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THE RELATIONSHIP OF FORECASTING TO LONG-RANGE PLANNING
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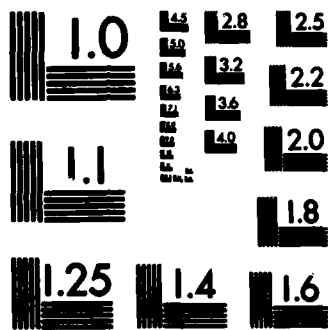
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FUTURES

**THE RELATIONSHIP OF
FORECASTING TO
LONG-RANGE PLANNING**

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THE RELATIONSHIP OF
FORECASTING TO LONG-RANGE PLANNING

by

Charles W. Taylor

15 November 1982

A presentation for the DARCOM Strategic Long-Range Planning
Workshop, Chantilly, Virginia, 24-26 August 1982

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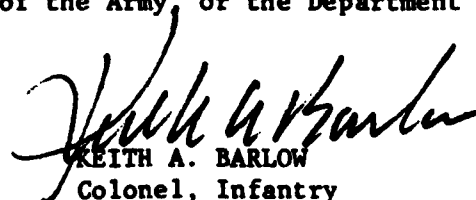
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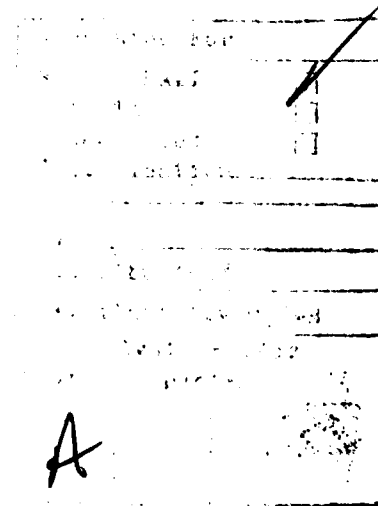
FOREWORD

This presentation was delivered at the DARCOM Strategic Long-Range Planning Workshop held in August 1982. Its significance is threefold. First, it directs attention to the coherent and essential linkage between long-range forecasting and long-range planning with their focus on the management of the future. Second, it clearly distinguishes between these two activities. Finally, the presentation emphasizes the need for an Army capability to provide comprehensive, alternative long-range forecasts as foundations for Army long-range planning.

This report was prepared as a contribution to the field of national security research and study. As such, it does not reflect the official view of the US Army War College, the Department of the Army, or the Department of Defense.



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BIOGRAPHICAL SKETCH OF THE AUTHOR

Charles W. Taylor is a Strategic Research Analyst and Futurist with the Strategic Studies Institute (SSI) and a member of the Futures/Long-Range Planning Group. His experience with futurology extends over 18 years. Mr. Taylor has made major contributions in the form of futures projections as part of DCSOPS requested studies for the US Army. Additionally, Mr. Taylor designed an interdisciplinary Delphi process for identifying world trends for the SSI Forecast 90 document. He is the originator of the Panel Consensus Technique, an internationally recognized contribution to participative decisionmaking, problem solving and forecasting. He has published articles in professional journals, has presented papers at symposia, and has conducted workshops on forecasting and creative decisionmaking/problem solving for graduate students, USAWC students, and Federal, state, and local government groups. He is a member of the International Studies Association, American Academy of Political and Social Sciences, American Association for the Advancement of Science, the World Future Society, the Minnesota Futurists, New York Academy of Science, and the Creative Education Foundation.

THE RELATIONSHIP OF FORECASTING TO LONG-RANGE PLANNING*

I would like to talk to you today about the relationship of forecasting to long-range planning. The relationship is relatively simple. Forecasts, such as economic, political, military, scientific and technological, and social are the supporting elements of long-range plans for corporate management and government.

Long-range goals and objectives are less likely to be attained, some 10 to 20 years hence, when planners ignore, are unaware of, or fail to take advantage of long-range, comprehensive alternative futures. These futures are, in the broadest sense, holistic forecasts made by futurists. Such forecasts should provide the basis for the planners' choice of programs and actions. If the choice of programs and actions is not so grounded, then the logic for the choice becomes deductive and the end product may bear little, if any, relationship to reality. Thus, US Army long-range planners are more likely to achieve goals if they give special attention to what futurists are forecasting, and build into the planning process a flexibility to accommodate for the range of most likely options that evolve from such forecasts. Army decisionmakers, planners, leaders, and managers should develop a reliance on alternative holistic forecasts and use such forecasts as the logical point of departure for the preparation of long-range plans.

Short-sighted planning and miscalculation can result where planners have devised detailed long-range programs based on single, surprise-free forecasts

*This paper is a presentation delivered by Charles W. Taylor on 26 August 1982 at the DARCOM Strategic Long-Range Planning Workshop held in Chantilly, Virginia. The paper should not be regarded in any way as representing US Army views, policy statements, or positions.

rather than on alternative holistic forecasts. When only a single, surprise-free forecast is used, decisionmakers and planners are likely to be confronted during the term of their programs with unanticipated consequences of their actions. Consideration of an array of alternative, long-range forecasts provides planners clearer images of the future and advance insight on how to prepare for and, possibly, influence oncoming changes. Such planners are offered the opportunity to manage or shape the future.

During the past 10 to 15 years, corporate management has increasingly come to recognize the value and relationship of alternative forecasts to long-range planning. Government agencies have been slower to take advantage of this relationship. Early government long-range planners did not recognize a need to forecast before planning. Twenty-year city plans were developed without complete or accurate determination of relevant and continuing trends; also, planners neglected to consider the possible consequences of their planned actions. Such plans either fell far short of expected goals or failed completely and were discarded, often at great waste of time and money. Past experiences in planning have helped planners to learn that the management of roadways into the future means finding the road signs and reading them right. Misreadings or miscalculations in the past lead me to believe that only through systematic alternative forecasting will planners uncover the early warning signs of possible future events. For instance, such forecasting might have indicated: the oil crisis, the US Embassy seizure in Iran, Three Mile Island, and the Falkland Islands. None of these were aberrant events. Their negative impact on society possibly could have been anticipated, lessened, or avoided if forecasting and long-range planning had been an integrated part of corporate and government programs.

Some 20 years ago futures studies had no organized existence. Today more than 200 research institutes are turning out forecasts for business and government. Organizations such as the Center for Futures Research, Hudson Institute, SRI International, the Institute for the Future, and others now offer corporate management and government the forecasting expertise to fit alternative futures and environmental forecasts into the long-range planning process. Other organizations such as the American Council of Life Insurance and the Security Pacific National Bank have established in-house forecasting cells as essential to their specific long-range planning interests. The process sequence is from alternative long-range forecasting to the development of long-range plans. Learning from these corporate experiences, I believe it is important for the Army also to apply this relationship of alternative forecasting to long-range planning. Additionally, I believe that the Army's endorsement of this linkage is important to the success of its long-range planning system. For example, the Army should establish an office whose sole mission is the systematic development of alternative holistic long-range forecasts which project 10 to 25 or 30 years--5 to 10 years beyond the long-range planning process. This would provide Army planners a coherent means for monitoring plans and making adjustments or accommodations as change is perceived. There are, however, risks involved.

Inherent in both forecasting and long-range planning is the possibility of being wrong. The chances of being wrong are lessened considerably when multiple images of the future are considered rather than only a single image. Within the Army as well as in corporate management, some influential individuals would limit forecasting and planning to short-range and midrange horizons leaving the fuzzy uncertainties of the long-range future to come into sharper focus through the passage of time. The Chief of Staff Regulation, CSR 11-15, The Army Long-

Range Planning System, has emphasized the need for Army long-range planning, has overcome limiting pressures of those against such planning, and has broadened Army perspectives in long-range planning, but the regulation does nothing to establish Army long-range forecasting capability. Skeptics of long-range planning remain in the wings awaiting the first blunder. Efforts, such as this workshop, will discourage them.

Through the direction of CSR 11-15, the Army is taking the necessary steps to create a more efficient, better manned, equipped, and supported fighting force for the future. However, if several avenues of approach to the long-range planning efforts of the Army Staff organizations had been completed early in the planning process, more coherent, interrelated long-range plans could be developed. These avenues include the long-range forecasts of: military conflicts and crises, US strategic interests and military issues, and the development of a set of alternative, international holistic environmental forecasts. The latter are called environmental forecasts because they consider the elements of national power of states--political, economic, science and technology, military, and sociological--in the international scene. Such forecasts supplied to the Army Staff and periodically updated, would contribute immeasurably to the decision process of long-range planning. As alluded to earlier, the Army does not currently have sufficient in-house capability to produce such forecasts. Fundamentally, the forecasts I have described are the in-house responsibility of the Army. At the present time, the Army has only a modest capability. With the development of the Army Long-Range Appraisal (ALRA), and the continued production of forecasts by the Futures/Long-Range Planning Group of the Strategic Studies Institute, this capability will be increased--but only slightly. Army long-range forecasting must be given high-level support and status if the issues affecting

the Army are to be appreciated, understood, analyzed, and integrated into Army long-range planning.

Each issue facing the Army is, in itself, a subject for long-range forecasting. Each forecast would analyze an issue within an holistic setting and as it is perceived from several points of view. Some of the broad, strategic issues which will continue to influence the Army--and the nation--in the future are:

- o What political and economic incentives and constraints will affect the world status of the US military?
- o How will the world's energy and resource supplies meet the requirements of the US military? How will the Army be used to meet US energy and resource needs?
- o What shifts in the balance of power may be anticipated? Bipolar? Tripolar? Or multipolar and diffused?
- o Which nations will remain less developed countries and why? What will be their propensity toward turmoil and conflict?
- o What will be the effect of the diffusion of sophisticated weapons on how and where the Army will fight?
- o What in the technological future will change Army force structure, operations, and doctrine? How will the Army adjust and take timely advantage of the technology?
- o How will space and ocean technology change the conduct of land warfare?
- o What is the long-range forecast of Soviet thinking on land warfare? What will be Soviet capabilities for land, sea, air and space conflict?
- o What effects will worldwide expansion of urban areas have on the conduct of land warfare?
- o What will be the effects on the US Army of changing American life styles, shifts in American demographics, and expansion of a multi-cultural, multi-lingual American society?

Such issues as these magnify the complexities of the long-range planning process.

They are not easily answered without comprehensive analysis and forecasts.

To demonstrate the relationship of forecasting to long-range planning, I would like now to present an example of a forecast and the possible steps that planners might take based on their interpretation of an aggregated forecast. My example is a paper entitled, A Concept of a Future Force, which was published by the Futures/Long-Range Planning Group of the Strategic Studies Institute in November 1981.

The forecast of this future force was based on in-depth, thematic analysis of forecasts and futures-oriented literature to derive the predominant US domestic and international trends and their possible consequences that seemed to be channeling Army planners and decisionmakers toward new ways to structure, train, equip, and to fight an Army after the turn of the century. A Concept of a Future Force goes beyond the modernized, yet still traditional, 1990's Army to forecast an Army for the early years of the 21st century.

Figure 1 Figure 1 depicts the major trends considered in the forecast of A Concept of a Future Force.

Technological achievements, especially in high technology, are promoting rapid obsolescence of 20th century military weapons and supporting equipment. Computerized and robotic systems increasingly will partially replace manpower throughout the total Army.

Maneuver space for large 20th century armies will shrink rapidly over the next two decades in most every nation of the world because of growing populations and expanding industries. Nations, wanting to preserve their economic infrastructures, will be even less inclined to have their territory become a battlefield than they are today. The



A CONCEPT OF A FUTURE FORCE TRENDS

- **TECHNOLOGICAL ACHIEVEMENTS ARE PROMOTING RAPID OBSOLESCENCE OF MILITARY SYSTEMS.**
- **THE ARMY IS BECOMING INCREASINGLY CAPITAL INTENSIVE.**
- **ARMY SYSTEMS ARE BECOMING LESS MANPOWER INTENSIVE.**
- **ECONOMIC INTERESTS AND DEMOGRAPHIC FACTORS OF NATIONS WILL INCREASINGLY PRECLUDE DEFINED BATTLEFIELDS.**
- **WORLDWIDE SOVIET AGGRESSION, RESOURCE DENIAL, AND INTERNATIONAL TERRORISM WILL CONTINUE TO BE THE PRINCIPAL THREATS TO US NATIONAL SECURITY AND INTERESTS.**

Figure 1. Major Trends Considered in the Forecast of A Concept of a Future Force*

Taylor, Charles W. A Concept of a Future Force.
Futures/Long-Range Planning Group, Strategic Studies
Institute: Carlisle Barracks, PA. US Army War College,
2 November 1981.

world, then, becomes the "battle arena" and battles will be fought anywhere on earth, in the seas, or in space.

The following figures present the manning and training forecasts of A Concept of a Future Force.

Figure 2 US demographic trends, generally, project fewer individuals in the 17-21 year-old age group. Of those available, little can be determined about their quality, their trainability or even their inclination toward soldiering. The general trend into the 1990's will be a force of decreasing numbers of personnel and retention and recruitment of older-age soldiers (25-32 year-old age group and older, as the Army extends retirement age).

As new technology in automation, robotics, and computerization becomes available during the next two decades, fewer military personnel will be required for advanced military operations, such as robotic command posts or automated resupply systems. The Army will become accustomed to operating with fewer personnel.

General increases in educational level and technologically-oriented skills within the national population will improve the availability of qualified personnel for the Army as well as for industry.

Maintaining military careers on a financial par with industrial/business careers, the institution of a continuing-career educational system, along with other incentives, will aid in assuring that the Army acquires and retains needed specialized personnel.



MANNING THE FORCE

THE 21ST CENTURY ACTIVE ARMY:

- **IS LESS MANPOWER INTENSIVE.**
- **REQUIRES FEWER OPERATIONAL PERSONNEL.**
- **EMPHASIZES TRAINABILITY, SKILLS, KNOWLEDGE, LEADERSHIP TRAITS, AND PERSONAL VALUES IN MANPOWER SELECTION.**
- **REFLECTS, IN THE BROADEST SENSE, THE COMPOSITION OF THE US SOCIETY IN ITS PLACEMENT OF THE MOST QUALIFIED PERSONNEL.**
- **HAS, ON THE AVERAGE, OLDER-AGE SOLDIERS.**
- **HAS HIGH RECRUITMENT, RETENTION, AND CAREER INCENTIVES.**

Figure 2. The Manning Forecast of A Concept of a Future Force.

Figure 3 One part of the training and education for the 21st century Army would be a DOD funded continuing-career educational program which would serve as an incentive for enlistment and a reward for service.

Operational training would not only train personnel to program computerized robotic equipment but also to understand equipment design and operation.

Advanced testing methods would increase the likelihood of effective operational performance.

Figure 4 Simulators will be designed for weapon systems training using highly sophisticated (future generation) video game-like logic devices.

Three-dimensional, computerized mini-combat arenas using 21st century weaponry and multi-media concepts will serve as training simulators for combat unit personnel.

Computerized wargames will range from urban tactical engagements to tactical engagements in space, to broad strategic engagements worldwide with zoom capabilities to any smaller geographic area.

Advanced instructional technology will include miniaturized video discs with hand-held playback cassettes and individual (pocket sized) computer/communicators as standard issue at service schools and which will be career-retained.

In principal and design, the teleconferencing systems now used within the schools will be used in the field.



TRAINING THE FORCE

THE 21ST CENTURY ACTIVE ARMY WILL INCLUDE:

- **INNOVATIVE TRAINING AND EDUCATIONAL PROGRAMS WHICH WILL BLEND POTENTIAL SKILLS, KNOWLEDGE, AND LEADERSHIP TRAITS.**
- **A COMPREHENSIVE PEACETIME MILITARY AND CIVILIAN CONTINUING-CAREER EDUCATIONAL PROGRAM.**
- **OPERATIONAL TRAINING USING THE MOST ADVANCED EDUCATIONAL/TRAINING TECHNIQUES.**
- **ADVANCED TESTING METHODS THAT MATCH HUMAN APTITUDES AND PERFORMANCE CAPABILITIES WITH SYSTEMS.**

Figure 3. Training Forecast of A Concept of a Future Force.



TRAINING THE FORCE

THE 21ST CENTURY FORCE WILL EMPHASIZE:

- **COMPUTERIZED TRAINING DEVICES AND SIMULATORS GEARED TO NEW TECHNOLOGICALLY ADVANCED WEAPONS SYSTEMS.**
- **NEW INNOVATIVE SIMULATORS FOR COMBAT TRAINING.**
- **COMPUTERIZED ROBOTIC TRAINING DEVICES.**
- **TOTALLY COMPUTERIZED WARGAMING WITH FULL DISPLAY AND GAMING CAPABILITY.**
- **ADVANCED INSTRUCTIONAL TECHNOLOGY AND MULTI-MEDIA TECHNIQUES INCLUDING INTERSERVICE OMNIPRESENT TELECONFERENCING NETWORKS.**

Figure 4. Training Technology Forecast of A Concept of a Future Force.

Equipping the 21st century force will require long-range planning decisions which, though they may be modified as the years pass, define the general objectives of the future force.

Figure 5 Some of the forecasts of equipment needs for the 21st century Army are depicted in Figure 5.

Mobility systems may have independently self-contained or field-generated energy/propulsion sources. They are light-weight and may be designed with built-in weapons and counterweapons systems. All have computerized audio-video C³I and, where appropriate, robotic features.

Communication systems are lightweight, have a built-in energy source or may be solar energized or reenergized by small high-energy output mobile field units. Systems may have built-in shielding and nuclear blast protection.

Shelters for units may be low-density, radiation and shock proof, of inflatable design with optional modular features for individual to large unit such as a command center. Food packets for individual to large unit may be compact, irradiated or freeze-dried or concentrated high-nutritive liquid or tablets. Ultrasonic logistic drones may resupply materiel via lower or upper air routes or from outer space.

Where appropriate, selected weapon systems may be computerized and robotic, with artificial-intelligence.

The early design, manufacture, and procurement of these equipment needs are essential to an orderly transition from the



EQUIPPING THE FORCE

EQUIPMENT NEEDS FOR THE 21ST CENTURY ARMY:

- **MOBILITY FOR LAND, SEA, AIR, AND SPACE TRANSPORT FOR INDIVIDUALS AND SMALL AND LARGE UNITS. SYSTEMS ARE VARIABLE SPEED, VSTOL AND STEALTH DESIGN, AND HAVE ROBOTIC OPTIONS.**
- **COMMUNICATION SYSTEMS FOR INDIVIDUALS AND SMALL AND LARGE UNITS. SYSTEMS ARE MINIATURIZED AND JAM-PROOF, HAVE NEAR REAL-TIME RECEPTION AND AUDIO-VIDEO TELECONFERENCING CAPABILITY.**
- **SUPPORT FOR SMALL AND LARGE UNITS THAT PROVIDES ALL-WEATHER AND ENVIRONMENTS RESUPPLY TO LAND, SEA, AIR, AND SPACE LOCATIONS.**
- **WEAPON SYSTEMS FOR LAND, SEA, AIR, AND SPACE USE WHICH MAY BE CAPABLE OF EFFECTS RANGING FROM HIGH LETHALITY TO SELECTIVE INCAPACITATION AGAINST PERSONNEL TARGETS, AND HIGH-KILL AGAINST FIXED AND MOBILE TARGETS. MOST USE LASER, PARTICLE BEAM, RADIATION, NUCLEAR, CHEMICAL, ACOUSTIC, AND PSYCHOTRONIC SYSTEMS.**

Figure 5. Equipment Forecast of A Concept of a Future Force.

1990's modernized Army to the 21st century Army and to the effectiveness of the future force. Such systems will hasten technological obsolescence of enemy capabilities.

The concept for the general structure of the 21st century Army is shown in Figure 6.

Figure 6

The turn of the century Army will be a more rapidly deployable, technologically superior fighting force than the 1990's modernized Army. The elements: attrition, reactionary, and contingency forces, can be compared to the heavy, medium, and light elements of the traditional Army. They are defined, however, in terms of weapons' lethality and their use in combat.

In the attrition forces, heavy tank shock action would be replaced by high lethality weapons in low-air attack vehicles.

Attrition forces, for example, might be used in a North African conflict: reactionary forces in the Middle East, Europe, or South East Asia: and contingency forces in South Asia, Central America, Europe or South East Asian urban areas or combatting terrorists.

Figure 7

The forecast of the predominant combat operational characteristics of the 21st century fighting force are a rapid succession of actions:

S C A N, S W A R M, S T R I K E AND S C A T T E R.

This is not necessarily a totally new concept. It can be compared, in part, to a S E A R C H AND D E S T R O Y concept of operation.

It is, however, transposed into a new context, the 21st century, and updated with the most advanced communication, mobility, and weapons technology.



FIGHTING THE FORCE

COMPOSITION OF THE 21ST CENTURY ARMY

- **ATTRITION FORCES** **30%**
 - HIGH LETHALITY, FIREPOWER INTENSIVE
 - MODERATE MOBILITY AND DEPLOYABILITY
 - HIGH SURVIVABILITY
 - OPEN TERRAIN OPERATIONS

- **REACTIONARY FORCES** **40%**
 - MODERATE LETHALITY AND INCAPACITATING
 - HIGH TO MODERATE MOBILITY AND DEPLOYABILITY
 - MODERATE SURVIVABILITY
 - OPEN OR CLOSE TERRAIN AND MOUT OPERATIONS

- **CONTINGENCY FORCES** **30%**
 - LOW LETHALITY, HIGH INCAPACITATING
 - HIGH MOBILITY AND DEPLOYABILITY
 - MODERATE TO LOW SURVIVABILITY
 - CLOSE TERRAIN OPERATIONS
 - MODERATE TO HIGH SPACE OPERATIONS
 - HIGH SPECIAL FORCES OPERATIONS

Figure 6. Forecast of a Force Composition of A Concept of a Future Force.



FIGHTING THE FORCE

COMBAT OPERATIONS

- **SCAN**
- **SWARM**
- **STRIKE**
- **SCATTER**

**DEEP, DECISIVE LIGHTNING-LIKE OR PIRANHA-LIKE STRIKES
AGAINST ENEMY FORCES' CONCENTRATIONS**

Figure 7. A Concept of Operations as Suggested in A Concept of a Future Force

The use of the most advanced target acquisition, surveillance, electronic warfare and countermeasures, and intelligence and deception systems will be indispensable to the success of this concept.

The two modes of striking the enemy force concentrations are: a lightening-like or a single or a one-time devastating strike to destroy the enemy and a piranha-like or rapid, short-duration multiple strikes which psychologically and materially destroy the enemy's will and capability to fight.

Management of the future Army in the 21st century will be as complex as it was in the 20th century. Future Army management systems will be more cost-effective and productive and will require fewer personnel to perform management tasks.

Figure 8 Decentralized management practices will incorporate participative management schemes to use maximum advisory decisionmaking talents.

Commanders as managers will have three dimensional, real-time video display of operations from worldwide and space Army bases, depots, and stations. The commander's wisdom can be shared with the insights of his leaders in the battle arena. Teleconferencing can result in increased innovation, greater motivation and efficient unit performance if handled properly.

After analyzing this forecast of a future force, long-range planners might come up with the following broad objectives:



MANAGING THE FORCE

- **DECENTRALIZED DECISIONMAKING**
- **MORE CONSENSUS DECISIONS**
- **HIGH USE OF TELECONFERENCING**
- **SINGLE INTEGRATED DOD EDUCATION AND TRAINING**

Figure 8. Salient Features of Future Army Management

Figure 9

The conceptual 21st century Army is lean. It could be manned by possibly less than half the number of personnel of the traditional 20th century Army.

Independent brigades would be the basic operational combat units. Current trends in technology indicate that during the next two decades protective armor will be lighter in weight; novel modes of high-speed mobility will be developed; and new classes of weapons ranging in effects from high lethality to incapacitation will be field tested and deployed to the 21st century fighting force.

New innovative training systems using simulated combat arenas, which are computerized and robotic with three dimensional wrap-around sound and images, could be developed. Such arenas could be a variety of sizes up to the size of the astrodome or, eventually, a computer chip placed behind the ear of a player or trainee.

The increasing accessibility of information, the transfer of technology, and the modernization of world societies have been responsible for an ever-increasing rate of change in the international environment over the past several decades. This rapid change, along with new technological advances which will create new specialty skills, and a dwindling supply of military-age manpower will demand that Army planners and decisionmakers reevaluate traditional Army structure, missions, roles, and concepts of land combat to assure a continuing development of a fighting force that will be appropriate for the 21st century. Such planning could be arranged in these four time-period phases as shown in Figure 10.



A CONCEPT OF A FUTURE FORCE

THE CONCEPTUAL 21ST CENTURY ARMY:

- **IS LEAN IN NUMBER OF PERSONNEL**
- **IS TECHNOLOGICALLY SUPERIOR TO 20TH CENTURY US FORCES.**
- **IS LIGHTER IN OVERALL WEIGHT AND IS MORE RAPIDLY DEPLOYABLE THAN THE 1990'S MODERNIZED ARMY.**
- **HAS GREATER MOBILITY, SUSTAINABILITY, AND SURVIVABILITY THAN PREVIOUS FORCES.**
- **HAS BROAD FLEXIBILITY IN CHOICE OF WEAPONS AND WEAPONS EFFECTS IN COMBAT OPERATIONS.**
- **IS INNOVATIVELY TRAINED FOR OPTIMUM 21ST CENTURY COMBAT PERFORMANCE.**

Figure 9. Principal Objective for Long-Range Planning

Figure 10 Planning the 21st century Army will require planners to address such problem areas as:

The availability of manpower, skills and training needs as well technological advances, with timely development to accommodate doctrinal concepts. Army planners also will have to analyze the threat--such as long-range Soviet technological warfare capabilities on land and sea and in air and space; and, finally, long-range planners will have to ponder the possible characteristics of 21st century warfare--weapons and counterweapons and what the 21st century will be like.

The transition to the 21st century Army will create a period of dual-existing forces: A small, active Army to fight 21st century conflicts, and a large reserve component to assist in fighting 20th century-like battles should they occur before the transition is completed.

Some of the risks facing the decisionmaker which would preclude the development of a 21st century Army are depicted in Figure 11.

Figure 11 Anticipated technology does not emerge in a timely manner to meet bench marks--this could be the result of a temporary technological burnout or a national failure to invest in scientific research.

Unanticipated events could be: an economic depression occurs in the domestic scene or a major war involving the United States occurs in the international scene.

Continuing transfer of technology to the Soviet Union, legally or illegally, an intelligence underestimation of Soviet military technological application, or naive political oversight would permit the



PLANNING THE FUTURE FORCE

- 1985** – LONG-RANGE PLANNERS DEVELOP CONCEPTS OF A FUTURE FORCE AND DETERMINE NEW ROLES, MISSIONS, AND OPERATIONAL NOTIONS OF THE TOTAL FORCE.
- 1990** – MIDRANGE PLANNERS DESIGN TRANSITION FROM TRADITIONAL MODERNIZED FORCE TO THE FUTURE FORCE; DEFINE MANNING, TRAINING, EQUIPPING, FIGHTING, AND MANAGING THE FORCE. WHERE FEASIBLE, BEGIN IMPLEMENTING EQUIPMENT AND TRAINING REQUIREMENTS.

Figure 10. The Long-Range Plan for A Concept of a Future Force.



PLANNING THE FUTURE FORCE

- 1995** – BEGIN PLANNED PHASEOUT OF THE 1990'S
2000 – MODERNIZED ARMY AND PHASE IN OF THE
21ST CENTURY ARMY.
- BROADEN AND INTENSIFY INNOVATIVE TRAINING.
 - INCREASE ACQUISITION OF ADVANCED EQUIPMENT REQUIREMENTS
 - ACCELERATE EQUIPMENT TRANSFER TO THE RESERVE COMPONENT AND INCREASE RC TRAINING AND EXERCISES.
- 2000** – COMPLETE TRANSITION
2005 – ROUND OUT THE TOTAL FORCE
- COMMENCE INTENSIVE SIMULATED OPERATIONAL COMBAT EXERCISES
 - BEGIN PHASE IN OF 21ST CENTURY TRAINING, EQUIPMENT, OPERATIONS TO THE RC.

Figure 10. (Continued)



DECISIONMAKER'S RISKS

- **TECHNOLOGICAL SLUMP**
- **UNANTICIPATED EVENTS**
 - **DOMESTIC**
 - **INTERNATIONAL**
- **USSR SURPASSES US TECHNOLOGY**
- **THE HORN OF PLENTY IS A MYTH**
 - **CRITICAL RESOURCES NEAR DEPLETION**
 - **NO REPLACEMENTS**

Figure 11. Risks Which Could Preclude the Development of a 21st Century Force as Conceived.

Soviet Union to surpass the United States technologically. The United States could ill afford to fight a technologically superior enemy.

The prospects of depletion of critical resources and the failure of scientists to develop replacements could result in an international struggle for survival.

This concept of a future force, and its suggested long-range planning, is one person's opinion of what trends and forecasts suggest the Army might be like after the turn of the century. As the Army's long-range planners ponder alternative forecasts of future world environments, the impact of technological change, and the characteristics of future armed conflicts, they will develop other concepts, one of which will be the Army of the future.

This concludes my presentation. Its primary purpose was to clarify the relationship of forecasting to long-range planning. Additionally, I hope that it has stimulated your thoughts and assisted you in your tasks as this workshop draws to a close.

Thank You.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report presents the linkage between long-range forecasting and long-range planning with their focus on the management of the future. The report emphasizes the need for an Army capability to provide comprehensive, alternative long-range forecasts as foundations for Army long-range planning. An example forecast is included to demonstrate this requirement.		