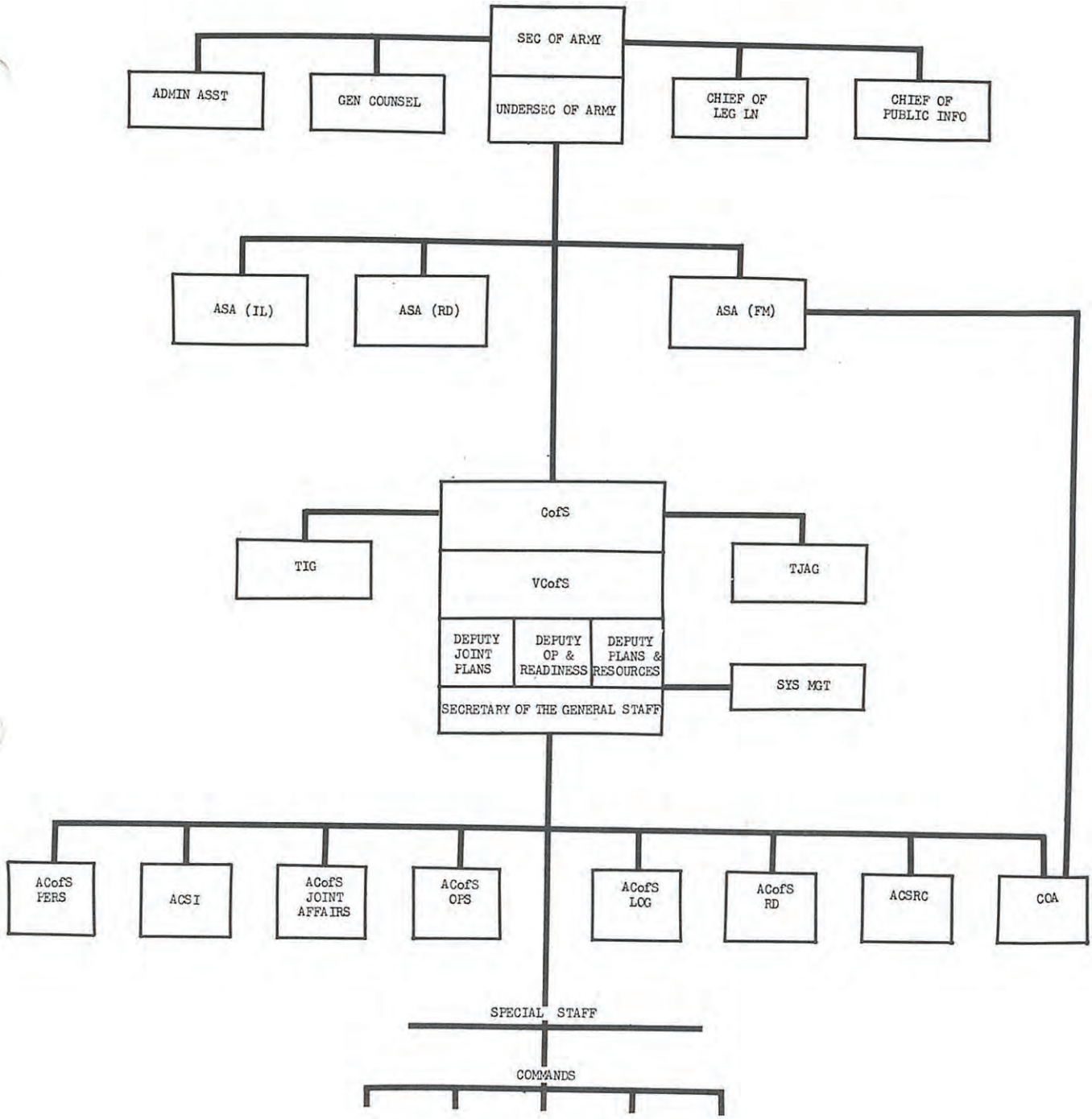


Figure 3. HEADQUARTERS, DEPARTMENT OF THE ARMY PATTERN III

Its disadvantages are: a workable division of responsibilities among the Deputies would be difficult to achieve; it would introduce a new problem of coordination for the Chief of Staff and Vice Chief of Staff which would appear to be more difficult than the present situation; it would introduce an actual layer between the Assistant Chiefs, on one hand, and both the Chief of Staff and the civilian Secretariat on the other, which would hardly be tolerable in practice; it would tend to de-emphasize the personnel, research and development, and logistics offices of the General Staff, and to impede their actions; conflicts generated among the three Deputies would require resolution by the Chief of Staff and Vice Chief of Staff; and it would provide the possibility that the Chief of Staff and Vice Chief of Staff might become insulated.

This pattern offers advantages over either of the other two in meeting Basic Considerations Number 19 (realization of new capabilities in minimum time) and Number 20 (flourishing innovation process); but it conflicts more than either of the other two with Number 23 (stability and continuity).

2. The Special Staff and Headquarters, Department of the Army Operating Agencies

The special staff of the Department of the Army Headquarters is of critical importance in the consideration of any pattern of organization and management other than the present. This group of agencies is by no means homogeneous, but includes some which are primarily staff in nature and a much greater number which are primarily operating agencies, some of them very large and complex. The technical and administrative services are the dominant Department of the Army operating agencies at this time.

Pattern I -- The Current Organization

At the present time, the special staff consists of six groups of agencies, as follows (see Figure 1):

Three which report to the Deputy Chief of Staff for Personnel, namely, those headed by The Adjutant General, the Chief of Chaplains,

and The Provost Marshal General;

Seven which report to the Deputy Chief of Staff for Logistics (and to the Chief of Research and Development for appropriate matters), namely, those headed by The Surgeon General, the Chief of Ordnance, the Chief of Engineers, the Quartermaster General, the Chief of Transportation, the Chief Signal Officer, and the Chief Chemical Officer;

One which reports to the Deputy Chief of Staff for Military Operations, namely, that of the Chief of Military History;

One which reports to the Comptroller of the Army, namely, that of the Chief of Finance;

One which reports to the Assistant Chief of Staff, Reserve Components, namely, that of the Chief, US Army Reserve and ROTC Affairs; and

Four which report to the Chief of Staff, namely, those of the Chief, National Guard Bureau, The Judge Advocate General, The Inspector General, and the Chief of Information.

With the present overall pattern of organization of the Department of the Army, this arrangement of special staff agencies is considered to be generally suitable. All these services are needed and the arrangement provides for their supervision and coordination as required.

One major change appears to be warranted in any case. The Chief Signal Officer should have concurrent responsibility directly to the Chief of Staff with respect to the functions of Headquarters communications, in a manner generally comparable to the role and relationship of a signal officer in a major tactical command. The discharge of this responsibility should be provided for by appropriate internal arrangement of the Office of the Chief Signal Officer.

If the present pattern of operating agencies is retained, it is concluded that, with the exception noted above (and other minor ones not suitable for presentation in a report of this scope), the current arrangement of the special staff is well suited to the present overall Army organization pattern.

Special Staff -- Pattern II

Any major changes of the overall pattern of organization of the Department of the Army, such as those considered subsequently in this section, would require a material change in the organization of the special staff. Only one basic pattern is presented as being appropriate for the purpose (see Figure 2).

A key feature of any of the alternative patterns of organization of operating activities of the Army would be the consolidated control of military personnel. Provision for control of military personnel through one office would make it practical to utilize military personnel more fully in accord with their capabilities to the benefit of the Army as a whole, to consolidate training, and to have a fully integrated materiel system. Accordingly, one element of Pattern II for the special staff is an Office of Personnel Operations (OPO), which would handle the assignment and personnel management of all military personnel of the Army who can and should be utilized broadly throughout all Army operating agencies. The exceptions would be the Army Medical Service, The Judge Advocate General's Corps, and the Chaplains, each of which would continue to handle its own officer personnel. The OPO would be staffed with representative personnel from all the arms and services. It would handle certain civilian personnel operating functions, but these are not critical to other considerations. This agency would also assume the personnel services function now handled by The Adjutant General. The establishment of this agency would serve to satisfy Basic Consideration Number 14 (improved personnel management).

Three principal agencies would be required to provide Army-wide services of a technical nature. These are the agencies headed by the Director of Engineering Services, the Director of Communications Services, and the Director of Medical Services.

The Director of Engineering Services would be responsible for military construction, civil works, real estate acquisition and disposal, and Army mapping services. His organization would be worldwide and

would comprise approximately 47,000 individuals, mostly civilians. In addition, the Director of Engineering Services would provide staff supervision for real property management, including fire prevention and fire fighting, and repairs and utilities.

The Director of Communications Services would provide overall direction of long-haul command and control communications systems, the Alaska Communication System, the White House Army Signal Agency, and photographic and pictorial services. In addition, the Director would provide staff communications service and expert advice relative to communications, cryptology, and electronic warfare.

The Director of Medical Services (The Surgeon General) would continue to operate the General Hospitals and control the Class II facilities presently assigned to The Surgeon General. The Surgeon General, The Judge Advocate General, and the Chief of Chaplains would be the only special staff officers to retain control of the officer personnel administration of their corps, and to provide certain training.

Two principal agencies would be required to provide Army-wide services of a somewhat less technical nature. These are the agencies headed by the Chief of Administrative Services and the Chief of Support Services.

The Chief of Administrative Services would provide the services currently provided by The Adjutant General, less his personnel management, training, and doctrinal development responsibilities. Services retained would include printing and publications and various administrative services for the Headquarters. His office would also assume the inherently closely-related functions of military history and heraldry.

The Chief of Support Services would supervise certain areas of service activity, including food services, commissary operations, laundry services, and graves registration.

The Chief of Finance would continue to provide the Army-wide allotment and retired-pay service, financial control of military pay, payment of transportation bills, maintenance of soldiers' deposit accounts, and settlement of military and civilian claims for and against the Government.

The special staff agencies noted above would perform Army-wide service functions and would also perform, within their particular service-type areas, the classic special staff functions of furnishing expert advice to the commander and providing staff supervision for the functional areas. The remaining special staff agencies would perform only special staff functions as opposed to service-type functions. These agencies include those of the Chief of Chaplains, The Provost Marshal General, the Chief of Information, the Chief, National Guard Bureau, the Chief, US Army Reserve and ROTC Affairs, the Chief of Transportation, The Judge Advocate General, and The Inspector General. As will be brought out later in the report, the Offices of the Chief Chemical Officer and Chief of Ordnance would be no longer required, since most of their current functions (personnel, training, and materiel logistics) would be assumed by new agencies. The Chief Chemical Officer's planning and doctrinal development functions would be absorbed in the appropriate General Staff agencies.

The most important difference between the pattern of special staff and Department of the Army operating agencies depicted here and the existing one is that personnel management would be consolidated, and all materiel logistics and nearly all training activities would be delegated to major CONUS commands. Such a transfer of functions from the chiefs of the technical and administrative services does not envisage the elimination of their branches. These branches would then have much the same status as the infantry, armor, and artillery branches.

The principal option to be considered here is whether the special staff agencies should be assigned to particular General Staff agencies for supervision and control, as is now done, or should be directly subordinate to the Office of the Chief of Staff and equally available to whatever General Staff agency might be concerned with a specific matter at hand. The former course facilitates control and coordination, while the latter facilitates speed and flexibility and inhibits excessive compartmentalization.

The chart (Figure 2) illustrates a desirable solution, which allows all special staff agencies free and uninhibited access to all General Staff agencies, but which relates five of them to particular General Staff agencies for purposes of information flow and coordination of programs and policies.

As stated earlier, the suitability of this pattern of the special staff is dependent on the pattern adopted for training and materiel logistics.

This special staff pattern offers significant improvements in the areas of Basic Considerations Number 12 (decentralization of functions), Number 13 (balanced status of Army-wide services), and Number 14 (improved personnel management), but conflicts with Number 23 (stability and continuity).

3. CONUS Operating Agency and Command Patterns

The purpose of this subsection is to provide a summary statement of the total operating activities in the CONUS area and to indicate some of the principal questions that will need to be dealt with in considering alternative patterns for these activities. The principal tasks being performed by the Army outside the Washington area will be identified below, prior to discussion of the alternative patterns (including the current one) for CONUS operating activities. The Army components of unified commands are considered only to the extent that these forces and elements depend upon the Department of the Army for combat doctrine and administrative, logistic, and budgetary support.

Army-wide services other than materiel logistics. These comprise the service-type functions -- engineering, communications, medical and others -- mentioned previously in the discussion of the special staff. They include a wide variety of services, ranging from construction of new facilities to the payment of allotments and retired pay. It is envisioned that under either Pattern I or Pattern II for the special staff, these Army-wide services would continue to be performed basically as at present. Because of their nature and scope, these services are not suited for delegation to subordinate commands. Therefore, they will not be discussed further in this portion of the report.

The remaining principal Army tasks (exclusive of Army components of unified commands) performed outside the Washington area fall into these broad categories:

Individual training - including processing, formal training, and education.

Unit training - including that of both active and Reserve components, as well as the less formal training of individuals conducted within units.

Combat developments - the formulation of new tactical and organizational concepts, and of qualitative materiel requirements.

Materiel logistics - the development, production, procurement, distribution, and maintenance of the armament, equipment, and supplies needed for the Army.

Research - including basic and applied research, human factors research, and operations research.

These tasks involve responsibilities, functions and activities that might be suited for delegation to subordinate commands or other agencies.

Obviously, the elements required to perform the above listed functions could be grouped in many different ways, but upon examination and comparison with the Basic Considerations, particularly Number 1 (adaptability to both peace and war), Number 15 (consolidation of training responsibility), and Number 21 (closely-linked materiel pattern); it becomes clear that the really major issues involved in alternatives to the current pattern are primarily these:

Should all individual training be combined, and should all unit training be combined?

Should individual and unit training be combined in one command, or should they be separate?

Where and how should the combat development function be assigned?

Should the research and development phase be separated from the procurement and supply phases?

Should the materiel logistics function be divided otherwise, and if so, how?

4. Individual and Unit Training

In this part are presented alternative patterns for the conduct of individual and unit training, and related functions. For purposes of this discussion, the individual training function includes personnel processing, formal individual training and education, and the preparation of current doctrine -- in brief, the tasks now performed by schools, training centers, and personnel processing agencies which handle recruiting, induction and examining, reception, separation, etc. The unit training function includes the organization, training, and support of all field forces, both Active Army and Reserve components. Other related activities which will be considered in conjunction with training are civil defense, CONUS ground defense, control of domestic disturbances, and disaster relief.

The overall training task is a tremendous one, involving dozens of large installations and hundreds of thousands of troops. Related tasks, such as support to civil defense, supervision of Reserve components, disaster relief, and military aid to civil authority, require a territorial command structure. The requirements for proper direction and control of this complex but related group of activities are extensive and call for headquarters especially designed for the purpose. The concept of directing these functions from the Headquarters, Department of the Army level is implicit in the proposal sometimes advanced to "do away with CONARC and/or the ZI armies," but the requirements of direct command of CONUS forces and those of Departmental responsibilities are essentially different, and cannot be performed satisfactorily by a single headquarters. The increase in size and dual orientation would detract from the capability of the General Staff to do its primary job.

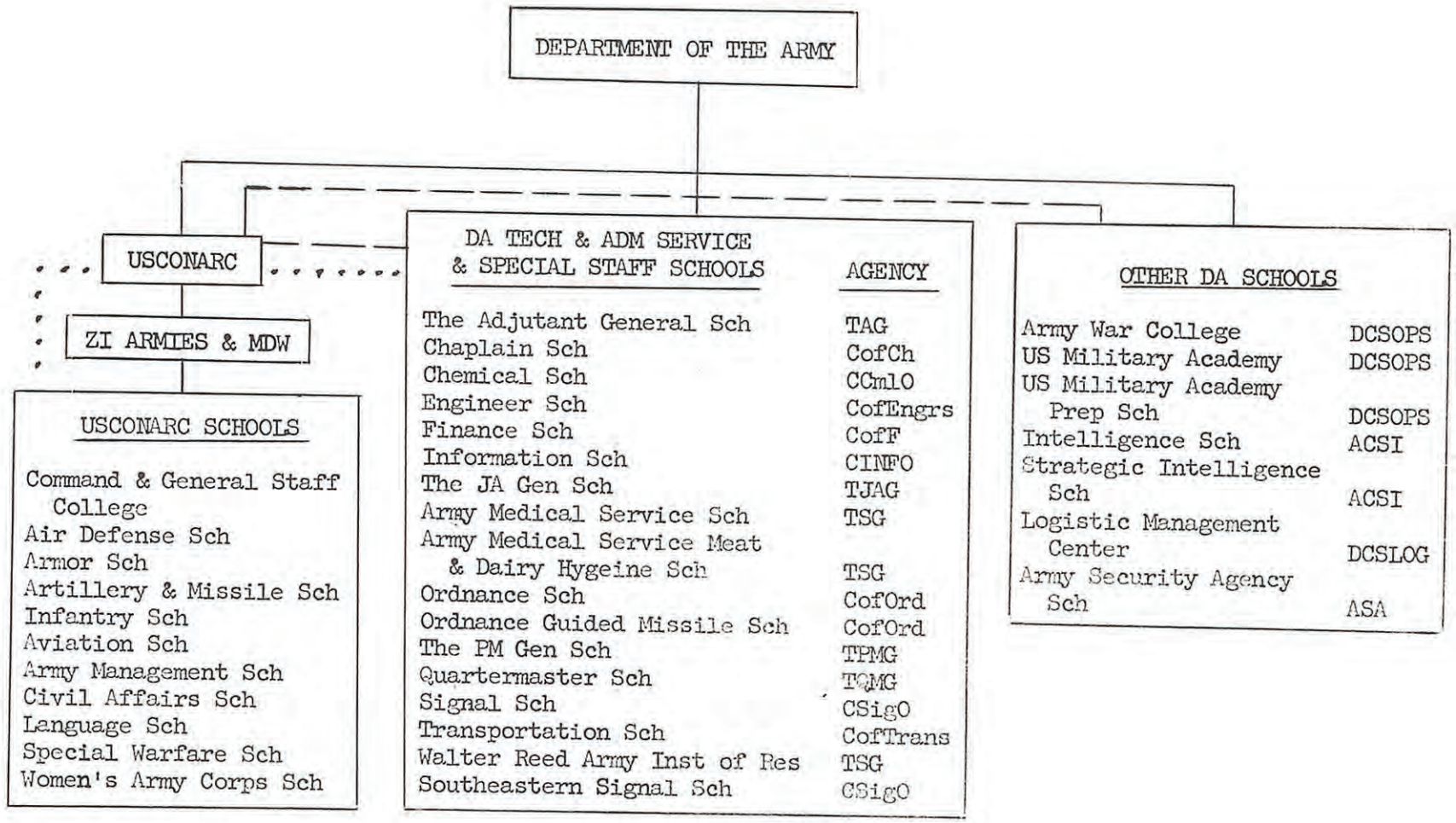
For this reason, this concept was eliminated from further consideration.

Under any command structure considered, it is contemplated that the job of formulating current doctrine and drafting Tables of Organization and Equipment, as distinguished from the longer-range combat development function, would remain an integral part of the Army school system. Thus, the schools would retain the prerogative of formulating what they teach--subject, of course, to necessary supervision and coordination. This arrangement is in accord with long-standing Army practice, as well as civilian academic practice; no reason is seen to change it. There is a problem of definition: how far into the future can doctrine go and still be considered current, and hence not a portion of combat development? In actual practice, the problem of definition is simpler than it might appear. Once a tactical concept has been approved for dissemination to the field as authoritative, it becomes current doctrine and is expanded into the required training literature. Experience indicates that, in most cases, three to five years into the future is as far as such doctrine needs to go.

Pattern I -- Current Situation

The present pattern for the performance of the tasks identified above is a complex one, consisting of the USCONARC structure, plus seven technical and five administrative services, all of which operate their own schools and some of which operate their own training centers.

The USCONARC schools shown in the left hand block on Figure 4 are supervised, for school matters, directly from Headquarters, USCONARC. This supervision includes control of curricula, doctrine development, student input, and instruction in general. In all other respects, the USCONARC schools, and the installations which they occupy, are controlled by the ZI Army commanders in whose areas they are located. The individual training establishments of the technical and administrative services, shown in the center block on Figure 4, are mostly located on Class II installations and are commanded by their respective service



————Command to include funding.
. . . . . Directs and controls curricular, instruction, student input and development of doctrine.
— — — Advises on standards for instructional methods, facilities and faculty. Reviews curricula with a view to elimination of undesirable overlap between schools and between courses of instruction (excluding USMA).

Figure 4. Responsibilities for the Army School System

chiefs. The Commanding General, USCONARC, as Director of the Army School System, is charged with control of curricula, doctrine development, student input, and instruction in these schools of the services. However, this responsibility is not reinforced by command authority, including control of resources. The Commanding General, USCONARC also has a very general responsibility (principally to prevent duplication) toward the other Department of the Army schools shown in the right hand block on Figure 4.

The principal advantage of the present pattern is that it functions well in terms of the quality of the product. The main reason for this high quality seems to be expert supervision. The combat arms schools and the Command and General Staff College are supervised by the Commanding General, USCONARC, who has always been an officer with an extensive background in tactical operations. The schools of the technical and administrative services and the other Department of the Army agencies are likewise supervised by officers with extensive backgrounds in the general subject matter taught in the schools. The chiefs of services are currently responsible for the overall efficiency of the personnel of their corps, and the control of their respective schools is an important tool for discharging this responsibility. The same consideration applies to the heads of other Department of the Army agencies which operate their own schools.

The disadvantages of the current pattern are:

The present training arrangement makes it impossible for the Headquarters, Department of the Army to divest itself of operating-type functions; it prevents consolidation of training responsibility; it makes difficult the coordination of doctrine; it hinders development of homogeneity in the Army; it leads to some duplication of courses and facilities; it sometimes introduces complications and delays when costly and scarce or unique items are the basis for training (a condition which may be expected in the future to be more, rather than less common);

and it complicates the distribution of trained specialists. Although supervisory expertness is provided, this expertness tends to have a relatively narrow focus. The present system conflicts with Basic Considerations Number 15 (consolidated training system) and Number 12 (decentralization of operations).

The only way to overcome the disadvantages listed above appears to be to consolidate the training function in one or more subordinate commands. The further question, then, would be whether unit and individual training should be handled by the same or separate commands, and what would constitute a suitable subordinate command structure.

In devising new patterns for this purpose, two basic factors were borne in mind:

(1) A Unit Training Command, which would have, among other responsibilities, that for the Reserve component elements, would necessarily have to include the territorial command structure, i.e., the existing US Army Corps and ZI Armies, or whatever echelons might replace them. The responsibilities of this command would include, in addition to training, administrative and logistical support for CONUS based Army components of the unified commands, relations with the public (which are extensive and demanding), such civil defense duties as may be assigned, disaster relief, control of domestic disturbances, planning for CONUS ground defense, as directed, assistance to the Reserve components, and installation support. Implementing details of the establishment of a unified command encompassing certain "ready" Army and Air Force units (STRAC - TAC) in CONUS remain to be developed. It appears, however, that the establishment of this command will not, by itself significantly reduce the unit training load of the CONUS Army structure below current levels, because additional Army units are being newly created or ordered to active duty. It appears that because of the increase in size and readiness of the Army as a whole the individual training and education load will expand, as will the support provided to unified commands.

(2) An Individual Training Command would contain a good deal more than the schools and training centers currently under CG, USCONARC, since it would embrace the schools and training centers which are presently controlled by the chiefs of the seven technical services and five administrative services (with supervision of curriculum by CG, USCONARC), plus a few others. There would no doubt have to be some exceptions to this coverage, e.g., certain aspects of medical training, wholesale materiel logistics training, and non-military training.

With these two points in mind, three new organizational patterns for the training function were devised.

Pattern II

The pattern shown on Figure 5 amounts to a simple extension of the present USCONARC Class I pattern to include the schools and training centers currently under the chiefs of the technical and administrative services and other Department of the Army agencies. This arrangement would permit close coordination of school matters at the "Force Development Command" level, while concurrently providing a clear and unbroken chain of command for all other matters. It would have the advantage of being familiar to the present USCONARC schools and training centers and to command and staff personnel of the present Class I system, thus tending to satisfy Basic Consideration Number 23 (stability and continuity). The principal disadvantage is that the enlarged individual training function, especially that of the technical and administrative service schools, could not be discharged to the best advantage and would become submerged in a large headquarters concerned with other demanding problems such as those of unit training, Reserve component administration, and installation support problems. Furthermore, the individual training function would not be truly consolidated, in that schools would be handled in one command and training centers in another. Thus, it would not fully satisfy Basic Consideration Number 15 (consolidated training system).

Pattern III

Figure 6 shows a pattern designed to overcome the above disadvantages by providing an Individual Training Command and a Force Development

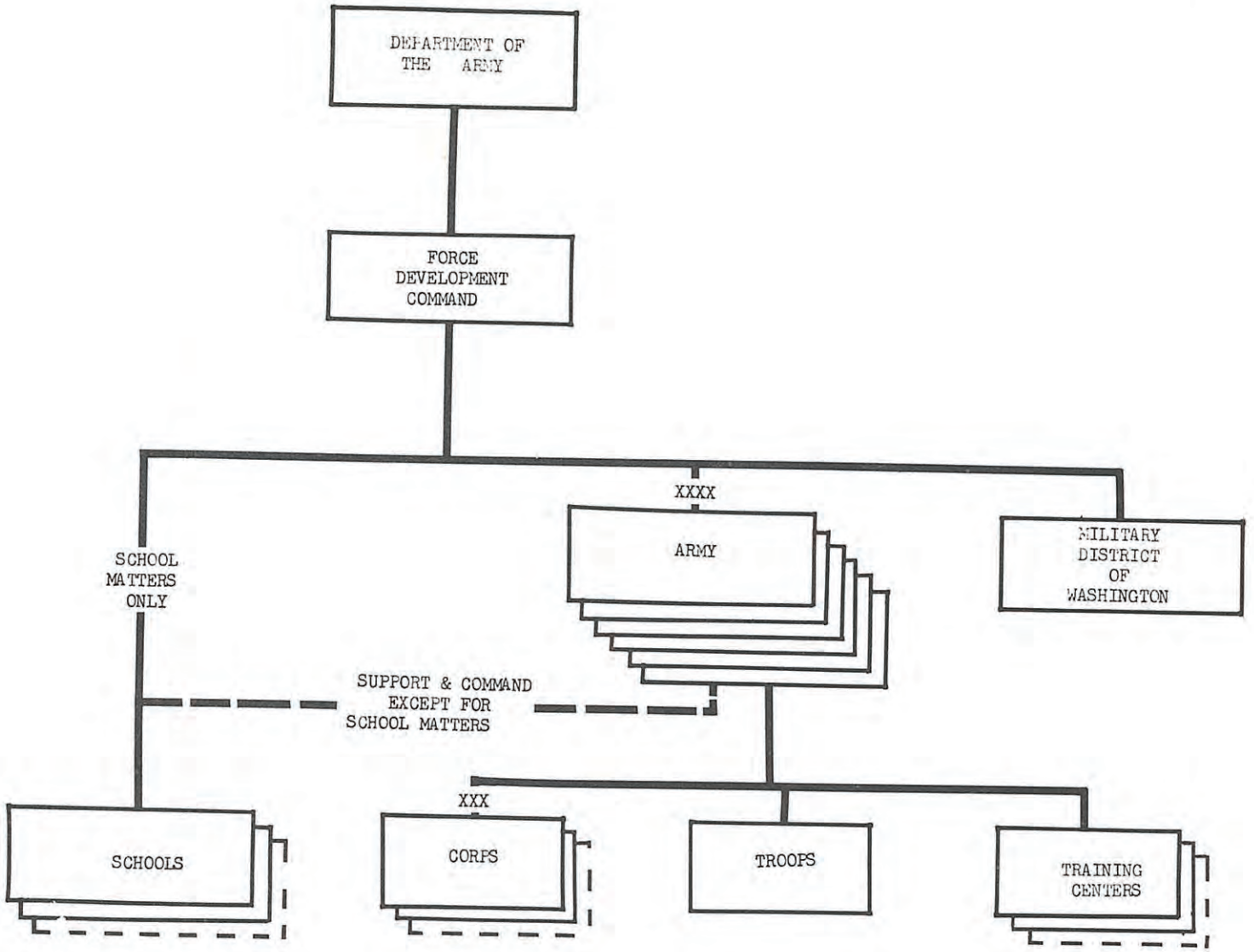


Figure 5 CONCEPT OF ORGANIZATION, FORCE DEVELOPMENT COMMAND, PATTERN II.

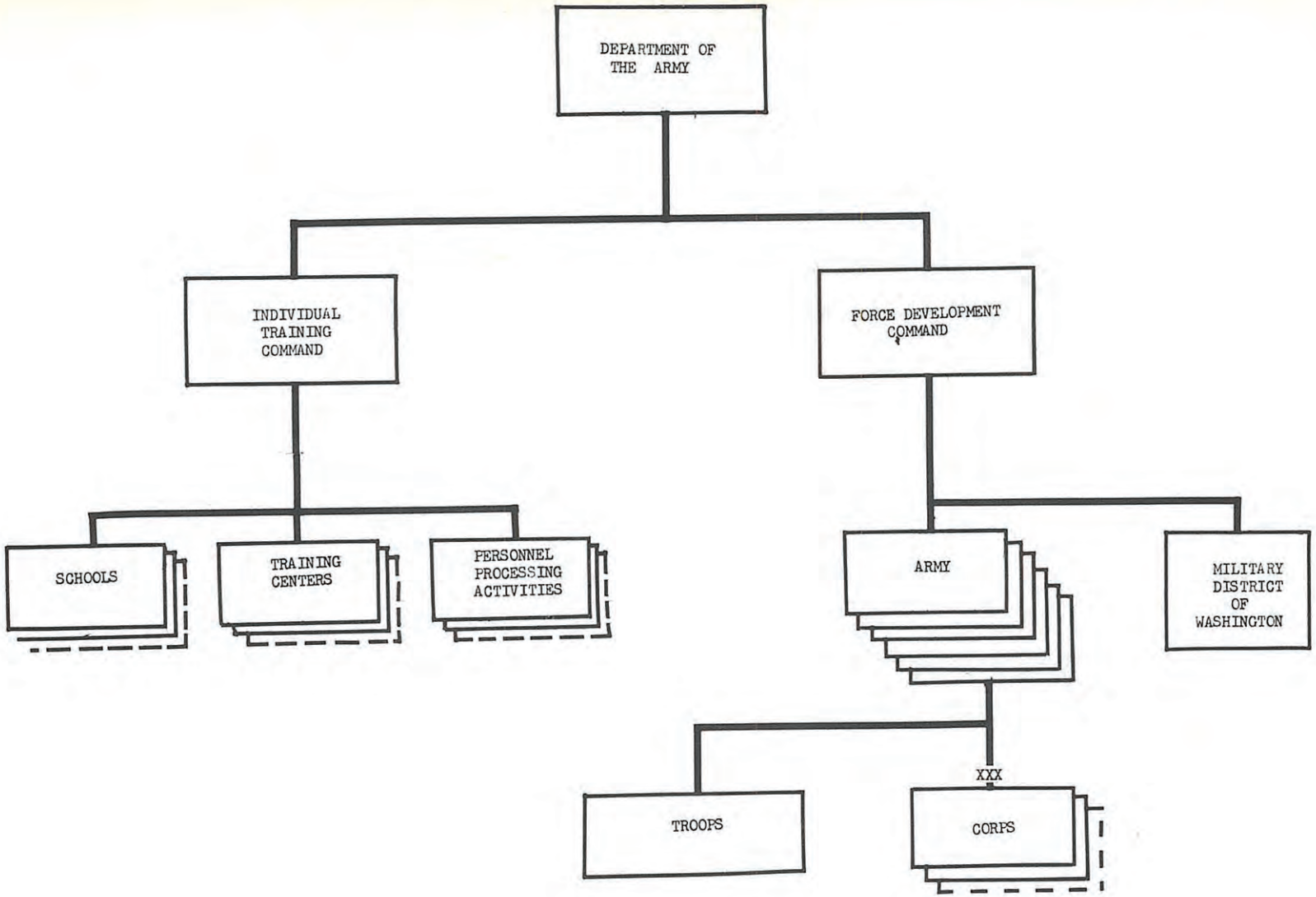


Figure 6 CONCEPT OF ORGANIZATION, FORCE DEVELOPMENT COMMAND, PATTERN III.

Command -- the latter for unit training -- each reporting directly to the Headquarters, Department of the Army. Under this arrangement, all installations on which the principal activity is either a school or a training center would come under the Individual Training Command, while installations occupied predominantly by combat or combat support units would come under the Force Development Command. Personnel processing agencies would be assigned to the Individual Training Command.

This command arrangement has several advantages:

It would provide one commander directly responsible to the Headquarters, Department of the Army for all processing and training of individuals, and enable him to concentrate on this task by freeing him of unit training, Reserve component administration, and area command responsibilities. His headquarters could be specifically and adequately organized and staffed in keeping with the magnitude, scope, and complexity of the tasks to be accomplished. It would make the output of the training establishment more responsive to the requirements of the Office of Personnel Operations of the Headquarters, Department of the Army (which would have primary responsibility for making trained individuals available worldwide).

Its disadvantages are that:

It would require two separate headquarters concerned with training; would put a disproportionate share of the large installations of the Army under one commander i.e., that of the Individual Training Command, who would have no direct responsibility for the unit training (both active and Reserve components) conducted on them; it would complicate funding, since funds would come to most large installations through separate channels; it might lead to over-supervision of the individual training establishment by the Headquarters, Department of the Army; and it would require considerable detailed coordination of unit and individual training matters by the Army Staff, thus failing to satisfy Basic Consideration Number 12 (decentralization of functions). Also, the heavy installation responsibility carried by the Commanding General of the Individual Training Command might divert his attention to an undesirable degree from training matters.

Pattern IV

Figure 7 shows a structure which combines individual and unit training in a Force Development Command, with an Individual Training Command subordinate to it. Under this concept, installations would be commanded by the ZI Armies with personnel processing agencies, schools, and training centers in a tenant status. This arrangement has practically all the advantages of the preceding two concepts with few of the disadvantages. Of particular note is the advantage afforded by provision of the individual training command headquarters. This pattern would permit the Commanding General of the Individual Training Command to concentrate on his primary mission of developing and supervising individual training as an integrated system. This pattern serves better than the others to meet Basic Consideration Number 15 (consolidated training system).

The principal disadvantage of this arrangement is that it would require two headquarters. Also, the Individual Training Command would be dependent on the ZI Armies for administrative and logistical support.

There is, of course, an alternative for installation support, that of creating some sort of service or housekeeping command which would run all installations, thereby freeing tenant commanders to concentrate on their primary missions. This arrangement would also facilitate accurate funding of support costs and would tend to equalize support by facilitating the shift of resources from one installation to another. Its principal disadvantages are that it would involve still another major headquarters (or perhaps a number); would almost certainly result in a greater portion of resources being consumed in overhead and support activities; would introduce additional problems of coordination; would decrease local flexibility in the use of available resources, as between mission and support purposes; and would promote differences between local commanders. For those reasons, this alternative was dropped from consideration.

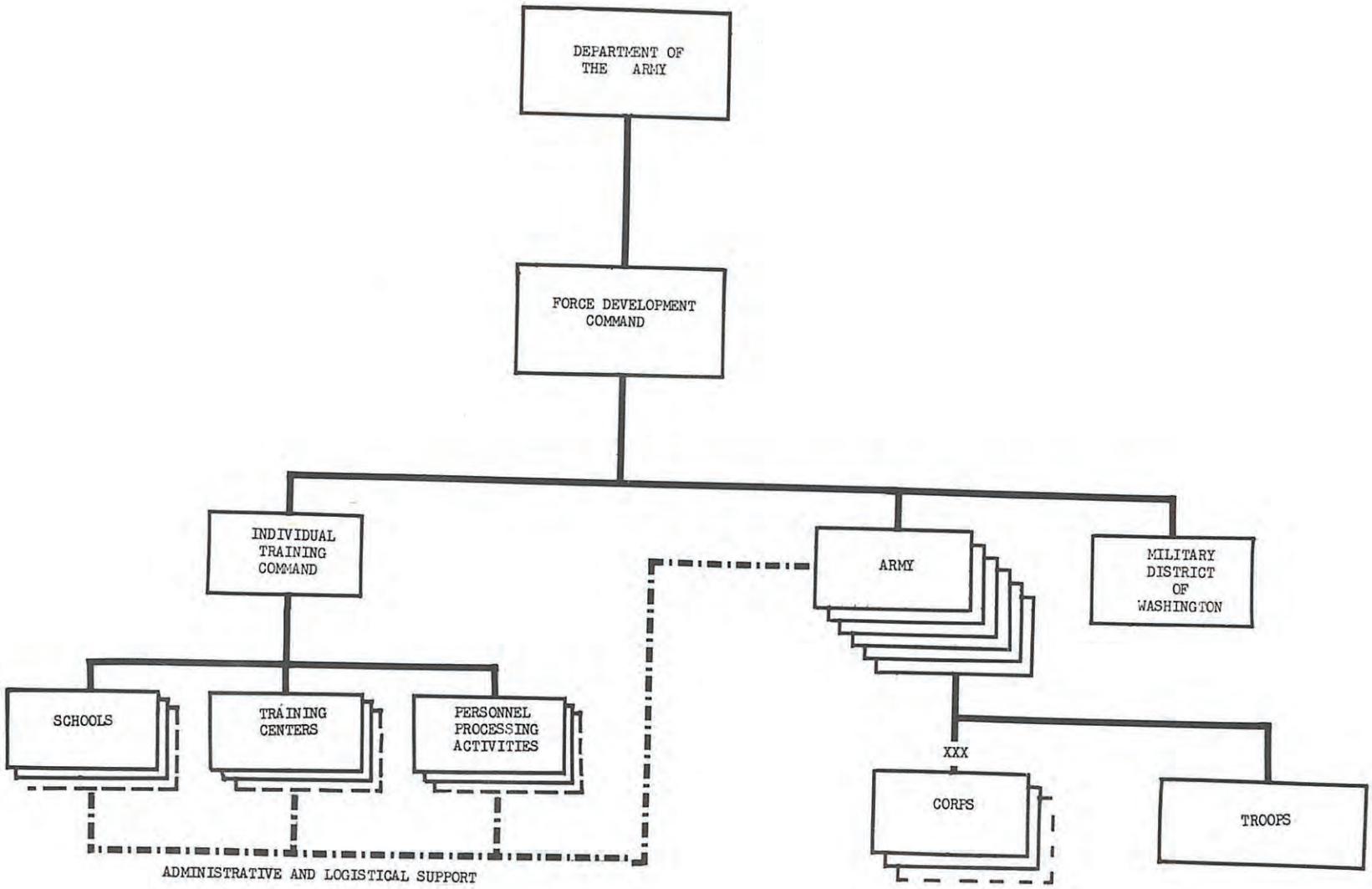


Figure 7. CONCEPT OF ORGANIZATION, FORCE DEVELOPMENT COMMAND, PATTERN IV

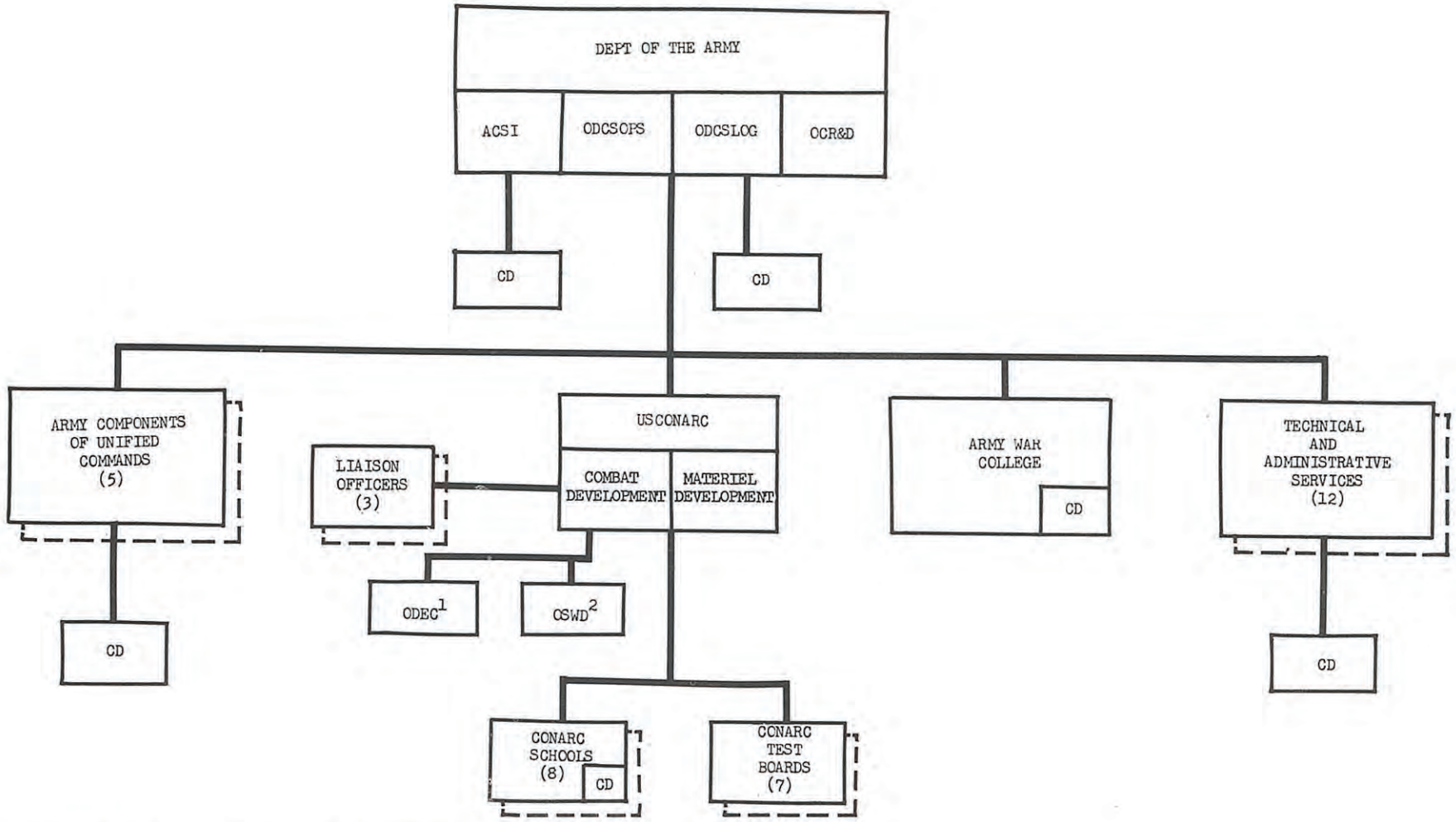
5. The Combat Development System

The broad definition of this function is "the research, development, and early integration into the Army of new doctrine, new organization, and new materiel to obtain the greatest combat effectiveness using the minimum of men, money, and material." This section will deal only with the formulation of objectives (organizational, operational, and materiel), the formulation and testing, as appropriate, of new organizational and operational concepts, the establishment of qualitative materiel requirements, and the related task of service tests of new equipment. Other aspects of the broadly defined combat developments function are treated elsewhere in this report.

Pattern I -- Current Situation

The present combat development system (see Figure 8) was superimposed upon an existing Army structure. It embodies a relatively conservative and careful approach to the problem of introducing new concepts and weapons into the Army. It includes 11 USCONARC combat development agencies, 14 DA agencies, and the Army components of five unified commands. The related materiel service test function is exercised through seven USCONARC Boards. The seven technical and five administrative services shown on the chart do not provide for their combat development functions in a uniform manner. Some use agencies which form part of their schools; some use boards (not similar to the USCONARC test boards) co-located with their schools but responsible directly to the service chief; some use agencies within the chief's office. The Commanding General, USCONARC is responsible for coordinating the entire complex, while DCSOPS, DCSLOG, and CRD provide general staff coordination at the Headquarters, Department of the Army level.

This current arrangement was deliberately designed with the purpose of forcing qualitative characteristics of materiel to be responsive to user viewpoints. A representative of the user develops the qualitative materiel requirements, and tests the new item to judge whether it meets user



NOTE: THIS CHART SHOWS COMMAND LINES. ALL CD AGENCIES SHOWN ARE AUTHORIZED DIRECT COMMUNICATION WITH EACH OTHER ON COMBAT DEVELOPMENT MATTERS.

1 CDEC - COMBAT DEVELOPMENT EXPERIMENTATION CENTER

2 CSWD - OFFICE, SPECIAL WEAPONS DEVELOPMENT

Figure 8. EXISTING PATTERN FOR COMBAT DEVELOPMENT AND SERVICE TEST

requirements in the opinion of the representative. The arrangement reflects an understanding that there is a basic difference of viewpoint within the Army between combat arms and service elements. The current system also makes use of the body of knowledge and experience that exists within the school system.

However, a review of the Basic Considerations, particularly Number 19 (rapid realization of new capabilities), indicates that the arrangement has certain serious faults:

--Because of its fragmentation, the system is very loosely coordinated, slow, and cumbersome, and it is difficult to fix responsibility for timely and positive action.

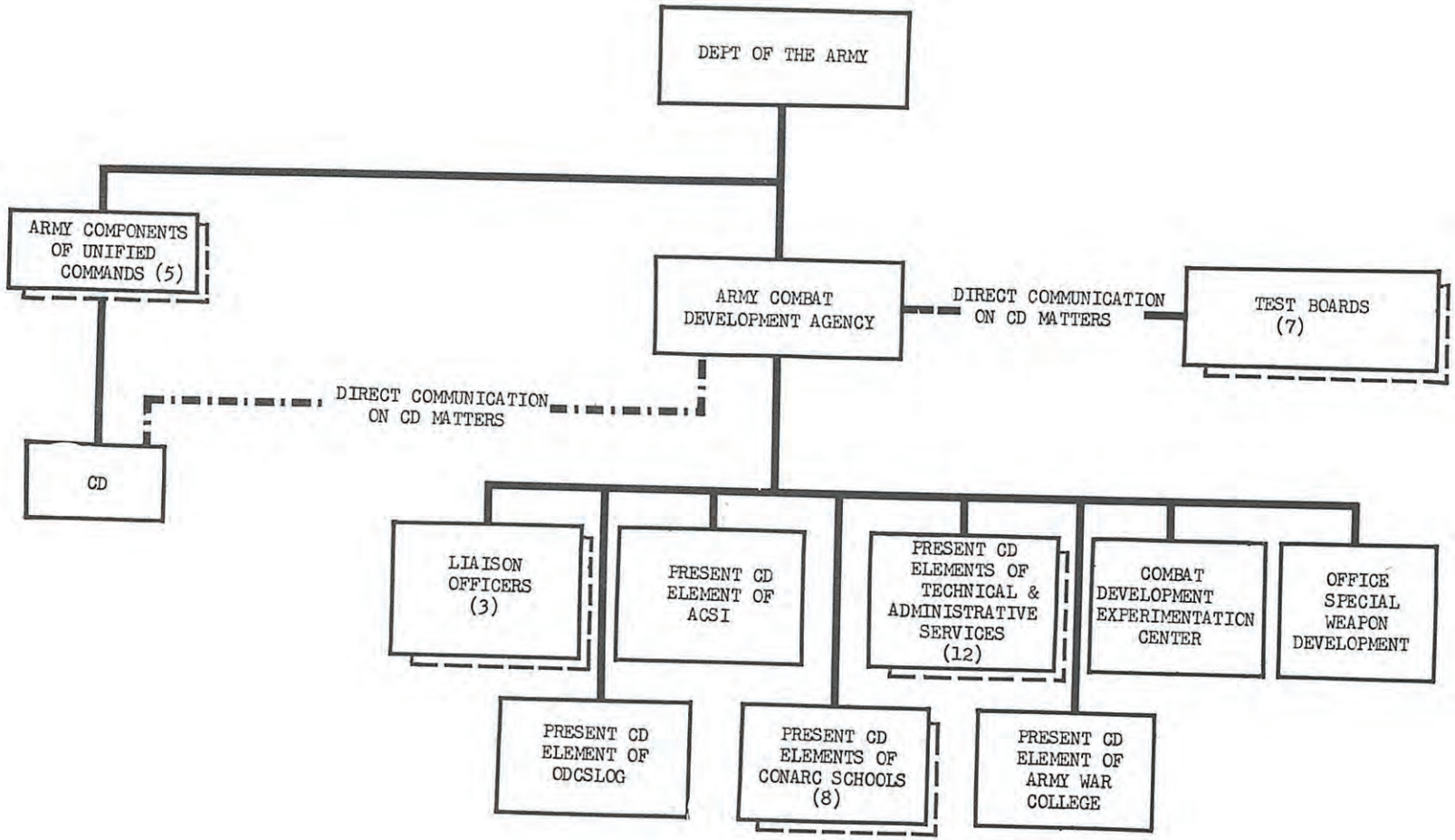
--Because of its basic dependence on agencies preoccupied with problems of current doctrine and operational readiness, it is difficult for the system to be truly oriented toward the more distant future; in a word, there is a built-in bias toward conservatism and relatively minor improvement rather than toward significant innovation.

--The sequence of engineering test (by the developer) and service test (by the user) is unduly time-consuming and tends to be duplicative. With two or more major separate commands involved, it is difficult to devise and implement efficient patterns of concurrent and sequential engineering and service tests.

Pattern II

A direct way to correct the deficiencies in the combat development system (excluding materiel testing) resulting from fragmentation and preoccupation with current problems would be to break out the CONUS combat development functions under a separate agency, directly subordinate to the Headquarters, Department of the Army (see Figure 9). Such an agency could pull together all the varied work now being done in many dispersed agencies, and present integrated results to the Army General Staff. Such an arrangement would have the following advantages:

It could produce study results with relative speed and in more readily usable form. Being directly subordinate to the Headquarters, Department of the Army, the "Army Combat Development Agency" would be better able to coordinate its efforts with those of the Army Research



NOTE: COMMAND STATUS OF THE TEST BOARDS IS DISCUSSED IN THE TEXT.

Figure 9. PROPOSED PATTERN FOR ARMY COMBAT DEVELOPMENT AGENCY

Office, the long-range planners of the General Staff, and such other activities as the US Army War College and the Research Analysis Corporation. Further, identification of the agency with the Headquarters, Department of the Army, would provide desirable authority and world-wide entree uncomplicated by the question of relations between major separate commands. Responsibility would be effectively fixed, and the agency would be effectively autonomous and free of distractions. The agency should help the Army to realize new operational capabilities in a minimum of time.

The principal disadvantage is that such an agency, divorced from field activities, could become too theoretical. This could be guarded against by appropriate organization, staffing, and management.

Establishment of such an agency should aid significantly in meeting Basic Consideration Number 19 (rapid realization of superior capabilities). It would constitute a drastic shift from current practices, thus working against Basic Consideration Number 23 (stability and continuity).

A variation of the pattern would be to place the agency under the headquarters of the Force Development Command. The only major advantage of this arrangement would be, perhaps, to provide a more ready access to troop units. However, it would greatly diminish the advantages outlined above (which are considered to be very important), and so the variation is not considered further.

Having briefly discussed the desirability of establishing a separate Army Combat Development Agency, the remaining variable to be considered is the proper placement of the service test function. The purpose of this function (which does not include troop tests) is to determine the degree to which new items meet operational requirements. At present, this function is the responsibility of the Commanding General, USCONARC, who executes it through his test boards and environmental test centers. This arrangement has the disadvantage of being slow and possibly wasteful.

If the Army as a whole retains its present general structure, the service test function is believed to be properly assigned at present. If the Army as a whole were reorganized under any of the alternative patterns discussed elsewhere in this report, there would be three patterns of assignment for this function which could be considered.

The first would be to assign it to the command containing the school system (either the Individual Training Command, if there is to be one, or the Force Development Command, if there is not). This solution would be the closest available approach to the present arrangement, and would have the same advantages and disadvantages (see discussion above).

The second solution would be to assign the service test function to whatever command is to handle development of materiel, the alternative patterns for which are outlined in the following parts of this section. This arrangement would have the advantage of reducing the requirement for lateral coordination, enabling optimum combination of engineer and service testing, and thus reducing cost and lead time. Its disadvantage is that it might lead to the submersion of user influence -- in time, the tactical elements might get equipment which they do not want. This danger could be mitigated by appropriate organization and staffing of the development command, in general, and of the service test activities, in particular.

The third solution would be to assign the service test function to the Army Combat Development Agency. This would largely preserve the critical disadvantages of the present pattern relative to materiel development and distract the Agency from its all-important function of formulating valid future concepts. Effective performance of the service test function would require the same attention to appropriate organization and staffing as in the second solution.

Under any pattern, troop testing would be conducted as at present by troop units. Such tests would be made at the direction of the Army Staff under any of the new alternative patterns for individual and unit training. The Combat Development Agency and the service schools would

participate in such tests, as appropriate.

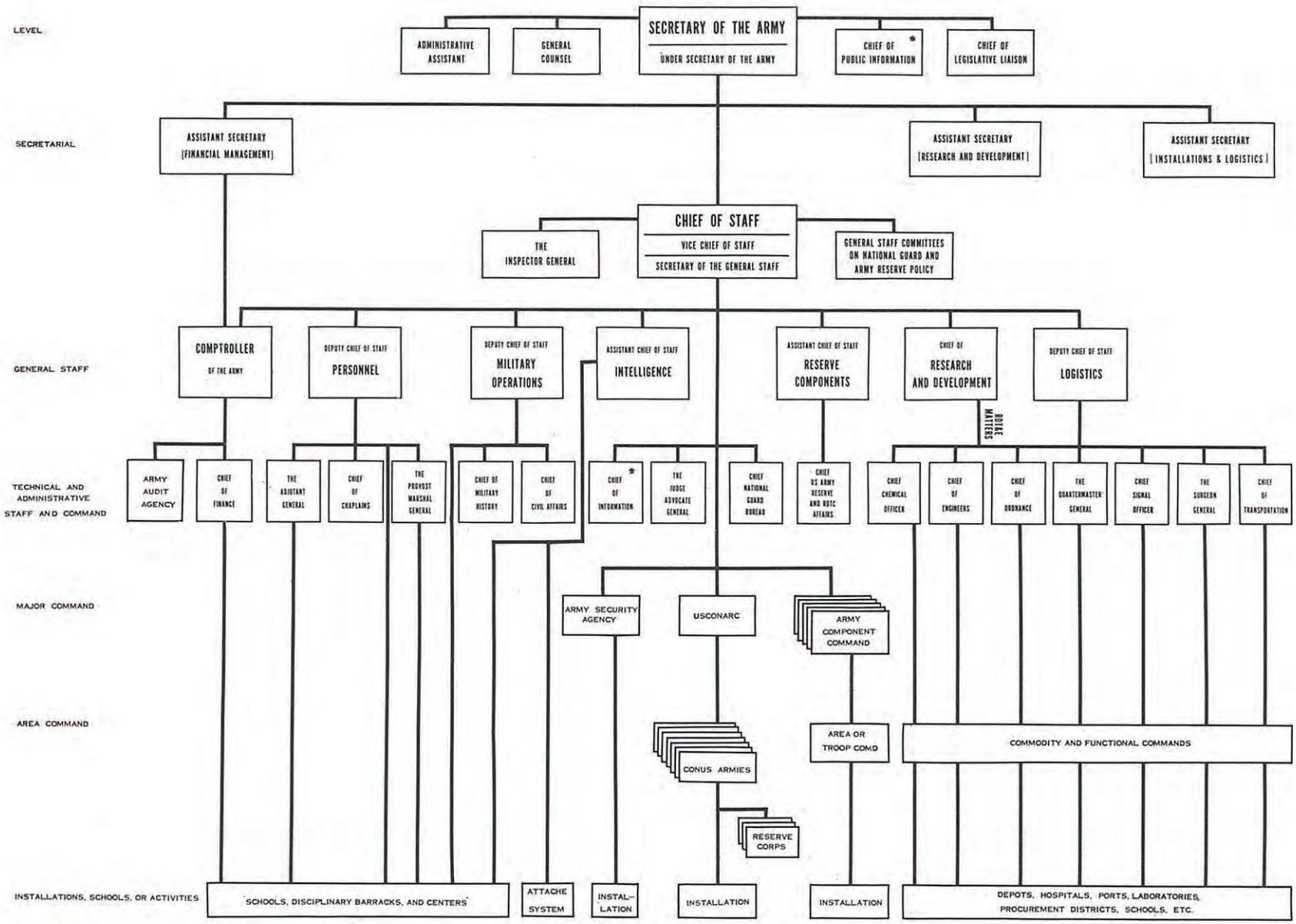
6. The Materiel System

In order to set forth possible organizational patterns for the next major area of the Army's operational activity -- that of materiel -- it is necessary to fix ideas concerning the scope of functions associated with materiel, as opposed to broader logistic functions. Although the terms logistics and materiel are frequently considered synonymous, logistics in its most comprehensive sense includes those aspects of military operations which deal with: (1) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; (2) movement, evacuation, and hospitalization of personnel; (3) acquisition or construction, maintenance, operation, and disposition of facilities; and (4) acquisition or furnishing of services. The function of logistics comprises both planning, including determination of requirements, and implementation.

From the foregoing definition, it can be seen that the activities related to the creation, fielding, and support of materiel are only a part of the total scope of logistics. In turn, the term "materiel" has both a broad meaning and a more restrictive one, referring to non-expendable weapons and equipment as distinguished from supplies. However, in the ensuing discussion, the term materiel will be used in the broader sense to include weapons, equipment, and supplies.

At the present time (see Figure 10 for the current organization), the operations of the technical services can be grouped into three major mission responsibilities: those concerned with personnel, training, force and doctrinal development; those concerned with providing services; and those related to the creation, fielding and support of materiel. The discussions of alternative patterns previously presented have explored the possibility and desirability of assigning supervision or operation of certain service functions to the Headquarters, Department of the Army special staff or operating agencies. These patterns have also

ORGANIZATION OF THE DEPARTMENT OF THE ARMY



THE CHIEF OF PUBLIC INFORMATION ALSO SERVES AS CHIEF OF INFORMATION

FIGURE 10. DIAGRAM OF CURRENT ORGANIZATION DEPARTMENT OF THE ARMY

treated the possible alternatives with respect to personnel, training, force and doctrinal development. The functional areas covered in this section include the research, design, development, industrial engineering, procurement, storage, movement, distribution, maintenance, evacuation, and disposition of materiel.

Pattern I -- Current Situation

The philosophy behind the current technical service organization in the materiel area is the same as that which guided the establishment of the initial DOD single manager agencies, namely, the fixing of responsibility by commodity assignments. Such assignments are designed to establish individuals with vertical responsibility for all phases of the creation, fielding, and support of materiel, to include simplicitv of design, reliability of performance, serviceability, and maintainability in the combat zone. In theory, they permit continuous evaluation of effort and balanced decision-making, despite boundaries created by appropriations, budget structures, or divergent functional staff interests.

The chiefs of the technical services are the commodity managers of materiel within the Army wholesale supply system, and operate under the direction and control of the Deputy Chief of Staff for Logistics. The technical services also provide varying degrees of "retail" management of those supplies furnished to Army users by such other agencies as DOD single managers. The technical services are also under the direction and control of the Chief of Research and Development for research and development matters.

Although the chief of a technical service exercises direct commodity management of his assigned commodities within his own wholesale distribution system, he performs his materiel management function indirectly when materiel passes to the user in CONUS or to an oversea commander. While he still retains cognizance of the inventory of major items in the hands of these users, he no longer has directive authority over supply or maintenance operations. As a Headquarters, Department of the Army

staff officer, however, he recommends policies and procedures to be followed regarding the materiel for which he is responsible. Also, as chief of his corps, he trains and furnishes to using commands individual specialists and units to perform maintenance at the more technical levels.

The present structure has all the advantages inherent in a going concern. The definite fixing of responsibility by commodity assignment is an accepted principle of organization for managing an inventory of materiel as large as that of the Army. This principle is adhered to in the integrated "single manager" supply organizations of the Department of Defense, and is also followed in concept by the materiel organizations of the other Services. In addition, the commodity break-out is believed by some to facilitate close relationships with counterpart civilian groups, since industry is organized generally on a commodity basis. The Army's current materiel structure is surprisingly effective in attracting and retaining people with the required aptitudes.

Although the commodity managers do not have full "womb to tomb" control, the present structure does provide a degree of centralized integration, coordination, and control through the directive authorities vested in the Deputy Chief of Staff for Logistics and the Chief of Research and Development. It thus tends to satisfy Basic Consideration Number 21 (closely linked materiel cycle). The Army has made substantial improvements in its materiel system, including advanced management techniques, and has demonstrated a capability to develop and produce complex weapons systems, as well as more commonplace items of supplies and equipment. The dedicated and capable people who form the bulwark of the Army's materiel system are acutely conscious of the user's requirements.

In spite of the advantages just enumerated for the existing structure, there are inherent weaknesses. The materiel system of the Army today is top heavy, burdened with reporting requirements, and over-

compartmented at the Washington level, while at the same time there is duplication of areas of interest among the technical services. Control of the operational activities of the technical services is exercised by both the Deputy Chief of Staff for Logistics and the Chief of Research and Development. The Army attempt to give adequate recognition to the importance of research and development by placing the Chief of Research and Development in a co-equal status with the Deputy Chief of Staff for Logistics makes a technical service chief answerable to two directors in the closely related development and production areas, with consequent difficulties in integration of effort. In addition, the purely general staff-type functions of the Chief of Research and Development and the Deputy Chief of Staff for Logistics suffer from this arrangement.

The long standing vertical orientation of commodity responsibility has tended to promote rigidity rather than flexibility in the organizations of the technical services. The current pace of technology and the diversity and complexity of modern materiel have placed a strain on individual technical service responsibilities, demanding in some cases project and systems management procedures which cut across traditional organizational lines.

There is no common pattern of technical service procurement organization and operation. Differences complicate relationships with industry and, in most cases, cannot be justified on the basis of commodities handled. More delegation of procurement authority would improve procurement operations and relations with industry.

While the Army supply system is acutely "user conscious", it is not entirely "user oriented" in its organization and management; from the user viewpoint, seven separate systems are involved. The current fractionalization of the system, and its varying policies and practices, result in many inconveniences to the user. In addition to the somewhat artificial distinctions characterizing the materiel organization, there has developed over the years an intangible barrier based on an assumption of difference of interests between the user and the developer-

producer agencies, and more directly on the separate channels for development and assignment of personnel. Further, the present wholesale system is not in harmony with the current trend in user commands toward consolidation of support.

The continuing trend toward use of the Federal Supply Classification System as a basis for assignment of supply responsibilities in the repair parts areas has caused a dilution of responsibility for support of end items of materiel and systems. This situation has been aggravated by the formation of DOD supply agencies which are responsible for supply of many of the repair parts of these items. If the user is to be supported without serious supply failures, it is imperative for the Army to find ways and means to ameliorate this problem.

Finally, it has been held by some that the conservative character of a materiel organization as old as that of the Army tends to inhibit vigorous and imaginative formulation, acceptance, and development of new ideas, techniques, and materiel innovations. In view of the Army's enviable record of "firsts" in many areas of research and development, such as the development of atomic weapons and missile and space accomplishments, this allegation cannot be accepted at face value. Nevertheless, it is recognized that any organization or organizations set up within the Army to accomplish the entire materiel mission should provide adequate safeguards against stifling initiative and drive toward progress and ideas for the future.

In line with the above brief discussion and the Basic Considerations, it appears that if change is to be progressive, it must be in the direction of reducing the number of separate, more or less autonomous, commodity managers and decentralizing purely operational functions to field agencies. Because of the reduced scope of the Army's wholesale commodity management responsibilities which has recently come about through formation of the Defense Supply Agency, it is considered that some transfer and consolidation of materiel responsibilities among the technical services is entirely feasible and desirable. This readjustment

could be made without major realignment of the basic Army structure; however, the resultant materiel organization and its operations would remain highly centralized and top-heavy at the Headquarters, Department of the Army level, and would retain its formal, compartmented, branch-conscious character.

Under the alternative patterns for a materiel organization which will follow, current responsibilities of the technical services and the administrative services for training individuals and units for the Army in the field, for force and doctrinal development, and for participation in the determination of qualitative materiel requirements would be assigned to the commands depicted in the alternative patterns for training and combat development (parts 4 and 5 of this section). This assignment would involve the transfer to these commands of the training activities and combat development agencies of the technical and administrative services.

Under the following Patterns II, III, and IV new equipment training for instructor-type personnel in the training commands would be provided by the materiel commands. In addition, these materiel commands would provide on-the-job training in stock control and depot storage operations for individuals and units of the training commands. The Army Logistics Management Center (ALMC), less those elements involved in the development or analysis of logistic doctrine for the Army in the field, would be assigned to one of the materiel commands; the excepted elements would be assigned to the training commands.

Pattern II

In the establishment of possible alternate patterns of organization, a detailed examination of the complex of activities involved led to the conclusion that it was undesirable and unnecessary to consider any structure which included more than two materiel operating commands directly subordinate to the Headquarters, Department of the Army. If two materiel commands were to be employed, it was determined the total activities

might be divided between them either on the basis of sequential ("functional") processes or on the basis of different types of commodities.

Pattern II which is a sequential breakout is shown, for illustrative purposes in testing its feasibility, in Figures 11 and 12. Under this concept, the Materiel Development and Production Command shown on Figure 11 would perform the earlier phases of the materiel cycle (research, development, industrial engineering, and initial production and procurement) for all classes of supplies and equipment, and all production on more complex items such as missiles; while the Army Supply and Distribution Command (Figure 12) would perform the later phases of the cycle (follow on procurement, storage, distribution, maintenance, disposal) for all classes except the complex items. Each command would have a strength of approximately 100,000 (before transfer of single manager agencies to the Defense Supply Agency). It is visualized that the Materiel Development and Production Command might establish project managers for complex items or systems (such as Nike Zeus) that cut across the responsibilities of two or more subordinate commodity commands.

A critically important feature of the proposal is that the commands would be manned, insofar as possible, by a mix of officers of all branches, i.e., assignments of military personnel would be made with regard solely to capabilities in relation to the job. To be effective, the organization should include combat arms personnel, as well as appropriate combinations of technical service personnel.

The following are considered to be the major strengths and weaknesses of Pattern II when weighed against the Basic Considerations:

Strengths

Clear command control and delegation of authority is provided for by the conversion of the present compartmented materiel structure, with its diffuse responsibilities, into two field commands (after separating out the Army-wide personnel, training, service, and special staff functions already discussed). Combining of the "command" elements of the Deputy Chief of Staff for Logistics and the Chief of Research and

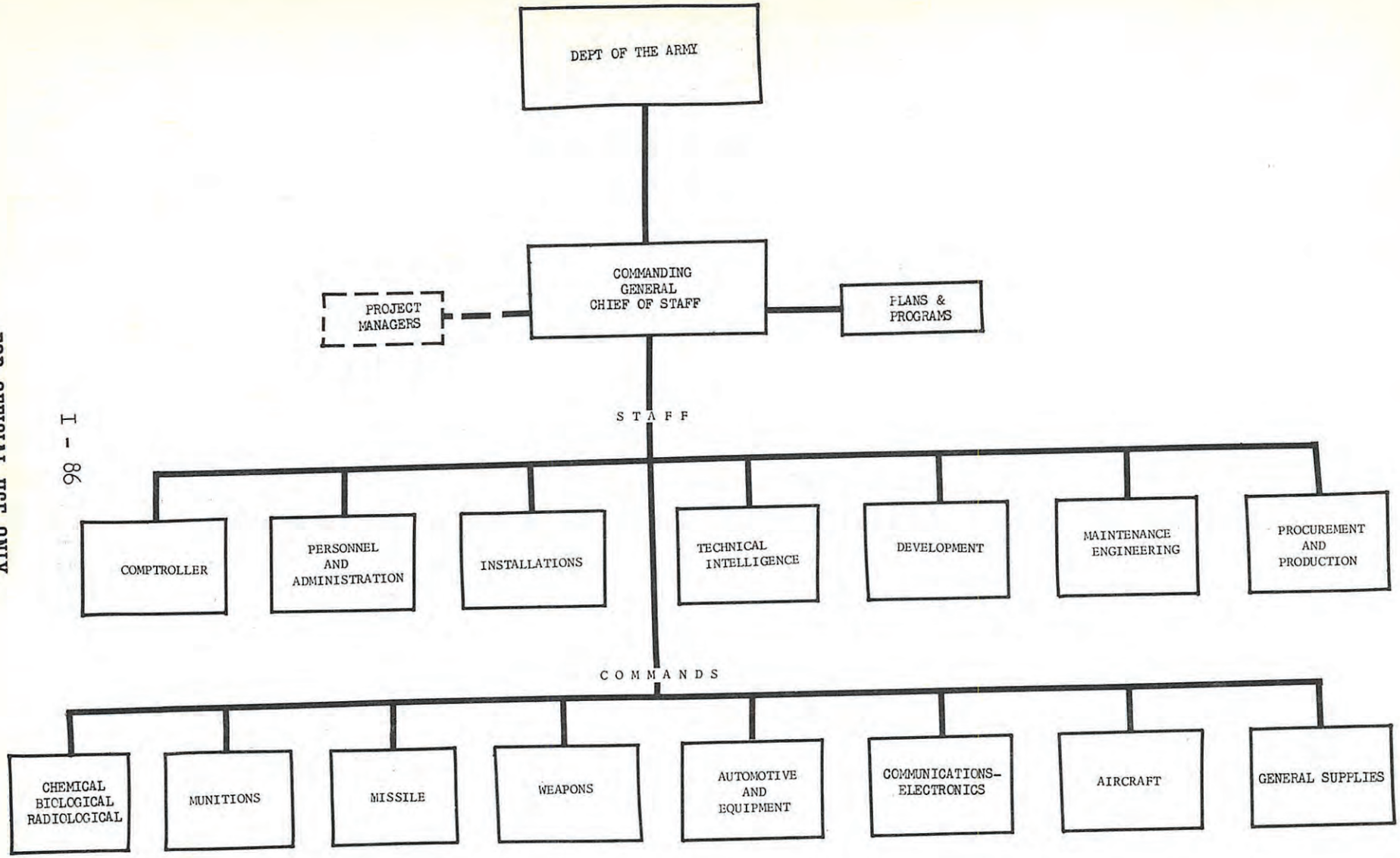


Figure 11. ILLUSTRATIVE CHART - Pattern II

US ARMY MATERIEL DEVELOPMENT AND PRODUCTION COMMAND

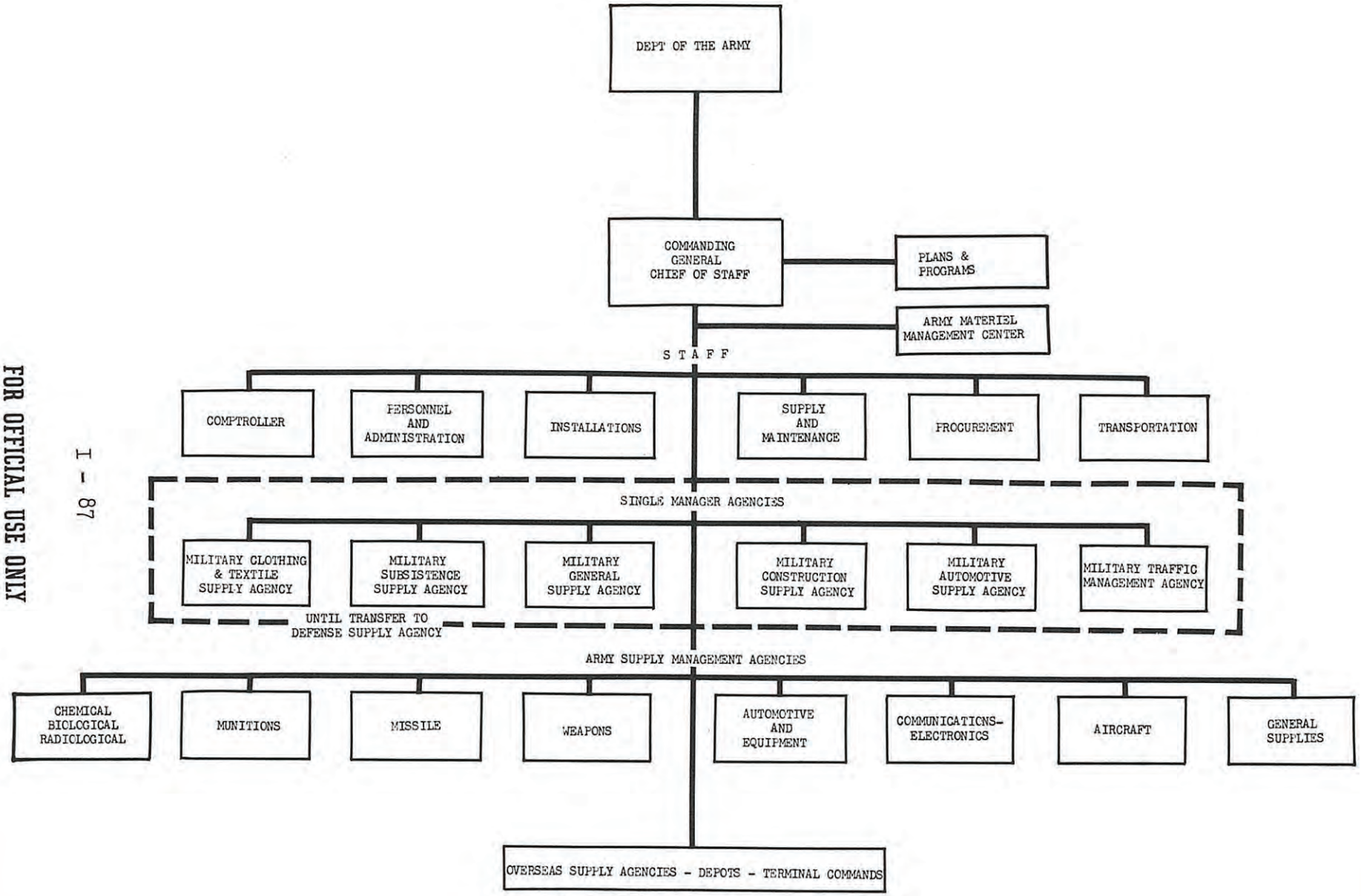


Figure 12. ILLUSTRATIVE CHART - Pattern II

US ARMY SUPPLY AND DISTRIBUTION COMMAND

Development with those of the technical services in the field command headquarters would eliminate one supervisory echelon between operating commands and the Chief of Staff. A clearer separation of planning and policy direction from operations would be effected. Improved responsiveness to the Office, Secretary of Defense and the Congress on major issues would be provided for through clear assignment of accountability for operations, and elimination of some of the involved coordinative processes required to reconcile conflicting interests at the Washington level. Additionally, the structure provides for increased emphasis on a complete research and development effort.

One of the commands would be charged with the total inventory control and distribution mission, which should result in more effective total operations, as well as simplification and uniformity of supply procedures. Further, the establishment of a single wholesale supply system would provide for maximum accommodation to user logistic organizations, including the integrated support concept in oversea commands and consolidated supply and maintenance activities at CONUS installations.

The assignment to the other command (Materiel and Production) of responsibility for development and initial procurement of all equipment and supplies would integrate these two processes at the field level. Unified control of the development-initial procurement processes and improved commodity alignments would facilitate relationships with industry and improve decision-making processes in this area.

Existing divisive influences would be minimized by the redesign of an Army materiel system which would not identify organizational elements with branch entities and which would employ individuals on the basis of capability without respect to insignia worn.

In sum, this pattern tends toward satisfaction of Basic Considerations Number 1 (suitability for peace, cold war, or war), Number 14 (improved personnel management), Number 19 (rapid realization of superior capabilities), Number 20 (encouragement of innovation process), and Number 22 (effective relationships with industry and the academic

community).

Weaknesses

Although Pattern II is essentially user oriented, the user would have to deal with two materiel commands, one of which (the Supply Command) would be responsible for on-time materiel availability and the other (the Materiel Development and Production Command) for materiel quality or performance.

The organizational and procedural relationships between two coordinate commands charged respectively with production and supply responsibilities would be complex, particularly in the areas of materiel programming, maintenance and rebuild direction, provisioning, procurement responsibility, and funding. The coordination of effort required would be even more extensive. Supervision or control of the total logistic effort, to include materiel and service functions, would be achieved only at the Chief of Staff level.

This major reorganization of the Army materiel system would involve significant costs, cause personnel dislocations, and create operational difficulties during the transition period. The impact of the reorganization would be lessened by an Army-wide information plan and a carefully phased program for implementation.

Pattern III

This pattern, a commodity oriented structure, is shown on Figures 13 and 14. Two major field commands are assigned parallel or concurrent, as opposed to sequential, materiel responsibilities. Each is responsible for all functions related to assigned items, which are divided between commands under what might be colloquially described as "hard goods" and "soft goods" categories.

The Materiel Command shown on Figure 13 would be responsible for the development, procurement, storage, and distribution of "hardware" items and weapons systems. It would be concerned with translating the qualitative requirements of combat and lethality items and weapons systems

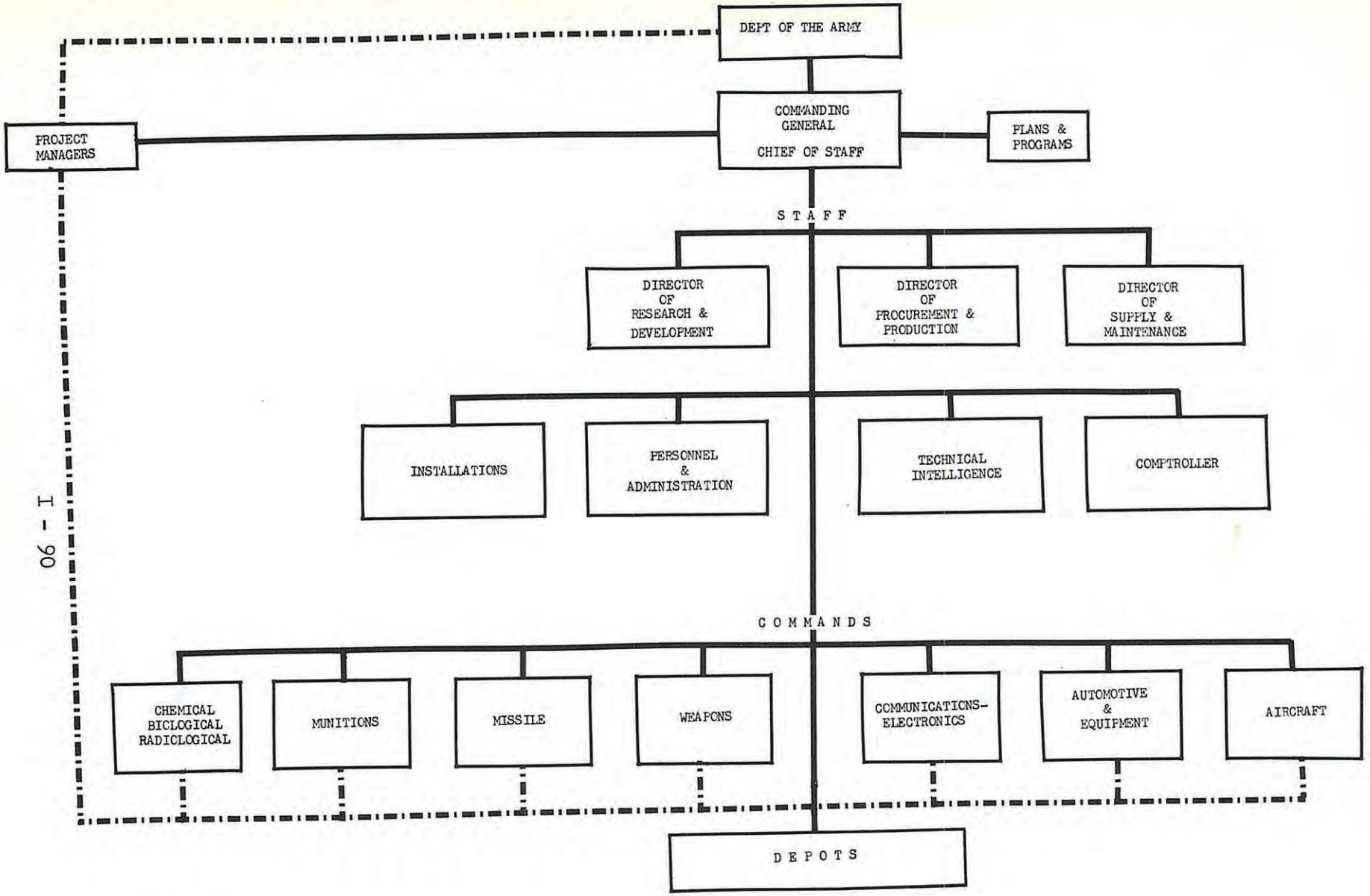


Figure 13. ILLUSTRATIVE CHART - Pattern III

US ARMY MATERIEL COMMAND

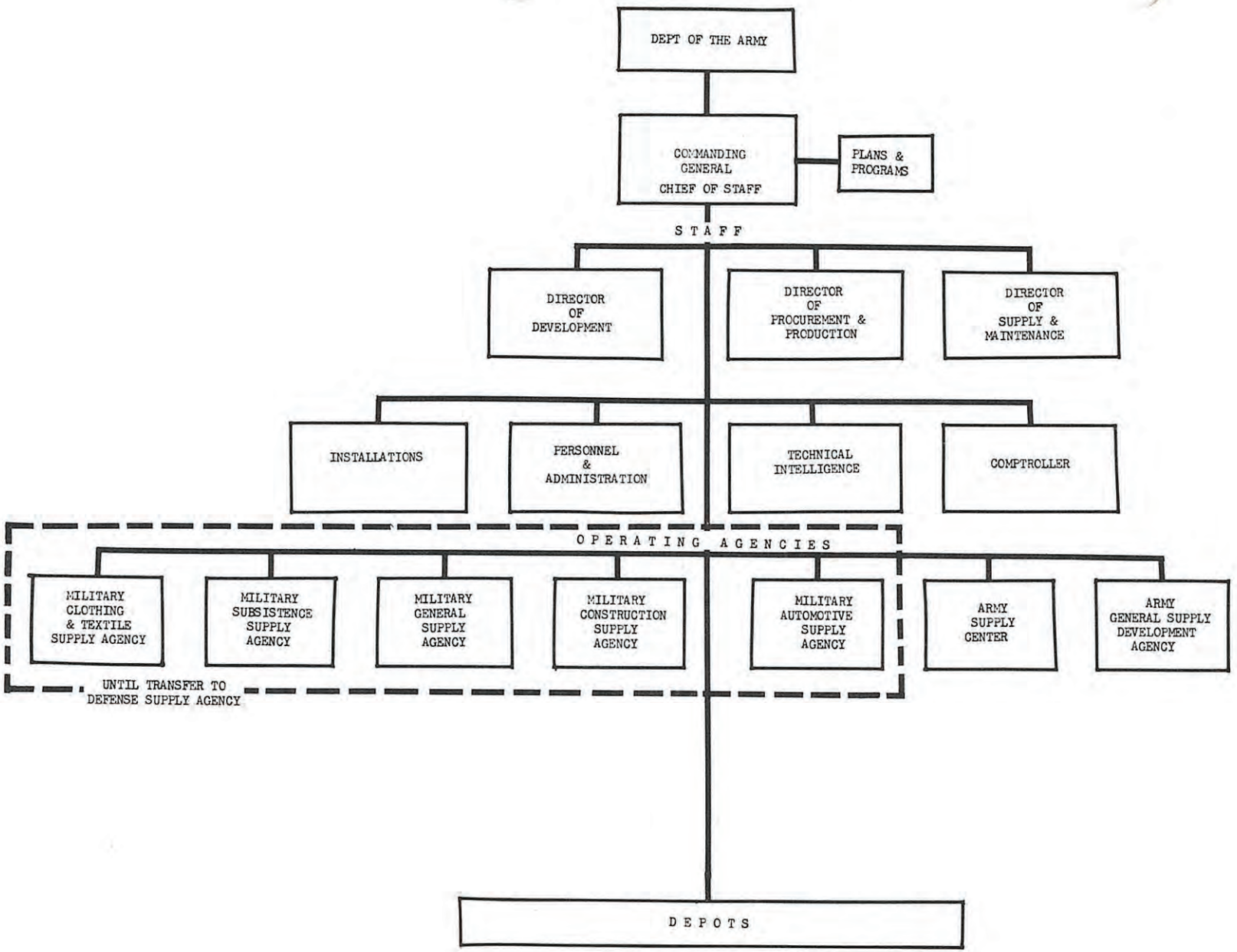


Figure 14. ILLUSTRATIVE CHART - Pattern III

US ARMY SUPPLY COMMAND

into actual hardware required by using forces. The Directorate of Research and Development would be responsible for programming and supervising the research and development projects, as approved by higher authority, and for programming and supervising the utilization of funds in support thereof. The Directorate would be responsible for assuring coordination between subordinate commands relative to complex items or systems.

The Supply Command (Figure 14), organized in a manner parallel to the Materiel Command, would be responsible for individual equipment and general and bulk supplies under the Army's cognizance. Research and development would be performed by a major subordinate agency. Both commands would be manned by a mix of officers of all branches.

The following are considered to be the major strengths and weaknesses of Pattern III, when weighed against the Basic Considerations Number 1 (suitability for peace, cold war, or war), Number 14 (improved personnel management), Number 23 (stability and continuity), and Number 21 (closely linked materiel cycle).

Strengths

As in Pattern II, positive and authoritative control would be established over the wholesale materiel system, permitting the Army General Staff to be concerned only with planning and policy direction (insofar as this basis of operation would be permitted by higher authority).

The commodity orientation of the two commands under this pattern integrates the development, procurement-production, and distribution control functions, thus eliminating the need for inter-command coordinative mechanisms. Thus, some of the very real virtues inherent in the existing technical service structure would be preserved. The interrelationship of these principal functions is recognized in the directorate concept in each command. Responsibility for mission-essential repair parts and end items would be vested in the same agency.

Weaknesses

No single field command would be responsible for formulating, directing, and supervising procedures related to the operation of the supply system. Although the user would look to a single command for Army supply availability and performance of a given item, he would have to look to two commands for total supply support.

Both commands would be major claimants for transportation services, making it undesirable to assign control of these services to either.

Although the transition from the present organization to that proposed in this pattern would be somewhat easier than the transition in the case of Pattern II, the difficulties would be of major proportions.

The responsibility for the research and development program would be divided between two commands, complicating Army Staff supervision, and involving each command in the preparation of RDT&E funding actions.

An important factor which must be taken into account in designing any development command is the requirement for a properly integrated applied research function. This research function should be kept oriented toward established requirements, and should insure that adequate interchange of information is effected among its component elements. Moreover, it should be protected from submersion in a large and hard-pressed command primarily oriented toward production and supply; for this reason, the research activities should be readily subject to guidance and supervision from the highest level. The portion of the overall research function to which this paragraph refers is the applied part that must, of physical necessity, be performed in close proximity to development. The broader and longer-range aspects of research will be discussed later. An apparent disadvantage of the commodity breakout, compared to the sequential breakout, is that the former would require two research structures since both commands would be concerned with research and development. The "soft goods" command would, of course,

require a much smaller research and development organization than would the "hard goods" command.

Pattern IV

Pattern IV provides for a single major field command of the Army which would be responsible for development and other materiel functions, and for the transportation and movement control service in the continental United States. See Figure 15.

This command would have two main elements: a group of commodity commands to perform research, development, procurement, and production of Army materiel; and a subordinate Supply Command to operate the Army supply system, with its concomitant transportation and movement control functions.

The Headquarters, Army Systems and Materiel Command would have three Directors: Research and Development; Procurement and Production; and Supply and Maintenance. These Directors would assist the Commander in directing and supervising the transitions from development to production to supply. The Programs Office would assist the Chief of Staff in coordinating the preparation of programs and in balancing resources with the tasks to be performed. The functions of the supporting staff are generally those indicated in Figure 15.

A Major Items Management Agency, operating immediately under the Headquarters, would manage all of the principal and major secondary items of the Army. The Army Logistics Management Center (renamed the Army Materiel Management Center) would also operate under the immediate direction of the Headquarters, and provide formal instruction in all areas related to the wholesale materiel mission, including research and development management. The activities of other field agencies of the current Deputy Chief of Staff for Logistics, such as the Army Maintenance Board and the Oversea Supply Agencies, would be maintained with this command.

The structure of the development and production subordinate commands is essentially the same as that of the Army Materiel Development and

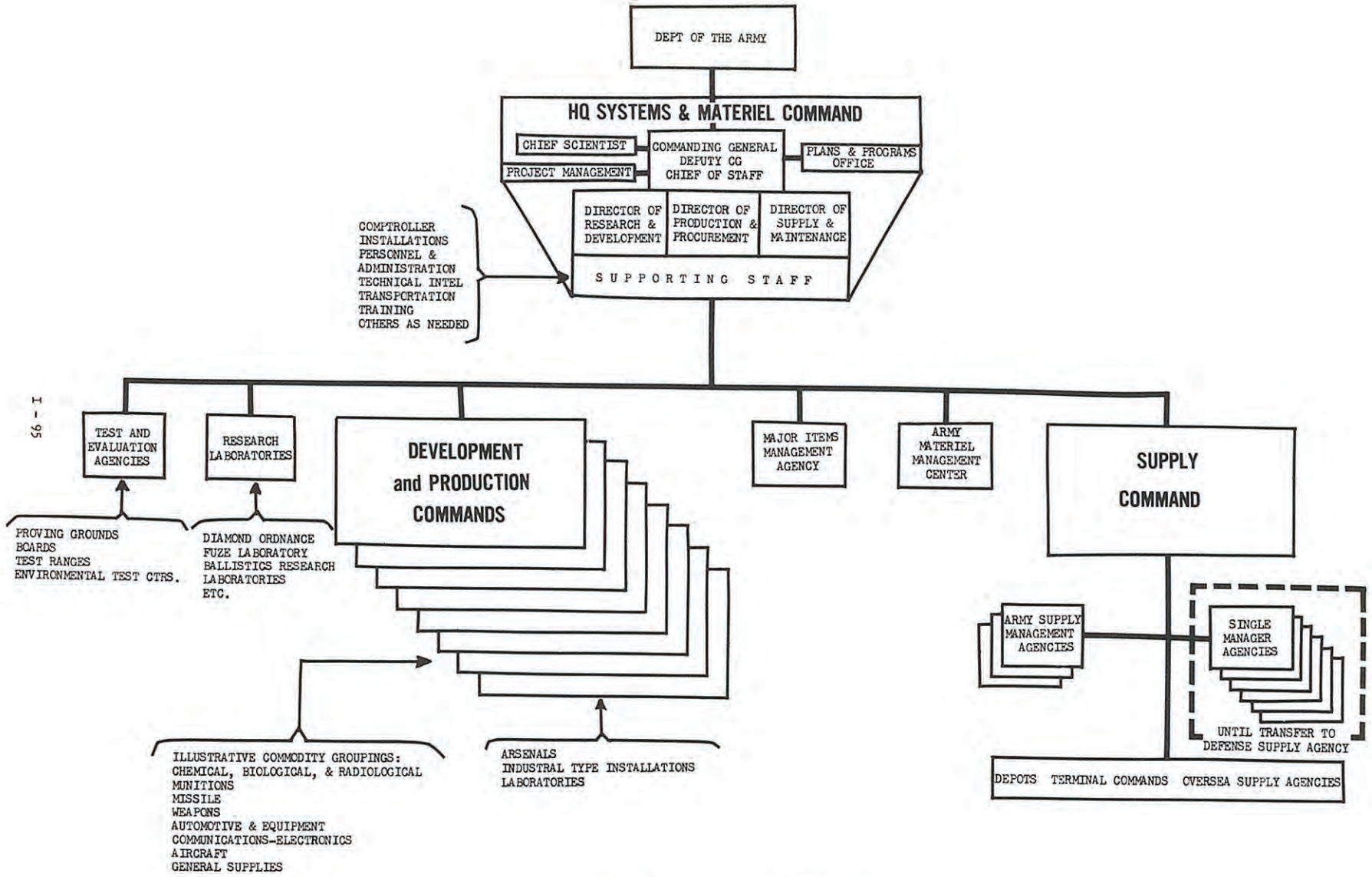


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Figure 15. ILLUSTRATIVE CHART - Pattern IV

US ARMY SYSTEMS AND MATERIEL COMMAND

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Production Command described in Pattern II. The structure of the Supply Command is generally the same as the Supply and Distribution Command proposed in Pattern II, and performs essentially the same functions.

The Deputy Commanding General would have special responsibility for directing and controlling the project management activities of the command. Project management can be carried out at any level of organization warranted by the complexity of an item or system. Items involving a single development and production command can be controlled within that command. Those systems involving major effort by two or more commands can be managed at the Deputy Commanding General level.

While qualitativc materiel requirements are developed in agencies not integral to the Systems and Materiel Command, this command would be expected to contribute to such development by concept studies and technological forecasts. In addition, the command would translate statements of qualitative requirements into more specific technical characteristics prior to initiation of development.

Test and evaluation of all materiel developed by the command would be performed under supervision of the Director of Research and Development prior to adoption. The user test boards now under USCONARC would be placed in the command, and their user test activities would be combined, as appropriate, with the engineering test activities currently performed by the technical services.

Under Pattern IV all major (central)procurement conducted within the Systems and Materiel Command would be performed by the subordinate development and production commands and by the single manager agencies in the Supply Command (until they are transferred to the new Defense Supply Agency). Local procurement would still be effected by installations and activities.

Materiel Program computations and support of PEMA budget actions would be the responsibility of the Major Items Management Agency.

As in the case of Patterns II and III, a principal feature of the concept is that the Command would be manned on a branch-immaterial basis.

The following are considered to be the major strengths and weaknesses of Pattern IV when weighed against the Basic Considerations:

Strengths

A single command for materiel incorporating within itself functional directorates to coordinate budgets, programs, and operations in their assigned functional areas would insure that uniform policies, procedures, and reporting systems replace the multiple, loosely coordinated and diverse management controls and aids now in use. Coupled with the existence of clearly defined areas of responsibility throughout the command, this uniformity would simplify and expedite response to higher authority, provide for efficient management control, and present to the Office, Secretary of Defense, Congress, industry, and the public not only an image, but in fact an efficient, progressive, and effective organization and system for providing the Army with materiel.

Research and development would be given special emphasis within the command and a focus would be provided for application of policies of the Chief of Research and Development, and a mechanism would be established for project management and for appropriate staff supervision of this activity from the Washington level.

The user orientation and advantages of the wholesale distribution system of Pattern II would be integral to Pattern IV. In addition, computation of Army-wide materiel requirements for principal and major secondary items at a central agency would facilitate response to program changes, contingency planning, and response to Office, Secretary of Defense.

Pattern IV has the opportunity, as have Patterns II and III, of creating a "One Army" atmosphere.

This pattern tends more than either Pattern II or III to meet Basic Consideration Number 12 (decentralization of functions).

Weaknesses

A single command encompassing the entire materiel and distribution functions of the Army will be regarded in many quarters as too large

and having control over too great a share of Army resources. In addition, there would be a tendency by some to interpret the severance of Army Staff direction as submerging the research and development activity within a "logistic" command.

The dislocation of personnel, the cost, and the operational difficulties to be anticipated would be somewhat less than for Patterns II and somewhat more than for Pattern III.

7. Research and Development

As alluded to previously in discussions of strengths and weaknesses of the patterns shown in the preceding portion of this section, the design of any structure to accomplish all or a portion of the materiel function must take into account the importance of research and development. The total materiel process is beset with two mutually interacting, but opposing forces. At one extreme is the compelling need to utilize efficiently and quickly the fruits of scientific discovery through research and development of new materiel. At the other extreme are the pressing problems of present day support of the user and efficient management of existing inventories of materiel to assure proper phase-in and phase-out of new and old equipment.

Totally apart from these forces is the necessity of aggressively pursuing break-throughs in research and component development in order to insure that a sudden worsening of the international situation, which dictates an unexpectedly large procurement budget, does not find the Army with a bare development cupboard requiring the choice between procurement of antiquated equipment or no procurement at all. In a business as final as war one must conduct a broad and progressive research and development program to avoid technological surprise through the sudden employment, by the enemy, of sophisticated equipment and weapons far excelling those available to one's own forces.

It is somewhat of a commonplace to say that "operations drive out research;" that is, production and supply of present day materiel will

tend to inhibit development, and development will, in turn, tend to suppress future research, if all these functions are grouped together. On the other hand, interplay between them is also valuable. The researcher maintains his relevancy to Army interests through close association with the developer, and the developer in turn is kept informed of the latest scientific advances by the researcher. The producer pulls the developer in the direction of a product which is producible and maintainable, while the developer serves as a stimulus to the producer, causing him to move in new directions and to solve complex production engineering problems. Since these tendencies do exist, research and the creating and nurturing of new ideas are in large measure a matter of attitudes and states of mind of individuals, which are affected as much by the organizational environment as by organizational structure.

A possible pattern to optimize the research and development function, but one which would require major reorganization, was shown in the Materiel Development Command of the sequential materiel organization (Pattern II, see Figure 11). This command would be charged with the research, development, and all initial production, as well as follow-on production, of more complex equipment which, in effect, never leaves development or which is produced in limited numbers.

Provided this development type of command did not become too deeply involved in major production and procurement operations, it should be well suited for development purposes. It breaks at a logical point in the "research-to-fielding" spectrum, permitting appropriate attention of responsible commanders and staffs to the future of the Army, and thereby avoids any attenuation of the forward look through over-involvement in the day-to-day procurement, production, storage, supply, and distribution problems mentioned above. It provides a ready source of information and rapid response to queries from higher authority. Such a command could create a public awareness that the Army is giving primary emphasis to science and engineering for the future; moreover, it should serve to attract, to an optimum extent, scientific and engineering talent.

In addition to the strengths and weaknesses already enumerated for this type of structure, it should be noted that the Materiel Development Command of Pattern II (Figure 11) is essentially a vertical extension to a field activity of the primary area of interest of the Chief of Research and Development. From an operating viewpoint, this may cause the authority of the Headquarters, Materiel Development Command to be preempted and its utility as a separate entity to be opened to question. The Systems and Materiel Command (Figure 15) is not subject to such preemption, although this in turn may lead to less responsiveness to higher echelons.

In the Systems and Materiel Command (Figure 15), one finds a command which provides for an amalgamation of the development command and the supply command at a point short of the Army Staff. This amalgamation includes development and production commands by commodity and one large supply command. It is discussed in the preceding section. From a research and development point of view, there may be some apprehension that this command could become so production-and-supply oriented as to downgrade the relative importance of research and development. It has the advantage, however, of providing a single commander who can coordinate all aspects of the materiel cycle during the difficult period of transition from the present structure. Furthermore, after essential working relationships are clarified among the several parts, it is readily adaptable to a further transition, separating supply and distribution functions from the remainder of the command.

Another important alternative to be considered in connection with the Army's research activities is the role and proper placement of the Army Research Office, now under the Chief of Research and Development. Having the basic research aspects of this office function directly under the Assistant Secretary of the Army for Research and Development might improve the public image of the Office, assist in the recruitment of scientists, provide understanding and encouragement of pioneering studies,

and furnish more stable support. On the other hand, such an arrangement would increase the coordination problems of the Army General Staff.

Concluding Statement

The discussion in this section has set forth in summary form the significant features and the principal advantages and disadvantages of the present organization and of those alternative patterns which were considered worthy of study. There are, of course, many possible variations in assignment of functions and responsibilities within the framework of the current pattern (such as transferring certain commodity responsibilities from one technical service to another). Also, detailed arrangements other than those discussed are feasible within the general structure shown for each alternative pattern. Since the study of the alternative patterns was addressed primarily toward their major organizational features, there are substantial operating entities which have not been specifically mentioned within the major commands or major operating agencies described.

Because of the sheer magnitude of investment in physical resources, the alternative patterns of organization and management do not call for extensive movement of schools, laboratories, training areas, and other facilities.

In Section G, which follows, conclusions will be drawn as to the preferred overall pattern of organization and management.