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# POTENTIAL IMPACTS OF CULTURAL CHANGE ON THE NAVY IN THE 1970'S

VOLUME 1

PART I: FINDINGS AND IMPLICATIONS

PART II: SECTION 1: INTRODUCTION

SECTION 2: SUMMARY OF DATA  
AND IMPACTS

Researcher  
NATIONAL TECHNICAL  
INFORMATION SERVICE



WESTINGHOUSE  
DEFENSE & ELECTRONIC  
SYSTEMS CENTER

CENTER FOR ADVANCED STUDIES & ANALYSES

1 August 1972

Final Report

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THE POTENTIAL IMPACTS OF CULTURAL CHANGE ON THE NAVY IN THE 1970's

Final Report

Dr. Anthony L. Wermuth

1 August 1972

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This report surveys significant changes taking place in modern society, or predicted to take place in future society, under eleven major categories: Philosophical, International, Technological, Bio-Medical, Cultural and Social, Organizational, National Orientations, Domestic Institutions, the Continuing Military Context, Vietnam and Other Impacts, and Old and New Directions. Sixty sub-categories are used to organize the data cited from almost 1800 sources. In selecting data, criteria of importance and probability were used, and particularly the criterion of relevance to the values of the Navy and to Navy and Marine Corps systems of (non-tactical) organization and of administration of personnel. Over 400 potential impacts are explicitly identified, and many other are implicit in the data and the discussions; the nature of the impacts ranges comprehensively from abstract and philosophical to concrete, specific, and technical.

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KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	AT	ROLE	WT	ROLE	WT
The Future Military Military Institution in Future Society The Military and Society Armed Forces and Society The Navy and Society Change and the Military Change and the Navy Social Change Cultural Change The Navy, the Marine Corps, and Social Change Future Impacts on Navy Personnel and Organization Cultural Impact on the Navy and Marine Corps Navy and Marine Corps of the Future Future (non-tactical) Military Organization Youth and the Military in the Future						

"Yesterday's authority is gone, and  
tomorrow's authority doesn't exist yet."

-Raymond Aron  
(BP337)

"...It is clear that the next great  
cultural advance of mankind will involve  
the rejection of tradition and of particularism."

-Orlando Patterson  
(BS3)

## TABLE OF CONTENTS

VOLUME 1	PART I	FINDINGS AND IMPLICATIONS
	PART II	SUMMARY
	Section 1	INTRODUCTION
	Section 2	SUMMARY OF DATA AND IMPACTS
VOLUME 2	PART III, Section 1	PHILOSOPHICAL
	Section 2	INTERNATIONAL
VOLUME 3	Section 3	TECHNOLOGICAL
	Section 4	BIO-MEDICAL
VOLUME 4	Section 5	SOCIAL AND CULTURAL
	Section 6	ORGANIZATIONAL
VOLUME 5	Section 7	NATIONAL ORIENTATIONS
	Section 8	DOMESTIC INSTITUTIONS
VOLUME 6	Section 9	THE CONTINUING MILITARY CONTEXT
	Section 10	VIETNAM AND OTHER IMPACTS
	Section 11	OLD AND NEW DIRECTIONS
VOLUME 7	PART IV	BIBLIOGRAPHY

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# TABLE OF CONTENTS

## VOLUME 1

		Page
PART I	FINDINGS AND IMPLICATIONS	1
PART II	Section 1: INTRODUCTION	9
	Purpose of the Project	11
	Background	11
	Scope of this Project	12
	Notes on Presentation of Data	13
	Central Interest of this Study	15
	Scope of the Data	16
	Section 2: SUMMARY OF DATA AND IMPACTS	23
	Summary of Data and Impacts	25
	Philosophical	27
	International	31
	Technological	37
	Bio-Medical	43
	Social and Cultural	49
	Organizations	69
	National Orientations	79
	Domestic Institutions	85
	The Continuing Military Context	95
	Vietnam and Other impacts	101
	Old and New Directions	107

PART I  
FINDINGS AND IMPLICATIONS

## FINDINGS AND IMPLICATIONS

Surely, the Navy will be among institutions receiving some of the most forceful impacts from current and future social change.

Like its sister Services, and despite the imperfections and mistakes that befall all mortal enterprises, the United States Navy has all the necessary characteristics to be what it is: one of the great institutions of American society. It is of formidable size and complexity, having housed millions of Americans and organized them in systems and procedures for the performance of coordinated tasks. The roots of its value system are, mainly, sunk deeply in the American ethos, but a goodly portion of the Navy ethos is rooted in value systems tested over longer periods of time than even the two centuries of American identity. It is important; many of its distinguished deeds were crucial to the continued course of this society, and its central function continues to be indispensable. It is unique; its expertise, carefully honed, passed to successive generations with painstaking concern, cannot be duplicated. Its ships and stations, schools and staffs are animated by people who are bright, competent, and devoted.

One might think that a great institution of such stability, uniqueness, expertise, and devotion would be almost invulnerable to social change; but no institution, whatever its stature and without exception, is invulnerable any longer, if it ever was.

In our times, as Margaret Mead observes, a dozen revolutions are occurring simultaneously. Institutions being buffeted by change object that, while some of the revolutionary themes being advanced are valid, others are outrageous, naive, apocalyptic, or irrational. And so some are. But one's reaction depends partially on one's background, and station in life, and conditioned perspective.

Some current revolutions are more or less transitory fads; however sweeping and demanding they may appear to be over a couple of years, they leave little residual effect. Many of the themes being advanced will go the way of all fads, or otherwise fail the severe tests necessary to qualify as part of the future's grand design, and so fall among the discards.

Some other current revolutions are cyclic or tidal in nature; their dimensions, even some of their themes, are more or less familiar, and the Navy has lived through similar times before. Among familiar themes are the end-of-war renunciation of military affairs, the determination to reduce military budgets, the resurgence of faith in the possibilities of banishing war, premature assertions of generational competence, and some increase in egocentric, hedonistic pursuits. Each time the cycle infuses these elements with renewed force, they recur with varying styles and orbits; and they leave behind another increment of change. Their course is not completely unpredictable; we may even foresee their diminution as part of the classical cycle.

In Maslow's and MacGregor's analyses, the pyramid of motivation comprises several layers. The most elementary level is concerned with motivations to satisfy hunger, thirst, cold, and so on. The next level, slightly less fundamental, concentrates on ensuring one's personal safety and security. At this point, one interjects MacGregor's finding that a satisfied need is no longer a motivator of behavior. Thus, as in our affluent society, many have no cause for concern over their basic needs, but are free to pursue "higher" levels of motivation—social acceptance, social approval, self-acceptance and identity, esteem, prestige, and self-fulfillment. If one were to transfer the application of this theory from the individual to the nation, it would be apparent that the Navy satisfies an elementary need of the nation. When safety and security are not certain, they become primary motivators of a nation's behavior; but when the nation appears to be secure, other motivations predominate.

Some other revolutions occurring, however, seem more like peaks on a continuous wave of human progress, an extended movement with non-recurrent

stages, whose destination lies far beyond any horizon that we can see. The effects of these revolutions are the least predictable of all—in nature, scale, or duration.

There is a case to be made for identifying the roots of all the valid themes, not in contemporary events, but in the very long history of man. None of these themes has been discovered today—in the youth movement, or in any other area of the culture. They have all been cited again and again, by one or another political philosopher, religious founder, moralist, heretic, poet, or scholar. Basically, they pursue universal, ancient ideals, such as justice, freedom from want, and freedom from fear and servitude. They bear witness to the myths, the rationalizations, and the shortfalls in social performance; and they advance the human condition by some degree. Their effects are more or less permanent.

All three types of change (actually, there are dozens), have to be coped with during any one period, especially a period so charged with dynamism as the one we are living in now; and it is difficult to predict the probable range of effect of any particular change, especially overlapping aspects changing at different levels. Overall, the changes which are most significant for the future are those which are part of the long historical trend, especially significant in relation to institutions which must themselves endure far into the future.

The data presented in this project, sounding some 1800 sources, show but the tip of the iceberg. We identify some 400 potential impacts; and a number of others are implicit in the data, involving changes of all types and levels of significance. We stress that these soundings are taken en route. There are few signs that "safe harbor" is dead ahead; and there are numerous signs that the unfinished part of the voyage will be long indeed and that the waters are still largely uncharted. It would be a wise decision to monitor social change continuously and systematically, much as technological change is monitored.

Peering as far into the future as the span of a decade, and well aware that many aspects of the following changes are also occurring on other levels,

we suggest that the following are the areas of cultural change of greatest long-range significance to the future of the Navy and Marine Corps.

- the changing role of change: its acceleration and pervasiveness; the sense of uncertainty and intermittent confusion it generates; the growing suspicion it fosters that there are no permanent answers, only time-bound and culture-bound clarifications; a sense of temporariness; a need for a new attitude toward change — an attitude of calm acceptance of change as a permanent feature of the social condition. This is very disruptive for men and institutions, who tend to seek equilibrium. We may have to develop a sixth sense of continual awareness, or readiness, toward change.

- the enlarging universe: exploration of outer space, still in its infancy, suggests that our perspectives will change, to regard it less as an awesome, hopelessly unfathomable mystery, and more as a fantastically difficult problem and challenge. As yet, we understand very little about how to overcome the challenge, but it is no longer regarded as beyond human comprehension or totally beyond human challenge. This altered perspective has much to do with the altering perspectives toward the place of man in the universe.

- the shrinking Earth: not much of this planet remains in the "unknown" category. Even the Undersea will soon become the scene of much activity and exploration. As human population multiplies, we become conscious of the finite limits of the Earth's space and resources. As time and distance are compressed by communications, transportation, education, trade, and international transactions, cultural differences seem potentially less divisive. A sense of regional community is expanding unevenly; a faint sense of world community struggles to grow beyond embryo, especially among the young, altering perspectives toward such concepts as "sovereignty," "closed society" and "cultural superiority."

- the erosion of authority: in the family, church, school, government, institution. Evolution in the roles of ethics, morals, institutional religion. The powerful effects of rising levels of knowledge and education. The rejection of

systems of rough justice and rough equality in favor of more precise systems. The decline of elites and of the "charismatic Great Man" concept. Evolution of leadership along lines of sharing and social exchange. Uncertainty of the adult, in rejecting at least part of the responsibility for the unsatisfactory state of this much-criticized world. Erosion of the structural value of the Work Ethic leads to future concern over which social vehicles will perform the function of transmitting this society's core-values to the young. Perhaps this revolution, despite its appearances, is not really engaged in an infeasible rejection of all Authority, only in rejection of many of the specific authorities cited so far.

- the New Sensibility: heavy emphasis on individualism, especially among the young. Restlessness under discipline. Resistance against being hopelessly committed to practices, Authorities, and values simply handed down from the past. Insistence on qualities of justice, freedom, and equality beyond mere facades or old rough systems. Concern to develop each individual's full potential. Concern for others often expressed, but depth of real concern ambiguous. Diversity, diversity — making available more alternatives for choice.

- inner space: exploration of the human psyche, uncovering new layers of motivation. Interrelationships among beliefs, values, attitudes, preconceptions, perceptions, biases. How accurate is our evaluation of performance, let alone of motivation? How does learning take place? What is patriotism? Are the triggers of alienation in the environment or the individual? Analysis of "what makes us tick" is proceeding from fragmentary insights to organized system of systems.

- social dynamics: a host of trends, including social and physical mobility. Evolution in the roles of family, marriage, sex, women, minorities. Anticipating widespread installation of the computer, changes in motivation, conditions, terms, and goals related to work and leisure, including a fear of not being needed by future society. Dissatisfaction with materialistic goals. Growth of a sense of community, somewhat ambivalent.



-- social organization : increasing need for social planning and control.

Organizations will become bigger, more complex, more interrelated, more socially conscious. Need to humanize the bureaucracy. Blurring distinction between public and private sectors. Public organizations will become more client-oriented, more citizen and consumer oriented. In the rising tension between the individual and the organization, the organization may provide indispensable shelter, but without walls.

The Navy future is like a great tapestry being woven in a shop crammed with whirring machines, full of spinning axles, pulleys, gears, belts, and wheels of different diameters and ratios, some operating on reduced scales developing peripheral portions that can be removed and replaced in the future, others designed on more majestic scales developing the main portions that will endure. The Navy is not alone. Many other social institutions—government, universities, religious bodies, corporations—will be affected by the same changes. Each will, for example, retain less autonomy or isolation, and will experience greater interrelation and perhaps greater convergence with other institutions. Each will reexamine its most basic rationales and restate them in modern terms more meaningful to new generations. Indispensable social functions will still be performed a decade from now; but the styles of internal and external relationships, the methods of orientation and assimilation, and the life-styles of persons and organizations may undergo extensive change.

PART II  
Section 1  
INTRODUCTION

## INTRODUCTION

### PURPOSE OF THE PROJECT

To identify potential impacts resulting from the comprehensive range of cultural change in the decade ahead upon the Navy (and Marine Corps) activities concerned with personnel and organization.

### BACKGROUND

This research project was conducted between July 1970 and August 1972.

Dr. Anthony L. Wermuth served as principal investigator throughout the project. Other members of the Westinghouse Center for Advanced Studies and Analyses who worked on the project at one time or another included Mr. Misha N. Kadick, Dr. Paul C. Davis, Dr. Arnold Singer, Mr. Frank Murphy, Mr. Dimitry N. Ivanoff, Mr. Eric Wickstrom, Mrs. Marjorie Mapp, Miss Jane B. Brodsky, Mr. Herb Klinghoffer, Miss Deborah Cobin, Miss Sue K. Coady, Miss Carol Migdalovitz, Miss Joan Lewis, Miss Jean Mims, Mr. Geoffrey Hurwitz, Mr. Gregory Christopoulos, and Mr. Robert Goldich.

We would like to acknowledge the attentive and helpful support throughout of the project monitors in the Office of Navy Research, Dr. John A. Nagay and Dr. Bert King.

Many persons and agencies have contributed to the accomplishments of this project in one way or another. The entire list would take up too much space here; hence we shall content ourselves with citation of the principal ones: Office of Naval Research, Bureau of Naval Personnel, the Deputy Chiefs of Staff for Personnel of the Army and Air Force; the United States Military, Naval, and Air Force Academies; the Air University, and the Naval, Army and Air War Colleges; the Armed Forces Staff College; Navy Personnel and Training Research Laboratory, the Naval Training Center, and the Marine Corps Recruit Training

Center, all at San Diego, California; the Naval Training Station, Great Lakes, Illinois; the Naval Post Graduate School, Monterey, California; the Air Force Training Command, Lackland Air Force Base, Texas; the Army's 4th Division, Fort Carson, Colorado; the Army's Combat Developments Command; and various research agencies.

### SCOPE OF THIS PROJECT

This project has been divided into three sequential phases:

PHASE I: Development of a typology of the Navy's values as an institution, utilizing the methodologies of values, value systems, and value change, and deriving a typology from the spheres of American values, military values, and organization values.

The results were published: The Institutional Values of the Navy (AD726446) in June 1971.

PHASE II: Search and appraisal of the literature (official, popular, specialist, academic, scholarly, disciplinary) concerned with forecasting future cultural change across a wide spectrum of social activity: philosophical, international, technological, bio-medical, social and cultural, organizational, domestic institutions, domestic orientations, and the military establishment.

PHASE III: Projection of selected impacts into the Navy's systems for personnel and organization including the continuing military establishment as context for change, current social change and their military impacts, old and new directions of future impacts, and implications for Navy values.

## NOTES ON PRESENTATION OF THE DATA

1. The order of presentation of sections of this report places first this background, then a brief statement of implications, then a summary of the most important findings and conclusions, then the body of data on change and impact.
2. The major subsections of the main body of data bear these headings: Philosophical; International; Technological; Bio-medical; Social and Organizational; National Orientations; Domestic Institutions; the Continuing Military Context; Vietnam and Other Impacts; and Old and New Directions.
3. In general, predicted changes are presented on the left side of the page; potential impacts are discussed on the right side. Many passages of changes extend exclusively over a number of serial pages; in such instances, entire pages are devoted to change. The same procedure has been used where impact discussion extends exclusively over several successive pages. Otherwise, where both change and impact are directly related on the same page, both aspects appear on the same page.
4. In the great majority of instances, every entry of change is listed with reference to one or more specific entries in the bibliographies. There are a number of exceptions, concerning changes conceived directly by the study team.
5. There is a certain amount of deliberate overlap among sections and subjects, to demonstrate the interrelationships among many areas of the data. Some subjects are covered extensively in one section, but also covered to lesser extents in various other sections—for example, technology and values. As noted, on many points, we have cited a number of sources whose views on the same point sometimes agree, sometimes disagree, sometimes intermix.

Repetition will be noted fairly frequently; sources are cited which repeat the views of others in order to establish some sense of the reinforcement that exists concerning certain views. One reason is that no one source has a monopoly on truth or prescience. In other instances, the original source of many ideas cannot be identified.

6. The data in the first eight Sections are predominantly reflective of social change in the broad contexts outside the military. Among these data, a number of impacts are cited which have obvious direct application on Navy activities. In those Sections, nevertheless, we have relied principally upon our own articulation of specific impacts on Navy activities. In the final three Sections, the focus of the data is reversed; data in these Sections are preponderantly addressed directly to the military context, and many items of data project impacts on Navy activities so specifically as not to bear repetition. In those three Sections, nevertheless, a number of other points do appear to bear restatement with an added dimension; and so, we have specifically articulated several impacts in those Sections also.
7. We have relied perhaps more heavily than is normal in comparable studies on newspapers and periodicals because of the rapidity of change in these times; while a book may forecast a specific change ahead without any real evidence, newspaper items sometimes provide evidence that such a change may be actually underway.
8. We quote more frequently and at greater length than is perhaps standard in comparable studies. The principal reason is that something of the value judgment is often transmitted by the author's own words, as well as identification of his specific evaluation.
9. We have tried to avoid technical jargon, believing with Melville that "a man of true science uses but few hard words, and those only when none other will answer his purpose; whereas the smatterer in science...

thinks that by mouthing hard words he understands hard things." This penchant for plain English has been violated occasionally, when the points cited seem important enough to be described in direct quotations of which the clarity leaves something to be desired. Material that proved out-and-out unintelligible to us has been deleted—perhaps a deprivation to a few readers but a boon to others.

10. Practically every item drawn from a source in the literature is keyed to an entry in the bibliography, according to the following categories: BG, government publications; BF, foreign publications; BB, books; BP, periodicals; BN, newspapers; BM, miscellaneous; BS, supplementary bibliography.

#### CENTRAL INTEREST OF THIS STUDY

We have tried to keep in mind throughout this study that the purpose of making it is related to the missions of the Navy and Marine Corps (and the military in general) and that the value of our data will be established by identifying relationships to the military environment. Some items may seem somewhat distant from military affairs; further reflection may bring concurrence with us that there is a relationship and that it is worth consideration.

In respect to this central interest, an important overall dilemma facing the armed forces has been well stated by Lawrence I. Radway:

"Armed forces leaders have always required two sets of virtues. One consists of skills and attitudes useful in battle, the other of skills and attitudes useful in coping with the larger social and technological environment."

"Combat leadership requires an ability to inspire a special category of men under special conditions...if few will ever hear a shot fired in anger, all must be taught to persevere in the face of confusion and danger...and human beings must be trained to overcome egoism and fear: it does not come naturally. Hence adamant insistence on loyalty, unity, courage, obedience, hardiness, and zeal. In no man are such qualities much enhanced by long study or reasoned argument, least of all in the underclasses who loom so large in combat outfits. They are enhanced instead by discipline, by symbol, and above all by personal example..."

"The converse is true of ability to cope with the larger environment. In Janowitz's terms, this rests on 'managerial' rather than 'heroic' qualities...

"The history of military education has been a tug-of-war between two images: one conceives of the soldier as a fighting man, the other as a manager. The claims of the manager are now pressed vigorously... Yet it is just as obvious that those [other] virtues are not obsolete. So the tug-of-war continues...

As an Air Force Academy statement put it:

'The Academy must fuse two potentially conflicting values: on the one hand, the spirit of intellectual integrity and inquiry, which may downgrade deference to authority, unless rationally supported, and on the other hand, the spirit of military loyalty and discipline, which sometimes accents deference to authority without rational justification.'

"The width of the gap should not be exaggerated since earnest efforts are made to bridge it from both sides, but it is never wholly closed." (BB247)

#### SCOPE OF THE DATA

1. We have cast very wide nets into the ocean of forecasted change, as is evidenced in the range of headings under which the data are organized. With few exceptions, we have tried to cover every major field of human activity represented in the literature of prediction that appears potentially relevant to Navy people and organization.
2. The two primary-interest areas among Navy activities are those involving systems for handling personnel and (non-tactical) organization. By personnel systems, we mean recruitment, classification, testing, training, education, administration, selection, promotion, elimination, reward and punishment, pay and benefits, facilities and support, dependent support, and retirement.



3. By activities related to organization, we mean institutional roles; formal and informal structures; bureaucracy; stratification; primary and secondary groups; internal communities; internal communications; concepts of command, direction, management, and leadership; linkages to external institutions and groups; and linkages to values and change.
4. Obviously some degree of selectivity and judgment had to be exercised amongst the proliferating literature of prediction. Some rule of parsimony had to be applied, else we would have been buried under data, of which much would have had little or no significance. Data collection essentially ceased early in 1972, except for a number of important items.
5. The principal criteria utilized for selection are importance and likelihood. Sources vary greatly in their efforts to support their predictions, ranging from flat statement to painstaking application of several stages of the Delphi technique. Such argumentation and analysis as appear in the literature concerning each prediction have been taken into consideration in applying the criteria of likelihood and importance. The study team's application of these criteria to a great number of predictions was necessarily subjective.
6. Whenever the Navy is referred to, Marine Corps interests are included. It is assumed that most aspects of cultural change will affect the Marines Corps (and, in fact, the Army and the Air Force) about the same as the Navy. Hence, distinctions are not routinely made in this study. Where it seems appropriate to distinguish Marine Corps impacts from Navy impacts, distinctions are indicated.
7. Our objective is to point out impacts which we believe may emerge from future cultural change and affect the Navy. We do not attempt to tell the Navy what to do about them. In certain instances, we pass beyond stark identification of potential impacts to suggest what implications may extend from impacts, but whether the Navy eventually decides to absorb them, adapt to them, resist them, blunt them, or finesse or ignore them is, we feel, up to the Navy.

8. Some cultural fields have been omitted from consideration—for example, the arts. This is not to imply that developments in the arts are irrelevant; clearly, the arts frequently provide the most informative expressions of a culture and its values. Nevertheless, their future impact on institutions, such as the Navy, would be most difficult to trace. However, the principal reason for this omission was the absence of necessary expertise among the members of the study team. It is to be expected that a certain amount of variable scope obtains among the cultural field and disciplines that are covered herein.
9. Some functional fields more closely related to military institutions have also been omitted, or coverage of them has been minimized, for various reasons having to do with the more extensive analysis continuously devoted to them by the armed forces through other channels—more extensive than would be appropriate or possible for this study team to allocate. Notable among these fields are foreign-area studies, predictions of future conflict environments, strategic equations, tactical organization, future weapons technology, budget allocation, and demographic manpower projections. Nevertheless, certain aspects of some of these fields are examined in moderate scope, such as manpower projections in terms of values as well as in demographic terms.
10. Naturally, some fields, and particularly some developments within fields, were neglected because they appear irrelevant, immaterial, or unlikely, although a number of ambiguous exceptions are included.
11. It is emphasized that the overwhelming proportion of sources are published predictions. Whatever methods have been used by the sources, the primary reliance of all sources is on speculation and guesswork. This is not to discount technological forecasting, which is fairly represented in the data and in the bibliography. Nevertheless, we stress the conditional nature of all prediction of the future and the important role that must be accorded the views of the specialist most thoroughly

familiar with each field. Even in technological forecasting about technology, "expert opinion is usually the major source in making futuristic technology assessments." We believe we have explored the views of the best known and most eminent sources, plus many others not well known but perhaps equally valuable. In sum, the essential nature of the bulk of our data comes from secondary sources outside the study team. The bibliography comprises some 400 books, 450 periodical items, 100 government documents, 220 miscellaneous studies and reports, and 620 newspaper articles. Still, we realize that we probably missed some important material—a matter of regret. The bibliography was locked in early May 1972; only miscellaneous items were added thereafter.

12. No original basic data, such as attitude surveys, have been contributed by this study team. Analyses, findings, and conclusions related to the data and contributed by the study team are identified as such. Aspects of the data relevant to young people entering the armed forces, and armed forces programs, benefited from study team visits to Navy, Marine Corps, Air Force, and Army reception and training centers at San Diego, Lackland AFB, Great Lakes, and Fort Carson.
13. While we endeavored to maintain awareness of aspects of change which possess high visibility, we have attempted throughout to maintain a long-range perspective: viz., what changes are likely to remain, or become, important in their impact on the Navy a decade from now? In some instances, we include predictions over a longer range, to indicate possible end-states of change which will be only in process a decade from now.
14. As will be apparent in the text, no definitive conclusions are offered concerning many predictions. Some current trends are uncertain and could extend in a number of directions. Even the potential importance or relevance of some trends is purely conjectural at this time. In addition

to what will change, we have been interested in what will not change. The course of human wants, preferences, and priorities is highly complex; every change is subject to change. As the political, technological, economic, and cultural contexts change, man's values change, as Maslow, MacGregor, and others have clearly shown. To pontificate, or at least predict with assurance, concerning cultural change, would be the height of folly. The outstanding characteristic of the study team's view concerning the predictions cited is tentativeness, containing a healthy proportion of skepticism. We do not know what changes will be most important or relevant a decade from now, and we believe that nobody knows. What we present are possibilities.

15. Nor have we adduced evidence with the intent of proving only speculations or predictions; we adhere to our position that such propositions cannot be proved.
16. Aside from the cultural and social forces themselves, the literature is a highly complex expression of opinion, of variable depth and quality, containing predictions of trends, forces, results, and indications pointing in almost every direction of the compass of change. Some constitute nonsense—but can one be sure? Some contradict each other. Some apparently stem from wish-fulfillment or advocacy rooted in the interest of some person, group, or school. Yet, even some of these predictions will doubtless turn out to be right, but which ones? Therefore, we have tried to cite representative views on all sides of major controversies, while eschewing polemics and strictures.
17. We have refrained from moral judgments, including instances in which moral judgments were freely rendered and with which we strongly disagree.
18. We have not attempted to establish fully fleshed baseline data in every field and discipline, or to describe the present states of art or the pre-

vailing theories and paradigms in every such field. There is some of it, more in some subject areas than others. In most fields, some current baseline has been assumed; emphasis has been placed on the future. Nevertheless, a good deal of current data appears, based on the premise that interest in and knowledge of the present is essential to underwrite projection of the future. No matter how different the future will be from the present, it can emerge only from the present; there is no possibility of critical discontinuity.

PART II

Section 2

SUMMARY OF DATA AND IMPACTS

## SUMMARY OF DATA AND IMPACTS

It appears overwhelmingly likely that the military establishment will be profoundly affected by cultural change over the next decade. Every social institution is being forced, voluntarily or involuntarily (or both), to reexamine its most fundamental premises. No institution, formal or informal, will escape—government, religion, law, education, the family—all must reanalyze their roles in society and the rationales by which they justify and explain their roles. Even if they emerge with essentially the same roles and rationales, they will have to restate them in modern terms which abandon partly-outworn cliches and adopt terms meaningful to generations with perspectives which are, at least in part, radically new.

The military institutions will probably have to follow suit. They may find their classic roles and rationales reaffirmed, though not exclusively by themselves; for society will be a primary mover in the reevaluation process. But even if reaffirmation does occur, the terms will be modernized. Possibly an analogy can be drawn with the New Math. Some adults say New Math is so different that they cannot understand it. But the science of mathematics has not been changed—only the terms in which it is being expressed.

This Part of the Report summarizes the findings in each of the eleven major Sections and lists concise predictions of potential impact upon the Navy's organization and personnel systems. Section integrity is kept intact and reflects faithfully the organization of the data in the main section of the report; a summary is presented of the major general changes at work under that classification, followed by the relevant foreseen impacts on the Navy. The Sections are Philosophical; International; Technological; Bio-Medical; Social and Cultural, Organizational; National Orientations; Domestic Institutions; The Continuing Military Context; Vietnam, and Other impacts; and Old and New Directions.

## PHILOSOPHICAL

It is difficult to analyze and even more difficult to plan for the future. The futurist must strike a balance between the utopian and the pragmatic, and must avoid evaluating the future in terms of present values without allowing for change in those values. His task is complicated by anomalies and unexpected changes in society, by the difficulty of distinguishing the significant from the transitory, and by the quickening pace of change. The role of the futurist and predictor is especially important in the United States, because in many areas of change, the United States is the trailbreaker for the rest of the world, and because of the traditional American willingness to accept change, coupled with unwillingness to control or direct it. Current social change and the ever-widening range of choices it presents widens the gap in many respects, between the sciences and the humanities, while, in other respects, the distinction between the two becomes increasingly blurred.

Despite these structural and methodological obstacles, study of the future remains imperative, whether it be in terms of functional subsystems of society, levels and types of human interaction, or chronological-historical analysis. Science, technology, economic growth, and their consequences (including the counterpressures they generate) continue to undermine traditional values of religion, competition, hierarchy, and nationalism, and tend to replace them with the so-called "counter-culture" values of secularization, cooperation, egalitarianism, and universalism. Process supersedes goal in importance; the experiential supersedes the utilitarian. Yet the same technological and economic advances necessitate greater efficiency, coordination, and control, concepts which are antithetical to the counter-culture ethos. Tension between the old and the new values (or, rather, tension between differing priorities among the same values), and between the complex organization the technetronic society needs and the humanistic liberation it engenders, will be the main causes of social conflict in the future.



Ethics, morals, and religion have also been affected by contemporary social change. Traditional morality has come under attack on ethical and biological-psychological grounds. Established Judeo-Christian concepts of individualism, freedom of choice, and free will are challenged by modern philosophers and psychologists on the grounds that the need for cooperation, the reality of interdependence, and the truism of environmental conditioning have rendered the former ideals obsolete and inapplicable to current problems. Religion is experiencing similar convulsions. Belief in God per se declines as science provides a mechanistic explanation for more and more events hitherto regarded as supernatural. The mystical, revelatory relationship between the individual and his God that has been the foundation of traditional theology is replaced by the more pragmatic one between the individual and society—"The Social Gospel" of humanism. The authoritarian and hierarchical nature of the church becomes at least partly incompatible with movements toward shared authority and egalitarianism. Religion today is faced with problems of adapting an individualistic tradition to an increasingly collectivistic society, with treading the line between the loneliness of freedom and the narrowness of restraint, and, as always, of imparting a sense of meaning and purpose to life.

The erosion of traditional values has been accompanied by the decline of traditional symbols of authority, such as family, community, and government, which are being replaced by the self, peer groups, communal concerns, and hedonistic preferences. To the extent that individuals become more small-group-oriented, they tend to view authority as spectators rather than participants, for their perceptions of the size and remoteness of institutions lessen impact and meaningfulness. Further strain results from the decline of authority as a concept taking place simultaneously with the rise of rationalization and central planning, which require the exercise of more, rather than less, authority.

The prospects are not entirely negative. We are speaking here principally about the avant-garde, not yet the center of gravity. The revolt against authority could lead to greater opportunities, challenges, and standards, as well

as either to anarchy or to reactive repression. Future authority and government will have to reconcile the increasing desire for liberation from restraints with a complex society's need for direction and control.

The partially conflicting trends of cooperation, interdependence, and planning will cause men, in Gerald Bachman's words, to "measure their selfhood and dignity in terms not so much of their independence and rugged individualism as of their interdependence and communal mutuality." However, group identification may relate to subcultures of occupation, specialization, age, and marital status, and by mobility among subcultures, rather than to society as a whole. Thus, while great diversity of individual aspirations may be seen as dysfunctional to society as a whole, the range of choices available to the individual will increase in pace with available subcultures and life-styles. In such a society of constant change and increasing range of choices, each individual may be faced with crises of identity as he seeks his self-fulfilling niche, possibly confused by the prospect of alienation and anomie resulting from bigness, impersonality, and loss of constancy in values and traditions. Care is therefore needed to avoid the extremes of conformity—adjustment on the one hand and individualism—loneliness on the other; some compromise between the two is both necessary and likely.

In short, prospects for the future involve increased diversification together with greater uniformity, and inevitable tension between these two trends, as well as transitional pains resulting from the decline of old concepts and their replacement by new ones.

Potential Impacts:

1. Though increased emphasis on autonomy and the self may lead to the decline of organized religion, it is doubtful that most basic moral and ethical concepts will decline greatly in effectiveness. Projected value changes will force the military to subject itself to searching self-examination of its own rationale as one among a number of traditional social institutions. However,

such introspection should not obscure the military's interest, less for its own sake and more for that of society as a whole, in preserving and transmitting a valid moral and ethical heritage.

2. As an authority-oriented institution, the military could be adversely affected by the declining legitimacy of authority in American society and society's prospective declining interest in socializing its youth into at least some acceptance of the need for authority, in a balanced relationship of rights and obligations.

3. The military, like other complex organizations, will be affected by the seemingly contradictory tendencies of social change in conceding greater freedom to the individual in some areas, while promising to restrict it further in others.

4. The central predictions explored by this introductory and abstract section—tension between the drive for individuality and the need for collectivity, the increased need for competence and specialization, and the ubiquity of technological change throughout all aspects of future life—will all have pervasive impacts on the Navy.

## INTERNATIONAL

Future socio-cultural change will not be any means be confined to the United States, but will occur in varying degrees throughout the globe. A dynamic world is predictable in the sense of being well supplied with advances in communications, technological developments, and channels for trans-national cooperation; yet these developments are not reason enough to expect dramatic or imminent improvement in the sum of international cohesion. Despite faith in our own intentions and abilities, we cannot ignore the intensification of instability fostered by clashing ideologies; changing value systems; population expanding faster than food production; spiraling demands for resources versus declining world resources; increasing transnational pollution of land, sea and air; advancing technology which favors the already advantaged; increasing gaps between "haves" and "have-nots"; and the inherent limitations on growth within a finite environment.

It is predicted that by the year 2000 there may be three to five super-power entities, all with the capability of manufacturing nuclear weapons, thus increasing threats to international stability. There are continuing critical problems within and among Third-World nations, and the nation-state system is in jeopardy of being superseded by regional power-groupings in Europe, Asia, the Mid-East, and Latin America. These developments have the capability of upsetting the delicate equilibrium upon which the absence of world conflict is dependent.

It is predicted that economic and technological gaps will widen, that 85% of the world will be struggling to survive, that food production may fall further behind population growth, that resources are dwindling and may be difficult for the heaviest users to import, and that the LDC's are already warning the advanced countries that they will not remain indefinitely in states of technological and economic inferiority. While some experts are confident that substitute resources for minerals and energy will be forthcoming, possibly from the sea, the substitutes are not yet in existence. Technological innovations have the capacity to improve international relations through numerous techniques devised for the

betterment of life. However, without effective social commitment and well-defined goals, combined with the possibility of economic competition for trading partners and raw materials, opportunities for international conflict will persist. The universality of these issues, and their need for co-operative solutions, merely emphasize that international stabilization and independent national strategies are becoming increasingly incompatible.

A major source of contemporary change has revolved around the advances made in technology—especially computers and communications. Space technology can provide some impetus for international co-operation since certain projects are beyond even the capabilities of a super-power. Yet other implications of this technology strengthen competition in that it tends to maintain bi-polarity; it is a visible demonstration of national pre-eminence and it allows for the erosion of national privacy and security by means of advanced communications and other forms of space satellites.

Public attitudes towards technology are very important. The impact of innovations must be assessed carefully in advance, rather than be embraced without reservation. Although rapid advancements are being made in space exploration, the huge investments tend to stimulate impatience with the slow progress in solving other problems, such as urbanization, poverty, disease, and war. Predictions are emerging that massive applications of technology may be ineffective, and sometimes counter-productive, if they culminate in the possible loss of freedom to the individual.

Whatever the ultimate uses of technology, it must not offend the sensibilities of the LDC's, nor appear—as it now does—as an aggressive, exploitative menace from the West. The technological age has produced rapid value change. These changes have become global in nature, given the rapidity and ease with which certain values cross international boundaries; and the increasing impacts of interaction between diverse peoples and groups. While there is an increasing potential for world-wide co-operation, the impacts of technology, primarily Western, on long-held values may be highly disturbing. To promote

radical change without being aware of the latent potential disruptions is to invite strains the host community itself does not understand. Issues about which polarization may be expected include the need for population control, the dominance of Western life due to increased industrialization—contributing to the resultant revolution of rising expectations, and the coming competition over exploration of the resources in the oceans and the seabeds. These issues, as well as those cited previously, are potentially explosive and require international co-operation for solution.

There is sufficient probability of future conflict to warrant the existence of an effective military establishment and the further refinement of deterrent and combat systems. However, changing national and international values will present problems in less familiar societal aspects with which the military, as well as all other social institutions, must cope.

#### Impacts

1. Many trends point to at least substantial continuing American international responsibilities, and hence, Navy missions. The spectre of limited resource availability, however, will enforce new evaluations and perspectives of national missions and capabilities. One possible contingency is the end of the ever-upward spiral, which would generate radical revision of strategic concepts—possibly of the nation-state system itself. A lesser contingency, selective drying up of some resources but not others, would probably heighten international competition and tensions.

2. Technological change will probably force greater interaction and more co-operative enterprises among nations, possibly in selected regions, possibly along functional lines. Given our tradition of functional military assistance, the Navy will be involved internationally in specific naval and general military collaboration indefinitely. The American Navy's role as participant, mentor, occasional leader, and developer of new methods will continue to be substantial.

3. Potential conflicts may arise out of intensified nationalism, competition over dwindling resources, exploration of the oceans, rising expectations in LDC's, and other situations, some of which may involve the United States. It appears essential to maintain a substantial Navy for deterrence of conflict or defense of American interests against predators for many years into the future.

4. The effect of cultural and social impacts generated by technological change on such technology-sensitive institutions as the Navy will be substantial. Automation, for example, will affect organization, personnel administration, educational systems, and relationships involving authority, equity, work patterns, and social cohesion.

5. Social and cultural change will affect the Navy in ways difficult to cope with, e.g. erosion of the image of the military establishment and role in society, maintaining adequate force levels in an age of the New Sensibility, participation in social action, possibly an identity crisis in the military, and Navy roles in support of changing international political relationships.

6. The international economic situation holds implications, mostly indirect, for the future of the Navy. Advances in communications, trade, multi-national corporations, and channels for interaction represent opportunities for a cooperative style. On the other hand, the expanding economic and technological gaps, increasing demands for energy against declining resources, and refusal of LDC's to remain in states of arrested development while standards of living increase in advanced countries harbor explosive potential. Increasing education worldwide is one among many social changes that augers substantial change in relationships between the United States and other nations, and hence in missions and styles of national security agencies.

7. Social and cultural aspects of the international scene will affect numerous changes of interest to the Navy, although most will be felt indirectly. As the first generation raised under the New Sensibility moves into positions of power, it can be expected that substantial shifts in attitude involving the

military establishment will occur, both internally and externally. Such cultural aspects as value shifts, fertility control, education, intercommunication, and humanistic emphasis will exert influence on the context of Navy institutional life.

8. Given the serious impact of social change (the individual vs. the collective, decline of religious influence, etc.) which will be important in future society, these questions may be overshadowed by the conflicts which may erupt from a number of international issues (resources, the oceans, pollution, the economic gap); so that debate over the amenities of life in an affluent society may well be subsumed within more basic motivations of defense and survival. Thus the need to "keep its powder dry" will serve to temper the impact of social and cultural change on the Navy.

9. In addition to pressures for re-study of Navy roles and procedures brought about by technological, political, and environmental change, additional pressures will emerge from new perspectives towards military establishments emerging from such conditions as the following: objectives of reducing the size, manpower costs, financial costs, and visibility (under certain circumstances) of military establishments in advanced countries; the declining proportion of military forces which actually engage in combat; and the roles and relationships of military establishments among the complex of institutions in modern society.



## TECHNOLOGICAL

Every aspect of human community and existence is being changed by the course of scientific and technological change. Ambivalence is rising as a prevailing reaction, as technology seems to be developing momentum of its own. Ambivalence is rising in reaction to the mixed results achieved by science and technology. Exploration of the universe from atoms to galaxies, and exploration of man from a number of disciplinary approaches, have led to both more clarifying and more mystifying explanations. Perhaps its greatest benefit has been reducing the burden of manual work from the backs of mankind. On the other hand, its diverse processes have profoundly disturbed man's relationships to the physical world, the spiritual world, each other, social institutions, and himself. As man peers somewhat nervously into the future, he is exhilarated by the marvelous developments promised by technology, and made apprehensive about retaining his individuality in an increasing technicized society.

The increasing rate of technological innovation in five major areas—communication, transportation, nuclear energy, space exploration, and computer science—has resulted in a concomitant recognition of the need to accurately assess and forecast the social consequences of such innovation. Rational analysis of technological options, their potential outcomes and effects, their directions, and the consequences of their interaction are all vital to a society that views itself as an integrated entity. Such analysis can assist society in deciding which directions it wishes its research to take and how it allocates its resources. Inquiry of this nature thrives only when avenues of approach are as unrestricted as possible by political or social dogma, though care must be taken to assure that prediction does not become indoctrination.

New weapons of war and delivery systems are likely to be developed. Destructive capacity itself could be enhanced by manipulation of the weather, the development of lasers as energy-projection weapons, and more ultimately, the use of anti-matter devices for total annihilation. Automated command and

control and the use of robot and remote-controlled systems in all environments will increase. It will be easier to project military power rapidly into remote areas through the use of deep-sea submarines, aircraft with earth-orbital capacity, high-speed surface-effect ships, and perhaps anti-gravity propulsion. Undersea operations will increase much more than those in space, due to ease of detection, tracking, and destruction of space vehicles. The "doomsday machine" may become reality. It is possible that the psychological impact of the proliferation of weapons of mass destruction could lead to a reaction against nationalism and toward universalism.

Population growth and the rise of an energy-intensive technology and industrial system are leading to a critical shortage of energy, as traditional mineral sources are exhausted or their use restricted for ecological reasons. Though some individuals suggest limiting energy consumption, it is imperative to find new, non-polluting power sources. These include increased conversion efficiency of present sources, replacement of internal-combustion engines with fuel cells generating electricity, and the use of nuclear fission in place of fossil fuels or hydroelectric plants. Controlled hydrogen fusion, if achieved, could result in a drastic drop in power costs and in consequent pollution. Distribution of power might also be enhanced by wireless transmission and cryogenic superconductors.

The applicability of computerized systems analysis and control may ultimately be limited only by financial constraints. The effects of cybernation will be felt in a variety of ways—linkage of world-wide information storage and retrieval systems with a communications network of similar scope, centralization of financial operations and economic planning, gathering and analysis of personnel data, creation of artificial intelligence, real-time laboratory simulation and voting, and vastly increased productivity. This will lead to increased occupational obsolescence and mobility, a decline in interpersonal contact as electronic communications improve, major problems of safeguarding personal privacy, increased informational and educational options for the

individual, greater frustration and helplessness in coping with the "information explosion," and perhaps a rise in humanistic and non-mechanical values as a reaction to abundance and cybernation.

The technical problems of creating a global communications network with personal, mobile communicators are solvable, but the social and political ramifications are enormous, including loss of privacy, decentralization of organization, automated and instantaneous voting and/or expressions of political opinion, specialization of broadcasting, and increased availability of knowledge and expertise. Communications in space will be used for remote sensing of natural resources, direct world-wide broadcasting, navigation, and surveillance. The degree to which the xerox process allows the wide dissemination of information has already become apparent. The increased pace and availability of human intercommunication will both bind men closer and enable them to exist with less intimate contact. Egalitarianism of information access will also provide disaffected segments of society with greater opportunities to register their hostility.

Transportation technology will be marked by increased speed, mobility, and interconnection between modes of conveyance. Air freight will expand and railroads will be upgraded with systems analysis and cybernation. The private automobile with a non-polluting engine will remain as the mainstay of individual transportation, but will be banned from the urban core. Automated traffic control and commuter-car/taxi cab networks will supplement improved traditional mass transit systems. Larger, faster, and automated surface and undersea ocean vessels will proliferate. Aircraft development will be marked by automation, an increase in STOL/VTOL "commuter" planes, and the use of suborbital rocket-propelled vehicles for rapid long-distance transportation. In space technology, a permanent earth-orbiting space station and a reusable space shuttle, manned planetary exploration, and research into exotic propulsion systems—nuclear, photon, antigravity—will be underway in the next two or three decades.

Last but by no means least, support technology for the above mentioned advances will expand, especially in materials science and chemistry. New alloys, synthetic materials, and methods of forming them will proliferate, permitting inexpensive building construction, new architectural concepts, and new electronic, optical, and biological advances.

Potential Impacts:

1. As one of the most technology oriented institutions of society, the Navy will be heavily challenged by the increasing complexity technology generates.
2. Because increased institutional interdependence is a product of advanced technology, the Navy can expect increased interaction with other public and private organizations.
3. The rising costs of research and development, coupled with widespread anti-military attitudes, may lead the Navy to explore new methods of obtaining public support.
4. Technological transfer from the United States to less developed countries will be an instrument of political interaction with foreign countries in the future, potentially involving the Navy in various aspects.
5. In order to secure greater public support, the Navy could consider publicizing the benefits society as a whole obtains from military research, and extending Navy participation in civilian-oriented research and development activities.
6. As an adjunct to the previous comment, the Navy might undertake research in its own agencies with more societal benefit than direct value to the Navy.
7. Navy manpower forecasts will be complicated by increased specialization, changing demand for individuals with key skills, and the rapidity with which certain skill requirements will change.

8. Retraining of (or otherwise coping with) skilled personnel whose fields become obsolescent will be a rising problem for the Navy.

9. The gap between the sciences and the humanities which is widening in some respects, could generate increasing difficulty in orientation and training between the generalists and the specialists, and the people-oriented and the hardware-oriented elements of the Navy.

10. In view of the possibility of an energy crisis, the Navy is likely to be involved in a number of aspects, including new methods and priorities for energy conservation.

11. In relation to the potential energy crisis, and for other purposes, the Navy will certainly be involved in dealing with single-nation or multi-nation attempts to exploit the oceans and seabeds.

12. American projects to provide shipborne-based temporary power sources for underdeveloped countries will probably involve the Navy.

13. The potential for automation in the Navy is almost unlimited, from math classrooms and personnel records to storage warehouses and entire ships. Two problem areas are central: the ship in the maritime environment, and the Fleet in a combat environment. In selected activities, the Navy will prefer human presence.

14. Automation of Navy information storage and retrieval facilities, linked to Navy educational centers and Navy staffs, will facilitate administration, staff operations, planning, and advanced naval education and training.

15. Complementary to the network postulated in the previous note, Navy data banks would eventually profit by linkage to national data banks for special purposes.

16. The Navy will be faced with the problem of reassuring its personnel that crucial decisions, especially those affecting careers, are not made in a dehumanizing manner by unmonitored computers capable of mechanical or programmatic error.

17. Specific Navy uses for future improvements in communications include closed-circuit audio-visual systems for the conduct of fleet-wide investigations, instruction, courts-martial, and perhaps medical diagnosis. The Navy, like civil society, will also be affected by personal computer access and world-wide communication, home education, etc.

18. Hostile interception of Navy audiovisual transmissions could provide enemy forces with a literal "inside look" at Navy ships and operations.

19. The Navy will be interested in all new communication systems, including developments in undersea communications, although detailed predictions are beyond the scope of this study.

20. Navy ships may function as floating resource centers for activities projected to less-developed or other foreign countries, perhaps in propaganda, news, and entertainment.

21. Transportation technology will not drastically affect the ship as an entity, though the potential for automation of ships, coupled with the reduction of the work week, suggests the possibility of smaller crew size coupled with multiple crews.

22. Changing skill requirements in conventional, space, and undersea transportation may require some revisions in Navy recruiting and training programs.

23. The Navy will doubtless be heavily involved with all aspects of ocean technology, such developments as exploitation of undersea mineral resources may involve the Navy in representing institutional or national interests.

24. Ecological considerations might lead the Navy to design its ships with self-contained life-support systems; such systems might serve as models for land systems.

25. The Navy will be heavily involved in competition for certain types of scientific and technological expertise.

## BIO-MEDICAL

The oncoming biological revolution may affect life more profoundly than the mechanical revolution of the 19th century, or the technological and social revolution through which we are now passing. Although many of the predictions are beyond the perspective of a decade, no social institution or organization will escape either the changes predicted, or discussion of them, long before they approach reality. Although some predictions are controversial, bio-medical developments which some have predicted will be forthcoming include improved methods of fertility control; transplanted and prosthetic organs; computer storage of medical data; widely accepted use of personality control drugs; and the means to create primitive artificial life.

The relatively new science of medical engineering can be expected to experience phenomenal growth over the next decade. While biochemistry and pharmacology will probably provide major solutions to disease control, computers will aid in the storage of medical data and contribute to diagnosis and therapy. Bio-engineering research into feed-back control mechanisms, environmental control, product synthesis, prosthetics, and organ transplants will provide a greater understanding of all biological systems and may very well constitute the key to a new medicine.

A main foundation of biology is the conception of life as a chemical mechanism. Considering the implications surrounding the existing ability to create a primitive form of artificial life, it has been postulated that continued research directed toward this end may identify the ultimate source, the "trigger," of human organisms. Future advances in the technology will add great expertise to genetic engineering, in which hereditary factors may be controlled through the deliberate manipulation of genes. It may be possible, therefore, to intervene in the cellular inheritance process and manipulate the instructions transmitted from one cell to another. Genetic manipulation may lead to new methods of birth control, elimination of certain diseases, and promotion of some, and elimination of other, characteristics in offspring.

Many scientists now believe that resistance to disease is partially a function of heredity and therefore amenable to control by man. Advances in the fields of biochemistry and pharmacology are seen to have future impacts on disease control as well as elimination of some surgery. Prolongation of life will be made possible, it is predicted, by advanced developments in anti-biotics, the transplantation of organs (possibly of compatible organs from animals), possibly the regeneration of organs, and the use of man-made machines to perform the functions of certain organs.

The established methods of behavior manipulation are being constantly refined and augmented. It is reasonable to assume that control of behavior in man may be possible by pharmacological and mechanical means within the next fifty years. Experiments indicate that knowledge transfer may be capable through the application of certain chemicals to the brain. Techniques capable of controlling behavior are considered possible through radio-stimulation of the brain, as well as personality-control drugs. These fields of research may culminate in the ability to pre-determine moods, responses, and perhaps intelligence.

It is obvious that some of these innovations would create most profound and pervasive disturbances throughout the entire fabric of human life and society, from pre-cradle to post-grave. The members of many disciplines are pondering innovations occurring or expected in the life sciences, and are being moved to intense debate, not only over their pragmatic implications, but also over the moral and ethical dilemmas that will accompany certain of these innovations. Predictions which especially highlight coming moral dilemmas involve the transplantation of vital organs; laboratory creation of life; prolongation of life; and the modification of the developing human brain. The more we contemplate some of these bio-medical changes predicted for the future, and speculate about their nature, the more it becomes apparent that, regardless of the technical feasibility or virtuosity involved, the scientific community is not qualified by itself to devise or apply moral criteria to such drastic changes



in the human condition. Who, for instance, will be charged or permitted to make genetic choices? Even if we had our choice of human traits now, do we know what traits we prefer, and why? A primary difficulty is that we have not arrived at any clear agreement on what kind of people or world we want; and until that is decided, such advances as those discussed here may be thrust upon an unprepared society.

#### Potential Impacts

1. Each element in the whole spectrum of potential bio-medical changes will affect the Navy, both organizationally, and through its members past, present, and future. Some of the issues involved will require the widest possible discussion over decades. Suggestions to set up exploratory groups now to consider the potential effects of bio-medical advances and how to handle them should be supported across a wide spectrum of society, including the Navy, for neither medical men nor physical scientists are competent to decide the most critical issues of ethics, politics, economics, and social philosophy. One aspect within the Navy's purview now is a shift of some degree from hardware research to social science research, including ethical issues.
2. Medical changes will affect the Navy, even in peacetime, since various training activities are inherently dangerous, and casualties will benefit from medical advances.
3. It is in relation to battle casualties that the Navy will be able to benefit most from medical advances. Procedures developed in such fields as artificial organs, organ transplants, and prosthetics will aid in rehabilitation of those who suffer battle-related injuries. Any medical techniques that provide swifter, more effective care, resulting in the recovery of higher proportions of wounded men, particularly those suffering permanent effects, will be welcomed and supported by the Navy.
4. In early stages of development of replacement organs, it will be difficult to establish equitable priorities. Allocation of benefits on the basis of ability to pay will become increasingly objectionable to American society.

5. The Navy's medical centers can be expected to participate in many, and play a major role in some, of the predicted bio-medical developments.

6. A grim ancillary aspect to the development of organ "parts banks" might be the emergence of competition for bodies, especially in large numbers such as might accrue after catastrophes and battles.

7. As technology develops means for decreasing the time lapse between birth and maturity, radical impacts would probably occur on the military services. The availability of persons young in chronological age but mature in terms of capability may generate a number of status and procedural changes in military organizations.

8. If genetic control concerned with selection of parents, desired characteristics in offspring, and preservation or elimination of certain characteristics were to become possible, what characteristics, either singly or in various combinations, would the Navy regard as essential or desirable in future American citizens?

9. The ability to simulate extra-uterine fetal development will have a radical impact on the role of women in society and in the potential relationships of women to the military establishment. Any disruption in the role of the family will impact adversely on the Navy's reliance on the pre-indoctrination of young entrants with value systems compatible with those of the Navy.

10. The possibility of natural selection favoring those who can best endure (the less intelligent, less provident, less co-operative) is a paradox of great potential concern to military institutions which seek combinations of physical, intellectual, and moral quality, and toughness.

11. Genetic issues which have been discussed inconclusively for years--e.g., sterilization of criminals and persons with certain diseases or defects--may be forced to the point of decision in the next decade. Behavioral data developed by or for the Navy may become inputs to discussions on these issues.

12. Substantial changes in the ratio of women to men in society will revise women's roles in society, including the military establishment.

13. The ability to prolong life will have direct relationship to the desirability of extending the length of a typical career. What trade-offs would be required between cognitive orientations formed early in life and the extension of years of physical vigor?

14. The delays imposed on the generation behind the first generation to achieve substantial life extension would be highly disturbing to society, organizations, and the Navy.

15. Various services may be appropriate for vigorous older persons to perform for the Navy, without overlong participation in the "main line" of the Navy.

16. Prolongation of life will necessitate substantially larger Navy budgets for support of the retired in income and facilities.

17. The Navy will be very much interested in future behavior-manipulative techniques intended to relieve suffering and improve individual adjustment to life. However, the spectre of possible misuse by unscrupulous persons adds societal pressure to a fear of permitting any use of such techniques.

18. The drives in man which are termed aggressive and war like seem linked to drives termed ambition, vigor, and positive leadership. How these drives come to be manifested in constructive or destructive ways is not known. Proposals to modify the behavior of sailors to make them, on the one hand, tireless, obedient automations, or on the other, insensitive, fanatical killers, will be examined by the Navy with great caution and, in our society as constituted so far, with distaste. However, the Navy will follow assiduously the potential capability of any other nation or social entity to employ similar procedures against American forces.

19. The Navy will follow with interest any behavior-manipulative practices or techniques which promises to increase the capabilities, including intelligence, of the individual.

20. Widespread interest will increase concerning expanded drug usage in the future for various legitimate social purposes. Accordingly, dangers will continue, and possibly increase, that drugs in greater volume and potency may escape control of the scientific community.

21. There are far-fetched predictions, necessarily of interest to the military, that large segments of the population might be vulnerable to being rendered passive through over-use and ready availability of anxiety-reducing drugs, especially in times of crisis, and especially when it is suspected that such activities may be undertaken in the interest of a hostile nation.

22. The development of robots for battle purposes seems too remote for discussion in relation to the purpose of this project.

23. The chemical, mechanical, and telepathic predictions of behavior control are extremely interesting and provocative. As their possibilities become probabilities (if they do), the Navy will be examining their implications in due time.

## SOCIAL AND CULTURAL

This large Section is divided into subsections dealing with a general overview, health, urbanization and housing, education, family and marriage, youth, women, minorities, automation, sex, and sports. If analysis of this mass of data is to serve a useful purpose, society must strive to define recognized social indicators similar to those generally agreed upon in economics. Such a set of social norms, however, is not yet available, and will be a subject of intense debate throughout American society.

The definition of health is expanding to encompass occupational, mental, community, and environmental, as well as traditional medical factors. Preventive screening, diagnosis, and immunization will grow in conjunction with comprehensive health insurance for all. Cybernation of hospital administration and clinical medicine will increase. Present critical diseases—heart ailments, cancer, mental illness, nervous diseases, and sensory disabilities—will still be formidable, though less so than now.

By 1995, 90% of all Americans will live in urban areas; suburbs will absorb most of this increase as the inner city declines due to racial, economic, and housing problems. Decentralized suburbia may be prototypical for the cities of the future, with communication replacing physical presence as the dominant mode of idea exchange. Attempts will be made to revitalize urban cores through redistribution of public financing and the adoption of integrated metropolitan-area urban administration. Housing technology will be marked by increased structural, electronic, and sanitary prefabrication.

The education level of Americans will continue to rise. College education will become more of a vocationally-oriented, real-world process continuing throughout one's life rather than a childhood-young adult, in loco parentis activity. Controversy will intensify over the moral and occupational value of education qua education—the social prestige of "a degree," for example, and the purpose of the university. Should the university be all

things to all men, as it has tried to be, revert to the traditional concept of "the academy," devote itself to the solution of current major societal problems, or become strictly vocational? Student activism will continue as long as ideologically-homogeneous faculties encourage agitation; students feel alienated by what they regard as irrelevant, useless, and dehumanizing education; and campus revolt remains socially desirable among conformist youth. Education below the college level will be year-round; students will advance according to ability rather than chronology. Programmed instruction and field observation will be integral to the public-school curriculum. Educational costs will continue to rise, necessitating more equitable financing, centralization, and possibly government aid to private schools. These actions are bound to generate political and Constitutional controversy.

The role and influence of the family in society will continue to decline, portending in turn substantial change in the role and forms of marriage. This is attributed to increased occupational mobility, crowded living conditions, decreased parental influence in adolescent socialization, and equality between the sexes. The trend will be toward the "nuclear family," consisting of husband, wife, one or two children, and perhaps eventually to husband and wife alone. Childbearing may be delayed, and eventually restricted. Other notable developments will include an increasing number of temporary marriages, female careers, population-control measures, and new patterns of child-raising, including the use of centers outside the family.

Youth will be increasingly torn between the desire to rebel and shape events and the yearning to retreat from a world which demands more than it gives. Affluence will create the economic surplus allowing youthful activism or lethargy; the threat of nuclear annihilation or inconclusive conventional war generates fatalism which supposedly precludes long-range planning; and technologically-guaranteed instant gratification creates impatience with the complexity of human institutions. Explosion or withdrawal, exacerbated by drug usage or crime unrestrained by parental guidance, is the result. Youth problems are

further complicated by the earlier onset of physical/sexual maturity; the stabilizing hiatus between the start of emotional growth and puberty has vanished, forcing the young person to cope with sexual, intellectual, social, and emotional growth simultaneously.

Women will increasingly seek fulfillment through their own actions and strivings in addition to the traditional roles of wife and mother; occupational discrimination against women will decline. Marriage and divorce laws will become more sexually egalitarian, with men assuming more responsibilities within marriage and women assuming more autonomy inside and outside of marriage.

Blacks and other minorities are slowly achieving equality with whites; however, there is sharp ideological conflict between older blacks, who favor integration and acquiring influence within the present power structure, and younger ones, who incline towards black self-sufficiency and self-development and the creation of autonomous centers of power for blacks only.

Centralization is the key to the future impact of automation on American society. Use of computers in decision-making will either drastically concentrate power or merely speed up routine tasks; so far, indications point to the latter. The ease with which computers process quantity could lead to disregard for quality; society may polarize according to those who do and do not possess computer expertise. Application of automation to elections and policy referendums could contribute to social fragmentation and interfere with orderly administration—as well as provide significantly more popular allegiance to agreed-upon decisions. Invasions of privacy and adequate safeguards for data bank access—the reconciliation of privacy with a planned society's need for accurate data—will be a crucial social issue.

The biochemical divorce of sex from reproduction and the decline of traditional sex roles due to increasing female equality will force individuals to assert their own sexual identity as an aspect of personality rather than having it determined by socialization. Fear of pregnancy for women has been replaced

by a fear of being used; the distinction between sex and love will become even more apparent. Anti-homosexual discrimination will decline along with other discriminatory practices, but the debate over the alleged "normalcy" of homosexuality will not abate.

Sports will continue to socialize Americans into acceptance of hard work, team play, achievement, and similar values. Arguments for deemphasis of heavily-financed, bigtime, professional sports as too commercialized, atypical, and non-participatory will be advanced, however; and attempts will be made to increase amateur participation in place of spectator activity.

Potential Impacts:

1. Despite increased democratization and individualism, some form of social stratification will persist in the future.
2. The complexity of social relationships will most likely increase in the future, including the military context.
3. Although the military is generally an egalitarian and meritocratic institution, social class will probably continue to manifest itself in the society and the armed forces—perhaps in various forms of technocratic elites (scientists, intellectuals, etc.).
4. A decreasing proportion of youths of military age in the population at large could affect Navy access to quality manpower and increase the economic burden on active members of the work force, including active members of the Navy.
5. Affluence and emphasis on autonomy may increase self-sufficiency and even selfishness among the general population, and decrease the number of people willing to undertake a career involving self-sacrifice and service, such as are involved in the Navy.
6. The Navy may benefit from providing self-actualization career opportunities in the naval service comparable to those in civil life.



7. Medical advances in prevention and treatment may enable the Navy to utilize individuals who have not been physically eligible for military service.

8. The Navy will be subject to public scrutiny as a potential environmental polluter, and may have ecologically-oriented activists in its ranks. In addition, the Navy may be charged with research and enforcement duties in the pollution-control field.

9. A national health care system may replace all military medical services, except those at sea, at remote bases, and in land combat areas.

10. Navy medical records will be centrally automated and accessible by electronic means, without a need to "transfer" records.

11. The problems of over-crowding on Navy ships will probably be affected by developments related to overcrowding in civilian society.

12. Future Navy training and personnel procedures will be affected by the decline of farm-bred youth and the predominance of city-bred youth.

13. Both advantages and disadvantages will attend the shift to all-urban-origin manpower.

14. Navy manpower and personnel operations will be increasingly affected by taking into account minority aspirations.

15. The Navy officer corps, senior officers included, will be no less urban in background than the ranks.

16. Distinctions should be drawn among a range of inner-city and suburban backgrounds in Navy personnel analysis.

17. Navy base housing will be affected by changes in civilian housing technology, standards, materials and tastes.

18. The proportion of Navy personnel desiring to live off base may rise.

19. Increases in retired Navy personnel may lead to requests for Navy housing and other support for retirees and their surviving dependents.

20. The increase in parents who have attended college may lead the next generation to have more realistic understanding and expectations regarding social change.

21. More education may or may not raise intelligence levels or character, but it will benefit the Navy by increasing general competence to perform complex tasks.

22. More education will also lead to more social ferment and questioning of institutional goals and practices.

23. Widespread interest in education as a continuing process indicates that all large organizations will be pressed to maintain extensive educational opportunities and incentives for their members on a much larger scale than at present.

24. The Navy might investigate more intensively the two-year community college as a source of officers and NCOs, in addition to the more familiar institutions.

25. Every large manpower system such as the Navy's should re-examine its educational requirements with a view to eliminate over-education and consequent under-motivation.

26. As a mass-oriented egalitarian system, American education will have to retain considerable structuring, for evaluative, financial, and administrative reasons.

27. Considering the one-sided political orientation of certain disciplines and faculty departments, student (and graduate) activism can be expected to continue in some areas, with anti-military results.

28. All major organizations have some stake in keeping up with value change, and also in the transmission of values that are not changing.

29. The decline of private military schools and colleges is gradually eliminating a number of foci of interest in military and naval affairs, as well as extra sources of military training.

30. The Navy may gain profitable inputs to an adult-education system from other successful systems, such as California's.

31. Many of the flexible, experimental programs in general education will provide fallout of benefit to the Navy.

32. Society needs careful analysis of cause and effect in value change. Is an organized competitive culture always bad and antithetical to a humanistic-individualistic culture? Is the latter always good? The distinction between the two is not absolute.

33. The Navy will benefit from establishing closer relationships with those individuals and institutions involved in giving frequent advice to young people — school counselors, high-school teachers, youth group leaders, etc.

34. The earlier maturation of youth may lead to earlier career choice and preparation; if so, the Navy should adjust to stating its career message to younger Americans.

35. Rapid obsolescence of expertise could lead to disillusionment with attaining high proficiency, since current skills "will not be needed for very long."

36. A mass educational system such as the American system will inevitably be constrained by the naturally limited supply of high-caliber elements, and the pervasiveness of the average.

37. Comparisons will inevitably be made between the state of parietal rules in barracks on military bases and those in dormitories on university campuses.

38. As universities become more specialized, the Navy will want to be aware of those institutions which could perform services for, or otherwise cooperate with, the Navy.

39. If universities become overidentified with certain organizations or ideologies, the Navy may consider adaptation of its own educational institutions.

40. The Navy is one of the social institutions which depend upon transmission to the young of such values as authority, national interest, and obligations of citizenship. Hence the predicted decline of the family as a transmitter of values will be of considerable concern to the Navy.

41. If the family will not be the primary medium of value transmission in the future, the Navy and other social institutions will wish to explore alternative means for performing this function.

42. As the range of marriage and life-style options available to individuals increases, the Navy will have to cope with increasing diverse social orientations among its members, all of which will interact with and impact on Navy institutional values.

43. Prospective members may expect the Navy to provide them with amenities at least comparable to those obtainable in a very affluent civilian society.

44. The costs of child-raising will have impact upon personnel policies and the facilities the Navy provides for its families.

45. Increasing numbers of working Navy wives will affect traditional patterns of Navy family life.

46. The traditional Navy family's patterns or styles of youth socialization may fade in the future.

47. The Navy will be concerned with any force which threatens family cohesion and by so doing erodes values important to the cohesion of American society.

48. Youth will continue to need social structures and clear connection with the adult world for healthy development, rather than being cut adrift amidst a subculture of peers.

49. Proliferation of advisers of the modern family are forming another insulating layer between parent and child. The Navy may increase its interest in more definitive research into family relationships.

50. It may become standard practice in the military to provide psycho-social counseling and family-therapy facilities for service families.

51. The Navy may eventually provide day-care centers to act in loco parentis for Navy families, and may be considered legally responsible for children left adrift by irresponsible former members of the Navy.

52. If trends toward "group families" become significant, the Navy might consider liberalizing the definition of "dependent" and subsidizing larger quarters and special facilities for "extended families."

53. It might be worthwhile, if possible, to separate structures for the transmission of knowledge from those for the transmission of values.

54. Though authoritarian and autocratic patterns will continue to decrease in effectiveness, new and more effective methods of control will evolve with application in family relationships as well as organizations.

55. The Navy will be concerned with more definitive paternity identification and responsibility, especially in strained international situations or overseas basing.

56. Psychological insights (for example, that most child-beaters were themselves beaten in childhood) increase the potential effectiveness of psychological testing for emotional stability and of fitness for leadership.

57. Trends toward uninterrupted husband-wife companionship may lead the Navy to consider circumstances under which men and women could serve aboard ship together.

58. Decrease of parental directive style will be countered by increasing reliance on example and the "contract" style of leadership.

59. Though the role of the family may be declining, there is no evidence that it is on its way to becoming extinct, or that some other agency is prepared to perform its functions.

60. If parenthood becomes a restricted specialized function, the Navy and other institutions will want to insure that the child-raising environment and genetic characteristics sponsored by selected parents include those likely to produce individuals effective in military activities.

61. Short-term or ambiguous marital relationships will present administrative difficulties for the Navy in matters of dependency status, insurance beneficiaries, and payroll allotments.

62. Both apocalyptic and utopian predictions for the future will prove extreme; the Navy will be quite capable of interpreting current social trends correctly and making Navy practices compatible with those of general society.

63. Although the current leaders of youthful protest are likely to become less militant as they grow older, they will be replaced by younger individuals who may seek even greater heights of social ferment.

64. Certain issues and attitudes, particularly the adversary orientations of the late 1960's and early 1970's, may well provide the frames of reference of those who mature in the late 1970's and early 1980's.

65. Some aspects of the youth culture—political radicalism and alienation—represent danger for the military; others, such as idealism and sense of community, are both intrinsically healthy and reconcilable with the military.

66. Unless increased levels of political and educational activity lead to greater political sophistication, American foreign policy may be handicapped by unrestrained naivete and militant oversimplification.

67. There are opportunities for the Navy to relate more intensively to young people through youth's interest in personal experience and craft development.

68. The values of the potentially-dominant youth-adult population group (age 21-35) may provide greater support for the Navy than some anticipate.

69. As the percentage of children and teenagers in the population declines, the potential for youthful activism may also decline.

70. Young people will increasingly make high mobility a habit.

71. The Navy cannot afford to lose sight of non-college youth, despite the greater visibility of the student population.

72. Oversimplification of complex problems will continue to characterize the youth syndrome.

73. Despite present-day radicals' rejection of old-line communism, it is unlikely that either communists or radicals will decrease their attempts to subvert the armed forces.

74. Continuous negativism about American society could eventually result in a self-fulfilling prophecy, and must be countered constantly.

75. Emphasis on "opportunity" and "self-development" supports the assertion that youth will continue, despite their rhetoric, to seek ways of developing their skills for life-preparation.

76. The Navy may, with other institutions, implement concern in reducing situations in which American children are cut off from significant adult influence.

77. Perhaps childhood and adolescence should be regarded more as integral parts of the total social fabric, rather than encapsulated entities.

78. The Establishment can defuse agitation by retaining a conviction that the majority of youth are sensible and willing to compromise.

79. As the Navy participates with the Establishment in demonstrating that it can offer more to non-radical youth, radicals will be more and more isolated.

80. Analysts of social change must be careful not to mistake fleeting fads as major trends.

81. One of the most difficult challenges the Navy will face is the problem of humanizing the bureaucracy, especially as youth perceives it.

82. As egalitarianism grows, there must be clear demonstration that prerogatives which remain are warranted and that they are granted meritocratically.

83. Many present social problems and advocated solutions are neither new nor revolutionary, and it may be that resolution of these difficulties is dependent on some new overviews, rather than piece meal attack.

84. Without succumbing to extremes, the Navy should consider the American desire for novelty and change in conducting its affairs.

85. The onset of physical maturity at an earlier age might lead the military to consider lowering the minimum age for military service and otherwise addressing its message to younger Americans.

86. Although physical and perhaps intellectual maturity is starting earlier, it is not clear that emotional and psychological maturity keeps abreast of the first two.

87. The increasing size of Americans has logistical implications: e.g., uniforms will need to be larger, sailors will eat more, and living spaces may need to be larger.

88. As the crucial stage of personality development and general politicization, the initial period of adolescence would appear to merit closer attention from the Navy and other social institutions interested in, say, value transmission.

89. The shift to earlier years of life of the period of value formation may encourage the Navy to sponsor or otherwise associate itself with activities of importance to tomorrow's young, e.g., rock music.



90. No organization can ignore the factor of social class; it should seek to benefit from the lingering positive aspects, and ameliorate the negative aspects, of class differentiation.

91. The effects of massive television-watching in youth are not yet known but are likely to be profound, and not likely to be understood by elders who did not have the same formative experience.

92. Rebellion against the family is only now becoming a mass phenomenon instead of an individual problem.

93. The Navy will be faced with more individuals less willing to be socialized into "monolithic" Navy life and more overtly different and unwilling to change.

94. Attempts should be made to break down the increasing encapsulation of the "youth culture"; for the more encapsulated that culture is, the more tension will result for both the Establishment and the young, when its members do emerge.

95. Youth need to test themselves, and steps might be taken to exploit youthful energy and idealism and to permit youthful experimentation within constructive frameworks.

96. Apocalyptic predictions about the possibility of war do not render future planning unnecessary, and will eventually be proved false; nevertheless, the compression of time and the rapidity of change in the future will encourage life goals and pluralistic work patterns in the Navy, as elsewhere.

97. Competition as a management tool might be more critically analyzed with a view to determining when it becomes dysfunctional, both to organizational efficiency and personal satisfaction.

98. Traditional ideals, not the incessant shortfalls of man, should be the objectives held up for youthful emulation.

99. Youthful political participation will increase, probably, along realistic and practical, rather than extreme, lines.

100. Other navies as well as that of the United States are having to contend with a universalistic youth culture, changing value systems, and peer-pressure for anti-Establishment conformity among youth.

101. Although surveys showing the gap between generations to be exaggerated, this does not conflict with moderate but widespread support among youth for truly alienated activists, or make more palatable the fact that the activists' ranks include a few of the most talented young people.

102. Our social structure has not yet found adequate means for preparing the young to leave home.

103. All institutions will give more attention to methods of incorporating the young earlier into the mainstream of society, and of reconciling youthful ambitions with an aging population.

104. The transmission of core values is of great importance to the Navy, as is the timing of replacing those in authority by younger persons with partially different perspectives.

105. The Navy and other institutions will have to initiate efforts to explain and clarify false or misleading values, explanations, and relationships.

106. The impact of youthful protest will vary greatly depending on whether constructive or destructive activists become more influential, and whether or not radicals mellow as they age.

107. Some alternatives to long uninterrupted years of formal education should be devised which involve youth from childhood on.

108. One of the most important interests of society is the transmission of society's political values from one generation to the next, without distortion and not predominantly by the society's adversaries.

109. The Navy may encounter more young people with criminal backgrounds, and might consider its own stake in criminal-reform efforts.

110. Young people with fatalistic and/or suicidal frustrations may carry these impulses with them into the Navy.

111. The Navy should not automatically condemn communes or other group life-styles; people from such backgrounds might have motivations and capabilities useful to the Navy.

112. As a part of the Establishment, Navy social-action programs can project Establishment values compatible with those of youth and hence attractive to prospective Navy personnel.

113. Loss of college support for the military deprives the services of high-caliber leadership material, and must be carefully countered.

114. Value-transmission in the future should put emphasis on obligations comparable to that put on privileges and rights.

115. Though willingness to listen is important, an organization must be willing to talk as well; teams and panels of calm military representatives would be welcomed in many milieus. If no military representation appears, the truth goes by default.

116. Whether or not the military needs reform, many American youth believe; it does.

117. The professional military itself is restless and in need of reassurance over certain social-military issues.

118. In reference to non-college youth, there are possibilities for Navy apprentice programs, summer schools, and the like.

119. Present conceptualizations of American life are either historically remote or derogatory; few balanced representations of contemporary American life exist.

120. The roots of every serious current reform movement are in the old culture, and greater efforts are needed to demonstrate the continuity between the old and the new to the young.

121. To some degree, youth is what we have made it, and if we desire it to be different, we cannot remain aloof from its problems and prospects.

122. Tighter competition for quality manpower will eventually lead male-dominated institutions to overcome inhibitions against equal participation by women.

123. Decline of economic, technical, and philosophical/religious justifications for the constricted role of women in society means that there will eventually be almost no activities in which men engage that will not admit women on an equal basis, — possibly for the military, not excluding selected combat roles.

124. The Navy will be interested in intensified research into sex roles, leadership situations involving women in command roles over men, and the firmness of sexual stereotyping.

125. There may be conflict in the Navy between Navy members from ethnic groups with restrictive views of women and the expansion of women's roles in the Navy.

126. Extensive surveys of the attitudes of relevant subgroups towards potential roles of women in the Navy will be necessary to ascertain the degree of flexibility within the Navy's purview.

127. A major increase in the status of women in the Navy would probably call for reassessment of expression of practically all Navy policies to eliminate all forms of sex discrimination.

128. Reservations about Women's Liberation voiced by black women are indicative of cross-currents between racial and female attempts to achieve equality.

129. Among factors to be researched more carefully are physiological, biological, and psychological differences involved in menstruation, menopause, etc.

130. An increase in women's numbers and status in the Navy will bring about a corresponding concern about changing sexual mores.

131. Whether or not women achieve full equality with men in the Navy, the Navy may wish to enable husbands and wives to serve together in certain circumstances, to minimize loss of valuable personnel due to prolonged family separation.

132. Successful use of women in police work is relevant to military consideration of women's roles.

133. The Navy is aware of racial problems and is attempting to resolve them; it will succeed with all other American institutions in eliminating racial discrimination in direct proportion to the degree to which society succeeds eventually in integrating all Americans into a single national culture.

134. The Navy will continue to be faced with problems where foreign social customs or values are offensive to American society as a whole or to American minority groups, or vice versa; it may become increasingly difficult for the Navy to explain acquiescence to such foreign customs to certain domestic audiences.

135. Organizations will continue to have difficulty in separating militant rhetoric from actual demands, and to avoid overreacting in a manner which only makes the problem worse.

136. Predictions of black majorities in the inner city will have to be taken into account in Navy studies of urban, suburban, and rural characteristics.

137. Eventually the Navy may want and be able to deal with social classes on a multi racial basis rather than racial groups of all classes.

138. Racial separatism would probably result in racial conduct followed by repression; its impact on the Navy could eventually involve all-black ships,

divisions, flotillas, and commands. It is unlikely that the white majority would accept such a "solution" to the race problem.

139. The Navy will be in the forefront of organizations affected by automation, involving, for example, such activities as surveillance, command, and control; navigation; supply; personnel administration; and communications.

140. The unpredictability of war, combat, and other contingencies will probably induce the Navy to retain human control in areas where the unforeseen will have high probability.

141. Automation and its links with instantaneous global communications could pose a threat to some middle management activities.

142. The "computerized bureaucracy" in government may become a close-knit elite detached from both society and the rest of the bureaucracy.

143. A National Data Bank could have both great dangers and benefits for society; with proper safeguards on input and output, the benefits might outweigh the dangers.

144. To prevent the creation of a single-agency computer-elite, each organization will want to develop its own corps of computer experts.

145. Prevention of information overloads falling on individuals and organizations will necessitate some kind of filtration system to separate wheat from highly attention-demanding chaff.

146. Though robots may have battlefield applications in the future, they are regarded here as too far-fetched to be analyzed.

147. Centralization through instantaneous communications may make whole echelons of delegated responsibility unnecessary or obsolete, causing considerable dislocation in personnel and management concepts.

148. Despite some casual current assumptions, sex is too explosive a force to be treated lightly. The Navy, insofar as it exercises any influence

over the sexual conduct of its members, will want to encourage sexual practices consonant with basic human values and personal integrity.

149. Increased numbers of women in the Navy and current sexual trends could suggest consideration of new concepts such as coed barracks and parietal rules on base.

150. The Navy probably cannot escape the effects of liberalized laws, restrictions, and attitudes toward homosexuals; eventually, the armed forces may be forced to admit homosexuals to full and equal active duty.

151. Emphasis on competitive athletics which produce a few skilled performers and a mass of dabblers and spectators, and changing attitudes toward this approach to sports, is bound to affect organizations, such as the military, which emphasize physical fitness.

152. In view of the scope and nature of social and cultural changes predicted for the future, it seems likely that Navy involvement in social developments and provision of social services will expand in the future.

## ORGANIZATIONS

One of the most important arenas of change for the Navy is that of organizations. As institutionalized social subsystems, modern organizations will become increasingly large, complex, technological, and humanistic. One paid prices to belong to the old community—conformity, hierarchy, lack of privacy, and dreariness; and nostalgia is inappropriate, for modern man is too fond of independence, privacy, and variety to tolerate life in a community of the old type. The organization has been engaged for some time in partially replacing the family community, neighborhood, and even the church, and in performing much of what used to be community functions, such as education, rehabilitation, and vocational training. The modern work organization may become the institution most capable of providing what modern man most desperately needs: shelter without walls. We need to know a great deal more than we do about how organizations work.

Organizations are systems and institutions, sets of interrelated elements and processes, with no element independent of the whole, yet with the whole receiving some effect from every element. They are complexes of culturally-defined norms regulating role behavior of incumbents of various positions in the structure; their great virtue is stability, achieved at some cost of creativity and spontaneity. Their five major components—people, rules, goals, artifacts, and environmental interferences—combine to form ideologies, control actions, and socialize their members according to the evolving larger environment and their analysis of the uncertain requirements of the future.

The bureaucracy, which Max Weber had lauded as correcting the abuses of feudal organizations—whimsey, inefficiency, nepotism—is itself under attack as anachronistic, inflexible, undemocratic. New structures and styles are emerging.

Professionals and specialists will proliferate; professional associations will erode the loyalty of members to their work organizations. Whether the organization be government, business, university, or other, society will be less



tolerant of multi-effect decisions made unilaterally. Organizations, especially public organizations, will become increasing service-oriented, increasingly oriented to clients. The probable net effects of many conflicting forces on greater or less centralization is not predictable, but the computer is likely to strengthen top leadership, while weakening the bureaucracy, and foster a closer direct relationship between leader and led. In general, individuals will be less loyal to organizations and more mobile, and less willing to endure or function in coercive, conformist, or competitive conditions within organizations.

Organizational leadership will change from authoritarian and directive styles to cooperative, teaching styles. The charismatic, "great-man" style is declining in all fields. Income differentials among managers are shrinking, as professionals increase. While organizations will remain hierarchical to some extent, they will be less so; rigid pyramidal structures will decline, to be replaced by flexible structures, with interdisciplinary task forces forming and reforming for different tasks under different leaderships—an approach to which Alvin Toffler has given the term "ad-hocracy." Forty years of research have revealed no unique traits of leadership that are invariably successful in every situation—that are not, in fact, counterproductive in some situations. Modern studies show that unsuccessful leaders are those not open to counter-influence attempts by subordinates, and who do not have adequate skills in social exchange. People-oriented supervisors are more successful than mission-oriented supervisors.

Modern findings discount a direct correlation between scholarship standing and leadership ability but confirm, for example, some link between leadership ability and birth order. Rising educational competence will be encouraged by a combination of forces, and competition for quality manpower will also rise. At the same time, many highly educated persons, especially professionals, will not make good "organization men" in the classic sense, for they will not yield career authority to the organization. Tension between the individual and the organization will be one of the endemic characteristics of

organization life, as many individuals place less value on financial reward and organizational power, and greater value on interesting, self-actualizing work with aspects of social service. All organizations will devote much attention to job enlargement. Evaluation will be more rounded, with less emphasis upon the dimension of pleasing superordinates. The heretic or internal radical critic may eventually be highly valued by organizations.

Each institution will develop its own ethic of change, in which receptivity to change, a cooperative spirit, flexibility in management, interaction with the social environment, and a humanistic emphasis will be influential, as the institution moves into the unpredictable future, attempting to cope with such dilemmas as, on the one hand, greater decentralization, specialization, diversity, and individualism, and, on the other hand, the centralizing pressures of the machine.

#### IMPACTS

1. With relatively few exceptions rooted in unique Navy missions, almost all organizational changes predicted for large, complex organizations in general will achieve some impact on Navy (non-tactical) organization.
2. One major trend will increase the individual member's dependence on the Navy for a range of support and services.
3. An opposite trend, involving personal autonomy, greater demand for a voice in decisions which affect him, and increasing alternative choices and channels of recourse will affect the relationship between individual members and the Navy.
4. Like all large organizations in unpredictable circumstances, the Navy may find it increasingly difficult to obtain objectivity in assessment of its problems; it will probably seek critics prized as much for their detachment as for their expertise.

5. There may occur a shift to greater emphasis on the interests of the Navy membership at any one time, rather than long-term interests of, say, one decade or generation.
6. Scientists will probably continue to need the Establishment, including the Navy, as much as the Establishment needs them.
7. The Navy will enjoy less autonomy in the future, but will benefit from greater interaction with other social institutions, and may find it desirable to form special relationships for certain purposes other than industrial.
8. The major human problems confronting all organizations (integration, adaptation, etc.) will challenge Navy styles of leadership, management methods, handling of specialists and professionals, formation and dissolution of management task forces, and similar organizational procedures.
9. Automation will exert pressures toward centralization, while other pressures trend toward greater flexibility and decentralization. Some organizational elements will remain relatively stable, while others undergo intermittent change at different paces.
10. Some organizations will find their near-monopoly of certain functions diffused, as various public-interest commissions emphasize consumerism, even toward the military.
11. Job specifications which reflect the organization's interest in versatility beyond the actual duties involved will clash with court rulings and other interests which have as their objective the elimination of alleged discriminatory requirements for broad cultural competence.
12. Increasing education will produce more competent people for the Navy, but will also produce more independence-oriented people.
13. Significant changes in general advertising rationales and techniques will revise pertinent Navy programs for recruiting and public relations.

14. The Navy's consciousness of its responsibilities as a public-service institution will deepen and intensify its efforts to demonstrate its awareness of that role.

15. The paraprofessional movement may develop more specific apprentices and assistant categories of benefit to the Navy, and may open greater opportunities to develop "Navy-auxiliary" orientations, especially among the young.

16. The Navy may find it desirable to seek civilian allies to foster at least the absence of an anti-Navy orientation, if not a pro-Navy orientation, especially among groups and institutions which influence the young (teachers, counselors, church, publishers, industry, et al.).

17. Convergence with many aspects of civilian organizations will probably continue, e.g., pay, training, benefits, evaluation, reward, treatment of women, public relations. Comparisons by Navy members will be easier to make. Navy differences may become harder to explain.

18. If knowledge institutions replace industrial organizations as the most influential elements in future American society (and even if they do not), the Navy will not be able to afford continuation of the anti-military orientation on university campuses.

19. Lateral movement in certain specialties among personnel of the Navy, universities, research centers, and other public and private agencies may become advantageous to the Navy.

20. Increasing complexity of society will probably force greater interaction among more institutions. The Navy will probably be participating in a greater variety of standing, intermittent, and ad hoc systems, seminars, teams, and other vehicles for interaction.

21. The Navy's educational efforts will expand to provide varied approaches and programs for a spectrum of age-groups in the Navy and among Navy dependents, and possibly for pre-Navy individuals and groups.

22. The Xerox social programs illustrate some responses that may be more widely expected in the future from Big Organizations.
23. The Navy and the other military Services will probably be constrained eventually to establish systems for continuous monitors'hip of cultural and social change, analogous to systems in operation to monitor technological change.
24. The Navy can expect greater citizen intervention in certain public-domain activities, such as conservation, pollution, waste-disposal, water resources, and public waterways.
25. In an age of unrelenting change, the Navy can expect to become vitally concerned with the discontinuance of no-longer-necessary activities, large and small.
26. Despite the favorable image of constant change and the unfavorable image of bureaucracy, certain positive characteristics of bureaucracy are likely to endure in large organizational structures, e.g., continuity, unity, cost efficiency, and certain aspects of impersonality and impartiality.
27. One of the most perplexing of future organizational dilemmas will involve the maintenance of fair and impartial treatment for all, while treating each individual with heightened perception of his unique individuality.
28. In the future, the job bureaucrat will decline, while increased status accrues to the functional, specialist, and service types of bureaucrat.
29. Despite critics of the organization in the conflict between the individual and the organization, the Navy will want to stress those aspects of organizations which provide the individual with opportunities for self-actualization not obtainable outside organizations.
30. Navy styles of leadership may become pluralistic, to extend beyond the ship and the battle, to adapt to more identifiable environments, such as administrative, educational, staff, and others.

31. Social exchange theory and contract theory provide bases for changing perspectives on leadership appropriate to the Navy.
32. The prospective increases in the utilization of women in the Navy indicate the desirability of additional approaches to leadership study.
33. Continuing assessment of values should become of greater interest to the Navy, not only in relation to sub-groups within the Navy, but also in relation to the values of youth cohorts approaching periods of entry into service.
34. People-oriented leaders will continue to be more successful than mission-oriented leaders.
35. The Navy may become more interested in the specific recruitment of first-born sons.
36. Intellect will always be of interest to the Navy, but it is becoming increasingly clear that there is no correlation between scholarship rating and subsequent officer performance.
37. Substantial increases in manpower will probably be needed for the processing of information--acquisition, storage, accounting, retrieval, and dissemination.
38. Even more "unconventional" career paths will characterize some top leaders of the Navy in the future.
39. More professional specialists will turn to their professional associations for standards, diluting their loyalties to their organizations. Among other effects, more specialists will be removed from the rating authority of line commanders.
40. Proliferation of professionals as specialist advisors and consultants will generate changes in staff relationships with commanders, and in the role of commanders.
41. The rotation of leadership roles within organizational elements does not appear to have more than limited viability for the Navy.

42. More areas within the Navy will become professionalized.
43. Unionization of professionals may occur within the Navy.
44. More sensitive study of non-military incentives available to the Navy may be profitable.
45. Some of the oldest bromides will retain validity, even in radically changed personnel and management systems (e.g., "Busy people are happy people").
46. All organizations will devote imagination and effort to "enlarging" jobs to permit personal growth; nevertheless, obvious limits will obtrude from organizational needs and limited talents.
47. Predictions that in the future individuals will grow to reach their maximum potential must be salted with some skepticism. Organizations will be pressed to provide opportunities, and may be blamed whatever the results. But many individuals, when they come to realize that self-fulfillment depends preponderantly on self-effort, which the organization cannot supply, will grow no further.
48. Extremists advocating single-minded growth through gratification, neglecting the contributions of discipline and adjustment to growth, will be harmful to the Navy and Navy people.
49. Organizations will be constrained to make work circumstances more meaningful to incumbents. Still, there will be limits. Many individuals will experience meaningfulness in work only by searching for jobs which are already constituted in terms meaningful to them.
50. The impact of personnel mobility, long a feature of Navy life, will not be as disrupting to the Navy as to many other organizations.
51. It will become increasingly important for the military to provide opportunities for outstanding performers to reach very high position within, say, twenty years, especially if American society places greater emphasis on meritocratic principles.

52. Study of Navy career patterns which incorporate relevant physiological and psychological data, especially in connection with critical stages in professional life, should prove enlightening to both the Navy and Navy people.

53. As is occurring in other organizational environments long involved in paternalistic roles, or roles in loco parentis (e.g., universities), the Navy may retrench from exerting influences in certain areas of the lives of its people.

54. Different nuances may emerge in organizational perspectives of the role of Navy wives.

55. It will probably be damaging to organizations in the future to fail to retain certain ones selected from those among their memberships who, while maintaining overall constructive motivations, must be classified as heretics, independent thinkers, zealots, idea men, and proposers of radical methods.



## NATIONAL ORIENTATIONS

Many predictions set forth in this study will affect the Navy indirectly, through their impact on American society as a whole. In this category are shifts in American values from individual to group, achievement to adjustment, the rational to the aesthetic/humanistic. Despite possible short-run turmoil, prospects are for increased participatory democracy and tolerance in American life; youthful activism will mellow with time, but certain core values of youthful activism will retain vigor. As the United States develops a complex internal dynamic similar to those of other countries, the dangers of constant negativism about American society will increase. Much of this may be countered by emphasis on public good rather than private gain, but the central conflict between achievement and egalitarianism, freedom and equality, will remain. Debate between natural and political scientists over the future course of society will intensify; specialists will supersede generalists, with uncertain consequences.

There is a need to formulate American domestic priorities more explicitly to facilitate planning and avoid intermediate pitfalls. Increased meritocratic selection, diffusion of goods and services, democratization, and technology-created centralization are resulting in a redistribution of power from manufacturing to service industries, independent firms to conglomerates, local to federal agencies, legislative bodies to executives, older to younger individuals, and men to machines. Effective future planning without narrowing society's range of choices demands adequate social control over the uses of science — which in turn requires more and better social indicators than are now available to analysts. The real problems of technology are actually human problems of alienation, disillusionment, and impersonality; remedies might include national service for all youth on social projects, continuing education, and increased political/organizational involvement. Politics and government will be dominated by younger individuals, public servants of equivalent caliber to those found in private enterprise, and greater citizen involvement in local affairs; business will be much more socially involved and constrained. The need to control urban growth and renovate the inner city will

demand more integration of hitherto autonomous governmental agencies. A central concern of those engaged in aesthetic and symbolic as well as rational and systematic human activity will be whether the ability of human beings to absorb change is constant or capable of being increased to accommodate more frequent transformation.

American foreign policy in the future will have to contend with a replacement of USA - USSR bipolarity with a variety of issue-oriented blocs; the increasing stake of regional and/or global organizations, groupings, and corporations in minimizing international conflict; the rising power of China, Japan, and Western Europe at the expense of the United States and the Soviet Union, and increasing economic nationalism coupled with political xenophobia among third world nations. These geopolitical trends, together with various domestic expressions of frustration with 25 years of supposedly counterproductive international involvement, indicate continuation of present sentiments throughout many segments of American society for at least some withdrawal of the American presence abroad. The USSR on the other hand, is expanding its foreign-policy purview and capabilities from a Eurasian to a global orientation; Soviet motives in doing so are not yet clear. The United States will still have considerable economic leverage, especially in terms of its food surpluses amidst a hungry world. Under these circumstances, American foreign policy will be charged with defending more complex American interests with less public comprehension, faced with more condemnation of American living standards in comparison with those elsewhere, and subject to more criticism on abstract moral grounds. In short, American interests abroad will remain; American ability to protect those interests will be increasingly circumscribed by a relative decline in American power and a larger relative decline in American will.

## POTENTIAL IMPACTS:

1. The Navy's institutional values will adjust to changes in the prevailing values of American society. At the same time, some American values will remain relatively stable, as will related values of the Navy.
2. Pressure will grow in all bureaucratic institutions, including the Navy, for both broad legal and social justice and specific fairness in detailed administrative procedures and human relationships.
3. As participatory democracy grows throughout American society, it will grow in the Navy, tempered by the pressures of Naval roles and missions.
4. Former activist students may mellow, but they may impress certain of their values and attitudes on the next generation, with consequences still to be reckoned with.
5. The Navy can expect the dominant pattern of general comparability between generational values to continue indefinitely.
6. Public and private agencies, including the Navy, will be held to higher levels of accountability in terms of both actions and values.
7. Apocalyptic views of the American future will continue to confuse the real issues as social institutions, including the Navy, confront the future.
8. Among other foreign perspectives that may generate exaggerated expectations of the United States is the Revel view that an almost wholly unique and total revolution is taking place in the United States without sacrificing democracy, and that the rest of the world will have to follow suit.
9. A reasonable consensus as to what factors constitute Navy institutional values may be arrived at, with the caveat that many individuals and groups within the Navy may not subscribe to that consensus or consider it totally valid.
10. Some heterogeneity of values according to subgroups may arise, even

11. The Navy as well as other American institutions will be affected by continuing tension and changing relationships between the two traditional American core values of freedom and equality.
12. Though automatic assumption that "old values" are bad is simplistic and dangerous, assertions to this effect may become widespread enough to be of concern to the Navy in considering future value orientations of Navy personnel.
13. The Navy will continue to encounter scarcity of certain resources, despite predictions of universal plenty; and naval training which does not teach how to cope with scarcity will be inadequate.
14. The Navy and other institutions will be challenged to create methods which combine individual satisfaction with collective needs and goals.
15. National interest as a broad concept of national security, and welfare, may be challenged in the future by special groups who reject any limitation on their own interests.
16. The Navy will be involved in remedial action enabling individuals to obtain genuine equality of opportunity and in increasing such equality in its systems.
17. The Navy will want to reserve judgement before agreeing that work for work's sake is necessarily bad.
18. There will be a distinction between the decline of achievement as a value-orientation while it still retains great motivating power, and the assertion that achievement has become inconsequential.
19. Shifting emphasis to public service as an ideal may encourage the Navy to participate more extensively in social action and stress more cogently the "service" nature of its own activities.
20. As an organization that has always emphasized groups, the Navy will be concerned with increasing emphasis on group values, plus questions of which groups are to be preferred in inter-group conflicts and what kinds of groups will be considered legitimate.

21. It may be in the Navy's interest to participate in debates involving scientific values, ethical issues, and related aspects of the future course of society; those Navy personnel with misgivings about their own profession, values, and life-styles may derive special benefit from such participation.

22. Some individuals will occasionally become "casualties of future life" despite their own efforts; the Navy may undertake special rehabilitation programs for them and might consider revising certain concepts of individual responsibility.

23. The Farson Bill of Rights for 1984 augurs a number of substantial changes in relationships and procedures in all organizations.

24. In continuation of its long term interest in psycho-sociological research, the Navy will continue to be interested in social accounting and forecasting, and in insuring that Navy interests are reflected.

25. A condition of social stability rather than growth would enable the military to reestablish a stable role, especially if the legitimacy of its role were to be widely accepted again.

26. The Navy will be involved in social planning as well as social accounting.

27. The search for alternative agencies and sources capable of analyzing military affairs with an independent perspective will continue.

28. Implementation of national service of any type will benefit the Navy by supporting a sense of national obligation, providing a non-campus and pragmatic learning environment, and increasing the cooperative spirit. The Navy might participate in certain service programs which have no military connection.

29. Increasing citizen watch-dog attitudes may prove harmful to the Navy, especially the cultivation of ex-servicemen who served in sensitive positions to release classified information to the general public.

30. The increasing role of ethical considerations in American life will ultimately require the military's ethical rationale to be reaffirmed in more terms.

31. The Navy will be concerned with representativeness in relation to minority presence in the officer corps, at service schools, and at flag-rank levels.
32. The Navy will be involved in the results of the moral and ethical orientation being impressed upon young Americans in their formative years, even if it is not directly involved in value orientation.
33. The Navy and other institutions involved in various stages of foreign policy planning and implementation will be more concerned with domestic constraints on American foreign policy.
34. Regardless of their partial invalidity, present youthful views of American foreign policy or their residues will affect the military in the years to come.
35. As most of the world is non-white, it will be vitally important for the American image abroad that all representative American institutions, including the Navy, eliminate any remaining vestiges of racial discrimination.
36. In reorienting American foreign policy to represent America's revised world role, the Navy will be constrained to effect changes in its social and cultural relations as well as official and professional procedures.
37. The Navy will wish to counter the danger of an American public misinformed about foreign policy issues, by contributing to the dissemination of accurate data and balanced analyses.
38. Growing European unity could result in pressures for change in NATO structures, including the U. S. Navy role.
39. As Americans engage in more activities abroad, the traditional Navy mission of protecting American lives and property in crisis may increase in scope and complexity.
40. Involvement in additional international enterprises and increased social action may have substantial impacts on many Navy programs.

## DOMESTIC INSTITUTIONS

American domestic institutions will be marked by greater social complexity, characterized by the dominance of the professional-technical class and the centrality of theoretical knowledge as the basis for planning and policy formulation. Though the basic governmental structure—Constitution, two-party system, and elections—will remain intact, the role of government will expand. Leadership will be diffused among a younger, more meritocratic and democratic element, yet the scope and power of government will expand steadily. The distinction between public and private agencies will decrease, and in some instances will become ambivalent. Conflict will increase between a democracy increasingly responsive to popular will—perhaps through instantaneous electronic referendums—and the "technocrats" charged with social planning and control. In addition to the oft-repeated problem of invasion of privacy, the "information explosion" will lead to broader difficulties: conflict between the "tidiness" of systems analysis and the uncertainty of value judgments, and a steady decline in the latitude for decision-making according to ideology and "principle" resulting from increased knowledge.

The American economy will be marked by increasing efficiency and automation in agriculture and industry, leading to less demand for unskilled and semi-skilled workers and increased requirements for professional, technical, and paraprofessional personnel. The expanding service sector will absorb the greater share of the work force and come to dominate the economy, in quantity if not in qualitative aspects. Manpower utilization policies will change; shorter work days and weeks, more holidays, longer vacations, more fringe benefits, early retirement coupled with vested pension rights, and flexible hours—all will be part of industry's attempts to cope with automation-induced unemployment, greater employee self-assertion and organization, and concepts of increasing productivity through positive reinforcement. Women's role in the labor market will grow, but male dominance will remain; opportunities for racial minorities will open up but will still lag behind those available to whites. Fiscal and tax structures will be integrated both vertically

and horizontally; the United States will lose national but not continental or hemispheric self-sufficiency in many raw materials. A major byproduct of these developments will be increased leisure time for all, and a proliferation of special-interest organizations, activities, and products to occupy this time. Education will decline as a formal requirement for employment (the degree explosion and consequent cheapening of a university education, coupled with the disillusionment of the "over-qualified" individual, is tending to ensure this), but will grow as an integral part of life; and as education and work become less distinguishable, so will work and recreation. The initial impact of technology and industrialization fragmented human activity; cybernation and automation will move towards recombining the division of human labor into a whole once more.

Though institutions will have an increasing role as value representatives, dissatisfaction with existing institutional structures will continue. The planner will replace the lawyer as the chief social organizer and manipulator. Law itself will see the abolition of statutes against "victimless crimes," and the expansion of prison reforms oriented toward effective rehabilitation, and will also see restrictions placed on ownership of personal weapons, and stiffer penalties for organization, commercial, and other types of "white-collar" crime. A parallel if seemingly contradictory movement to upgrade police efficiency with higher quality personnel and automation of records, increase citizen participation in law enforcement, and reverse lenient court decisions, may also manifest itself.

The future impact of the mass media on human interaction and life styles is as yet unclear in detail, but is immense in outline. The proliferation of electronic communication, its competitive and sensationalistic aspects, and its increasing specialization, leading to lack of common information and "advocacy" perspectives—all these tend to inundate individuals with printed and spoken noise, destroy collective identity, and disturb emotional tranquility. A corollary of these technological and organizational developments is the rise of an ideologically uniform journalistic fraternity with an anti-Establishment bias, a belief that the press is as important if not more important than the government in representing the people's



interests, and a moralistic orientation toward its mission. These developments in the general press, plus the more basic problem of increasing information despite a limited human capacity to store and evaluate it, will result in a detailed specialization of the electronic media. Magazines, newspapers, and books will be available for home print-out; individuals will be able to choose TV programs and films according to their own aesthetic and ideological tastes; picturephones, home data bank access, wrist phones, bookless libraries, a checkless/cashless society will all become reality. Individual two-way media access of this nature will have the advantages of allowing individual choice in an organized and impersonal world, and of increasing the efficacy of local politics and cultural life; it may also tend to undermine the sense of communality and shared cultural identity essential for the survival of any society. There are other apprehensions and opportunities. What effect will high-quality mass reproduction have on copyright laws and similar statutes? What is the effect of sustained media inundation early in life on value formation? Will political merchandising and packaging drastically debilitate the electoral process? Television will have more direct impact on the individual than any other device, yet analyses of its social ramifications are still primitive at best.

#### POTENTIAL IMPACTS:

1. Youthful political activism may accompany future entrants into the Navy; activists might seek to continue their political work while in uniform, or even use their Navy status to promote their own political ends.
2. Pressure to allow political activism by members of the armed forces may come not only from young enlisted men and junior officers "attacking" the military, but from senior NCO's and high-ranking officers who use an activist rationale to "defend" the military. The constitutional propriety of such activism may be questioned, as may its contribution to stability within the Services.
3. As interest groups proliferate in American politics, the Navy will continue to be affected by interest groups desiring to transform selected conditions of Navy life into exact counterparts of civilian life.

4. The concept of involvement, and the increasingly-alleged right of an individual or institution to be involved in all decisions affecting it, may extend to public institutions, and may eventually come into conflict with certain aspects of traditional concepts of military response to political decisions, although it is unlikely ever to jeopardize the principle of civilian control of the military.
5. The concentration of large numbers of potential voters may present temptations to both local political interests and politically-minded Navy members, presenting somewhat delicate problems for base commanders.
6. Pressures for local political participation by Navy personnel are more likely to arise (at least, in early stages) among Navy members living among the civilian community, rather than among those living on base.
7. Increasingly complex metropolitan and regional administrative organizations may confront the Navy in its interrelationships on certain issues.
8. The increased importance of the planner will have general social significance for Navy officers, in view of the planning expertise accumulated by military officers.
9. The Navy may institute an internal technology assessment and social accounting system to measure, for example, the quantitative advantages of the computer vs. elimination of the human element in "people problems."
10. As social goals become more present-oriented and anti-military stances more popular, the Navy may find it even more difficult to invoke the concept of national security in support of budget requests.
11. Nationwide abolition of voter residency requirements may intensify the problem of Navy personnel involvement in local politics.
12. The need for human feedback from bottom to top in large organizations may impel the Navy to provide ombudsmen at critical interfaces in its structure.

13. While making extensive command use of television and other electronic means, the Navy will wish to install high-confidence safeguards to prevent access to such mechanism being gained by subversives or mischief-makers.
14. Incorporating leisure into Navy schedules and practices may be more difficult than in other organizations.
15. A national job data bank will be important to the Navy in anticipating future manpower needs.
16. Cybernation will enable the Navy to reduce the size of both ship crews and shore establishments, though the Navy will find it advantageous not to automate some jobs.
17. Changing careers will be more difficult in organizations such as the Navy which encourage long-term commitments; alternatives such as a single military-civilian government career should be examined.
18. The Navy will wish to ensure that more scientific and engineering personnel have some social science background, to bridge the interdisciplinary gap.
19. The possession of an interdisciplinary background in both the physical and social sciences will be even more important in the Navy's top management.
20. The development of more clearly defined apprentice levels in technical fields may facilitate lateral entry procedures into the Navy in certain ratings.
21. The Navy will find useful the capability to monitor cultural and social change, by methods analogous to those by which technological change is monitored, in systems of data collecting, storage, and retrieval.
22. The full impact of computerization on individual Navy ships, and its labor-saving potential is not yet clear.
23. National standards for social-welfare programs will simplify Navy programs for personnel assistance in different states.

24. The Navy might be interested in sponsoring artists and performers to paint, sculpt, write, or film works of art related to the Navy. Like present combat-art programs, these would involve whatever subjects stimulated the creativity of the artist desired, subject only to security restrictions. Historical and/or contemporary motion pictures, novels, or poetry relating to Navy actions or Navy life might be produced by well-established directors, actors, authors, or poets; the Navy might also consider sponsoring proven creative artists from its own ranks. Such activity would enhance the image of the Navy among the intellectual community—once the artists involved were convinced that the Navy would not tamper with their works on purely value-oriented grounds. It would also provide the nation with significant works of art concerning an institution often neglected by both artists and general public.

25. Impacts from anti-military groups have been and will continue to be felt at an increasing rate.

26. Since the Navy is in the service sector of the economy, vigorous efforts will be needed to keep Navy pay scales abreast of those in the civilian production sector.

27. The previous status of the military as intermittently society's largest institutional employer, even in peacetime, has been overtaken by the education industry.

28. There will be less and less room in the Navy for unskilled manpower.

29. Shifts in buying patterns will be of concern to ship's stores, Marine exchanges, and other Navy-sponsored family services.

30. An expanding labor force may ease recruiting and training problems for the Navy in future periods.

31. Trends in family life-style and income will influence Navy support activities, such as design and size of quarters, parking facilities, and schools.

32. A decline in the number of children in disadvantaged families should decrease the proportion of persons unfit or just barely fit for military service, and increase the capability of those who are available.

33. The explosive growth of the 18-34 age category gives promise of sufficient military manpower without overintensive competition.

34. Shorter work periods and higher educational standards will have significant impact on the Navy in terms of increased or multiple crews, the possibility of part-time workers in times of manpower shortages, and decreasing availability of teenage recruits due to longer standard education.

35. The establishment of a Council of Manpower Advisers may assist the military in resolving manpower problems, especially in competitive periods.

36. Representation of subgroups within the Navy can be expected to increase; how far the "bargaining" nature of their representation will go is unclear. Some subgroups are likely to be composed of professional specialists.

37. If social customs make the firing of or termination of employees very difficult, the Navy and other large organizations may have to be more careful about screening applicants, and may be forced to retain some non-productive members.

38. Portable pension rights between the public and private sectors would both facilitate lateral entry of skilled personnel in the Navy and loosen career commitments to the Navy.

39. As a male-oriented and dominated institution, the Navy will not easily change to accommodate women.

40. The Navy will be constrained to provide an increasing range of leisure activities for its members, and will have to cope with those individuals incapable of using leisure time profitably on their own initiative, to the detriment of the Navy.

41. Though the Navy may profitably use automation to eliminate personnel in the 75-100 I.Q. range, elimination of those in the 100-115 bracket, while feasible, may be socially undesirable.

42. In view of the large chunk of the defense budget occupied by retirement funding, the Department of Defense will be interested in reducing retirement costs through redefinition of retirement rights—a difficult task, given the probability of innovations such as flexible career patterns and portable pensions.

43. The Navy may wish to establish a substantial department for recreation and leisure.

44. Many members of the Navy may wish to use their leisure time earning extra income, and the Navy may be pressed to provide opportunities for them to do so.

45. A decline in willingness to work long hours and under dangerous conditions will probably lead to demands for premiums for performing such tasks.

46. The Navy may wish to broaden the social base from which it recruits members of advisory bodies, in order to pre-empt elitist allegations and increase accurate and relevant input from such organizations.

47. Evaluators in the Navy, unlike those in civil life, will not be unwilling to issue negative evaluations, which may create tension between those evaluators and young people accustomed to inflated standards. Conversely, those young people who do excel will demand recognition.

48. The Navy may be expected to undertake rehabilitation or certain criminal offenders as a form of social action, perhaps in conjunction with appropriate civilian agencies.

49. The military is highly vulnerable to the impact of the media, which form one of the prime vehicles for current social conflict. Without hampering freedom of the press, the military should develop imaginative methods of defending the armed forces against irresponsible attacks by the media.

50. Future organizational personnel data will include psychological and social attitude surveys as well as current demographic and performance characteristics, permitting sophisticated analysis of personnel profiles.

51. Analytical methods used by some commercial publications to select formats, subjects, and audiences may be applicable to Navy publications, both in-house items and published works.

52. As the impact of television on childhood value formation becomes more apparent, it will be decided that TV is too important a medium to be controlled solely by commercial and technical perspectives.

53. If psychodynamic inquiry into the backgrounds and psyches of national leaders becomes widely popular, it will probably include top military leaders in its scope.

## THE CONTINUING MILITARY CONTEXT

This Section and the two following it sharply narrow the focus from that of the previous eight Sections, from society as a whole, to the specifically military context. That context and the unique ethos which characterizes it have, like almost all other major social institutions, exemplified both the best and, on occasion, the worst qualities of mankind. The great challenge of modern times have been to confine its exercise to the best defensive qualities against the worst offensive qualities. In such terms, the military ethos is not yet expendable, nor is it likely to become so in the foreseeable future, in which predators, however disarming or sophisticated their guise, will still be predators.

The traditional military ethic postulated a hierarchical institution with strict officer-enlisted stratification informed by a vertical, authoritarian chain of command, and a stoic acceptance, if not embrace, of privation as a corollary, depending upon motivation, to duty or to glory. Glory has lost much of its power to inform the modern military ethos, but duty still provides powerful reinforcement.

At the core of the American military ethos are several convictions about war: first, war is at the extreme limit of, but is still an integral part of, the social process; it is not an aberration separated from the social and political structure. Second, war occupies the extreme step of a single ladder of conflict escalation; so long as no authority exists to force sovereign nations to desist from escalating violence, issues in contention will continue to arise over which passion or the prospects of aggrandizement will impel certain nations to undertake successive stages of violence, including, on occasion, the ultimate stage. Third, the coming of war to a particular nation has nothing to do, necessarily, with that nation's innocence, or virtues, or peaceful intentions, or desires; war comes to both sides at the will of one side: the predator. Fourth, if a society believes its institutions deserve to endure, rather than commit suicide or destroy one's institutions so that they may be superseded by those of a predator, the society will fight a war to



preserve itself. Fifth, the military man in a moral society fights any war which the duly constituted authorities of his society instruct him to fight. Sixth, if one enters a war, it is better to win than to lose. Seventh, amateurs do not win wars against professionals. To win a war against a powerful, skilled opponent, a nation must fight with at least equal power, skill, and will—and, preferably, with more. Eighth, even if one adheres to all the rules of war, war is lethal business. There is no known nice way to fight a war. Ninth, the proper management of violence in war is not the application of maximum destruction, nor the application of violence gratuitously or wantonly, but enough to force the predator to desist from physical violence. Nevertheless, depending upon the predator and his methods, this purpose may still require the application of massive destruction. Tenth and finally, to defend a moral society at the risk of one's life is a highly moral act, and those who participate in that act need offer no apologies on moral grounds, least of all to those who benefited from the outcome but did not participate.

There is more to the complex core than these few blunt points; there are many qualifications and nuances involved, also; but these convictions fairly represent this unique core. The total compass of military rationales embraces a fairly comprehensive range of other interests and activities, informed by a spirit of public service; many of these activities are pursued in common with other social institutions, for example, education, training, exploration, research, national representation abroad, technological development, mapping and geodesy, disaster relief, communications, transportation, and development in such fields as management, organization, and administration.

It is a truism to observe that armed forces reflect the society from which they spring. Accordingly, the social and cultural ferment churning American society is being reflected in the military establishment, and the impacts will be reflected indefinitely into the future. The process has been going on for a long time.

The advent of mass armies in the late 18th century, motivated by popular nationalism and coupled with the effects of industrialization and technology, began to dilute the Spartan military concept. Today, automation and affluence only serve to accelerate the dilution. Theories of complex organization cast doubt on the efficacy of strict hierarchies and demonstrate the centrality of informal lateral primary groups in military organizations. Democratization and egalitarianism in civil life threaten traditional military rank and authority structures. Affluence downgrades acceptance of pain. Secularization questions the idea of glory, and perhaps even of duty. Humanism and rationality, plus the optimism about progress generated by a technological age, leads many to question the inevitability of war. The vastly increased role of general technological and administrative expertise in the military, coupled with a decline in the proportion of armed forces which actually engage the enemy, blurs the occupational distinction between soldiers and civilians, as does the equalization of danger and participation confronting the two, brought about by weapons of mass destruction and comprehensive mobilization. Despite society's continuing need for the military, a wide range of contemporary social trends contradict important elements of the traditional military ethos.

Other traditional aspects of military institutions are being affected by current and future change. The idea of the autonomous commander as a prime mover equipped with authority commensurate with his responsibility is declining, due to centralization, instantaneous communications, and automation, all of which enable any number of echelons to be bypassed. The exercise of military authority is involving more of the problems of lateral coordination between proliferating specialists, as well as a vertical exercise of command. Together with the granting of rank to large numbers of individuals in recognition of technical expertise rather than military ability, this portends some revision in the definition and connotations of rank and command authority. It may be that the concept of one all-situation leader will give way to a concept of flexible task forces with leaders shifting according to major tasks. It seems relevant that, after over forty

years of study, psychologists have not been able to identify any single trait or combination of traits that invariably distinguishes the leader in all situations.

As representatives of the military's concern with education for leadership, Service Academy students, compared with civilian college students, are likely to be more competitive, public-oriented, service-oriented, and politically conservative than their civilian counterparts, and tend to come from families with higher socioeconomic status. The composite academy student is an upwardly-mobile youth from a medium-sized city who, on mental, physical, and social terms, succeeds on his own merits. However, he tends to excel in personal competition; he compares less well in cooperative and humanistic orientations. Despite rising anti-military sentiments, the academic quality of entering academy students remains high. Changing social attitudes are reflected, however, in the pragmatic rather than idealistic explanations for pursuing a military career given by students, and in the reasons for resigning given by the one-third of cadets of midshipmen who fail to graduate. Formerly, the main reason for dropping out was academic failure; nowadays, it is low motivation. Even those young men who choose a military education, therefore, are being affected by social and cultural change.

Professional military men, of course, have never formed the monolithic, authoritarian, illiberal, right-wing group that extreme critics have often assumed them to be, and military values will become even less stereotyped in the future. Nevertheless, the very nature of the military mission engenders certain qualities—an exhaustive psychological assimilation process, strong goal-orientation, and a considerable sense of community—which run counter to our increasingly existential and individualistic culture. The military must constantly assume that war is a possibility, and its central concern is planning for that eventuality; the American civil population prefers to ignore military problems, and turns to the military only in times of acutely perceived threat.

The future course of military establishments in general, and the American establishment in particular, is partly uncertain. Some ancient premises will maintain their validity. Others may be radically revised.

The modern military establishment has many changing roles, developed by technology, by American society, by the world environment, and by the military profession itself. Battlefield tasks comprise a declining proportion. Externally, the military establishment is experiencing a profound crisis in legitimacy. Internally, something of a counterpart to the general generation gap exists. In seeking greater "self-fulfillment" for itself, the American military establishment may expand its roles, for example, in social action.

#### IMPACTS

1. Studies of Navy officers' values as moralistic or pragmatic discredit stereotypes of related to authoritarianism and the military mind. The values of military professionals will continue to move further away from such stereotypes.
2. The nature of enlisted service in peacetime may come to resemble the contractual nature of civilian employment, with less implication of "obligation."
3. The processes of assimilation in the Navy may undergo transformation, incorporating greater recognition of different stages of time-sensitive and situation-sensitive intensity.
4. At this stage of automation, it appears essential to leave part of every major process of personnel administration free of the computer, retaining the assurance to the individual of the retention of human judgment.
5. Automation of some functions, but not others, of work groups may revise understanding of the processes of formation and maintenance of primary-group relationships.
6. Predicted flexibility and rotating leadership of task forces in future work environments may increase group instability and tensions.
7. Analysis of value shifts involving top Navy leaders during the periods of their attendance at the Naval Academy and present day may shed further light on value change in general and on prospective value systems involving today's midshipmen.

8. The Services might profitably explore the implications for Service careers of a shift in orientation at the Academies involving less competitiveness and more cooperativeness.

9. National Service is a concept harboring a number of potential benefits to the nation, especially the provision of constructive growth experience for the young.

10. A number of converging trends combine to suggest the exploration of new forms of constituting national military forces.

## VIETNAM AND OTHER IMPACTS

The military Services have been struggling to cope with adverse forces powerfully accelerated by the events in Vietnam, and frequently ascribed to that unhappy American entanglement; it is probable, however, that the deep roots of anti-military attitudes lie in more fundamental value changes that got underway long before, and that will persist long after, the Vietnam War. The very legitimacy of the military establishment has been questioned; religious bodies and individual clergy have questioned the morality of its activities; universities, scholars, and the National Academy of Sciences have withdrawn cooperation and support; the highly educated members of the World Future Society place "national security" last among a dozen goals, and appraise "the defeat of Communism" and "U.S. predominance in the world" as "Undesirable." Perhaps a most telling indicator is the advice of some military families to their sons not to follow this ancient and honorable profession. Some of the bases for alienation have been naive, untrue, distorted, or unfair; but unfairness is part of the problem. To some extent, the military establishment is serving as the scapegoat for a wide range of social discontents.

As a few astute analysts have observed, the key decisions were those of 1965: to intervene massively without calling up the Reserves and National Guard, and without declaring war, and to install a one-year combat tour. For that set of decisions, the War lasted too long. American forces everywhere else were drained to sustain those in Vietnam, but the number of experienced high-quality NCO's and junior officers was never enough. The "Ivy League" contribution to leadership was conspicuously absent; and the guilt-complex of many deferred students and young faculty had more than a little to do with charges of "immoral war." The inequities, not of the draft itself, but of its priorities, overexpended the middle class. As always, the same old problems, plus some new ones—desertion, drugs, racial confrontations, Article 212's, crimes, fragging—occurred with greatest frequency among rear-area units and units afflicted with what Janowitz calls "the chronic underemployment" of some military units in peacetime circumstances. Many commanders rated the young

troops the best-educated and idealistic who have ever fought for America; at the same time, they demonstrated that higher educational levels, for one factor, lead to greater questioning, demands for near-autonomy, greater self-interest, and similar inevitable characteristics. The press and media coverage was unprecedented in scope, intensity, and swiftness; the impact of television coverage was probably on the whole adverse in the long run. The accessibility of the press to only one side of the war, plus the adversary orientation of many foreign and American press representatives, plus the prevailing interest of the media in recounting every destructive aspect of American war activities while largely ignoring the constructive aspects of American war activities—all affected the military in ways which the military (and perhaps the press) do not yet understand, but need to study very hard.

Despite both the competence and the restraint which overwhelmingly characterized the American military performance in Vietnam (unfortunately, buried under the volume devoted to adverse accounts), some leaders failed and some men failed, in circumstances which may yield to further study efforts, seeking more reliable methods for assessment of men. The effects of the Vietnam era may be peculiarly reflected in the Vietnam Veteran, who is more numerous than many think (the 1,750,000th Serviceman returned on Jan. 22, 1972) and is somewhat different from the veterans of previous wars. The majority say that are not alienated, and probably most veterans will adjust without incident by themselves (for one thing, only a minority actually engaged in combat). Others, such as dissenters in uniform, young enlisted men and officers of all Services, may be busy for some years ahead justifying their dissent in a number of forms, aided, abetted, funded and exploited by groups outside the military for various political purposes; such groups also exploited servicemen willing to reveal classified information about sensitive activities.

The Services, like most institutions, had little experience in dealing with widespread abuse of non-alcoholic drugs. It was perhaps ironic that the military, the most advanced American social institution in equalizing opportunity and rooting out discrimination, should have become an arena for racial conflict. Military justice, maligned by many who had no experience of it and no intention of living in it

even if the reforms they advocated were to be adopted, is still perhaps the most misunderstood aspect of the military establishment; but it is caught up in the whole American movement involving law and order, police reform, police recruitment, court reform, capital punishment, and prison reform.

Few institutions have responded as promptly, as vigorously, and as progressively as the military to an impressive array of concurrent change. The Navy, Marine Corps, Army, and Air Force have reexamined their practices, thrown out outmoded ones, and invented new ones. With the support of the Congress and other agencies, they have raised pay and are improving the conditions of Service life. The Institute of Race Relations and strong programs in all Services are eliminating the remaining vestiges of discrimination. Programs of amnesty and rehabilitation have pioneered in the mass treatment of drug abusers. Much remains to be done, some along lines dimly foreseen. For, as the Vietnam War winds down, and American participation ends, it will be seen more clearly that, to a large extent, Vietnam was only a screen in front of a time. The changes cited in previous Sections—erosion of authority, transformation in the role of the family, earlier maturation, technological innovation, increase in emphasis on humanism and individuality, the imponderable effects of television and automation, centralized social planning—these and many other forces are by no means declining but are proceeding at full force into the future. Many detailed practices are being reassessed and revised by the military, and many more will be. Less clear are answers to the broader questions, such as those involving the moral bases for the roles of the military establishment, and the nature of the roles which American society will desire that the military fill in the future.

#### IMPACTS

1. The traditional military response to widespread public criticism, including irrational criticism, is to lapse into silence. The proliferation of media and their exploitation by anti-military groups may render such a course less viable in the future.
2. Willingness on the part of the military establishment to reexamine the ethical bases of its rationales and to restate them in modern terms may go a long way toward



restoration of legitimacy of the military as a social institution in critical sectors of public opinion.

3. A number of elements in American society would support the military in such a project.
4. Political misconceptions of the military role, especially among educated groups, will continue to erode efforts to maintain a reasonably balanced military establishment.
5. Military families appear to be declining as a traditional source of recruitment for military professionals.
6. The Navy may be constrained to take an official position concerning the fathering of large numbers of children out of wedlock in foreign countries.
7. Greater complexity will characterize interrelationships between the Navy and an increasing number of private agencies.
8. The Navy will be confronted by an increasing number of interventionist and "consumer" groups representing citizen interests.
9. Television and other media coverage of military activities overseas, especially during hostilities, and with certain exceptions, will probably not be present in balanced fashion without the imposition of some form of controls.
10. Further study should be devoted to the effects of modern communications on forces fighting overseas, and on enemy efforts to exploit domestic disaffection.
11. Better screening procedures should be sought for the detection of atrocity-prone individuals, and for the identification of leadership styles adequate to cope with them.
12. Panels of military representatives willing and able to participate in rational campus debate on military policy and activities may become increasingly valuable.
13. The future success of military efforts to encourage more balanced press coverage will depend in part upon greater initiative and candor from the military

establishment in uncovering and announcing deficiencies.

14. The story of constructive military activities in war zones will not be adequately told unless the military tells it, concurrently with the account of the destructive activities of war.

15. In response to certain situations with disreputable outcomes which emerged from the Vietnam era, the military may be dissatisfied with the quality of its methods of leadership analysis and assessment. Uni-directional perspectives for fitness ratings may prove inadequate to leader-challenging circumstances of the future. Peer and subordinate perspectives, despite their drawbacks, plus other innovations, may contribute to more rounded, more reliable assessments.

16. The Navy will be participating more extensively in social action.

17. The Janowitz suggestion for a composite ROTC program in the ten largest metropolitan centers seems to be a viable proposal.

18. Unionization of American armed forces does not appear likely within a decade.

19. The one-year combat tour deserves careful evaluation before being adopted in any future period of hostilities.

20. An interesting type for future study in relation to career patterns (and one that will recur more frequently) is the much-decorated, highly successful leader of units up to battalion and regimental size, who appears to have difficulty expanding his perspective with equal clarity into contexts of national policy and international relations.

21. The articulateness of dissenters in uniform will probably increase, depending upon the state of public interest in military affairs; it will be encouraged by civilian groups attempting to exploit internal dissent for the groups' purposes.

22. Encouragement of revelations of classified information and sensitive Navy activities will increase, and may require more rigid psychological screening of applicants for sensitive assignments in advance.

23. Educational opportunity will increase in power as an inducement and incentive, in connection with Navy personnel programs.

24. Drug abuse is not likely to disappear, in view of the heavy use of prescription drugs in the adult culture, and the proliferation of programs for drug use in the future in such activities as "increasing intelligence," heightening awareness," etc.

25. While blacks receive most of the current attention devoted to minorities, other minorities will achieve comparable prominence in the next decade, and receive greater attention in Navy programs.

26. Perception of the role of the absentee in the Navy, and the other Services, will undergo considerable transformation. Exclusive of wartime circumstances, the absentee may come to be regarded more as he is regarded by a university or by an industrial corporation.

27. The future of the military justice system is uncertain, pressed as it still is by groups attempting to remove it from the military entirely. It seems likely that further erosion of authority will take place, as the system becomes complicated by additional legalisms.

## OLD AND NEW DIRECTIONS

This final Section brings forward a number of initiatives already generated by the military in response to the most immediate impacts of social change, elucidates additional suggestions and predictions from a number of sources, and cites alternative forecasts of the possible future courses of social orientation of the military establishment. Some military aspects will endure more or less in traditional form; some changes are clearly identifiable as probably becoming permanent in changed form. Other current military structures and forms are transitional; the outcomes are uncertain. Meanwhile, a certain amount of dynamism characterizes the current military establishment. In many ways, the military is in the forefront of American institutions attempting to cope with and adapt to social change. An overriding purpose of the Services is to attract and keep quality personnel.

Observers of the total American social scene postulate three sociological scenarios concerning the direction and degree of civil-military convergence. The first visualizes a civilianized armed force whose values steadily converge with those of civil society. Technology, the rise of "individuation," adaptation by the military to youth values in attempts to obtain volunteers, and the improvisational tendency of modern, low-intensity conflict—all may well cause democratization of the military and a decline of the military mystique, substantial decline in authoritarian leadership, and even the emergence of unionization, as in Sweden or West Germany. Factors mitigating against this trend are the sustained stress and rigor of actual or potential combat, once entered; the disaffection of career personnel with the "New Sensibility"; and the marginal impact that changes to appease the "New Sensibility" might have on truly committed anti-Establishment dissidents.

A second model, stressing divergence, is the reverse of the first. It assumes that an all-volunteer force will be unleavened by a constant influx of disgruntled civilian soldiers and upper-class officers from liberal backgrounds, and would be recruited instead from traditionally conservative regions and universities. An increase in hereditary Service recruitment, a post-Vietnam defensive turning-

inward by the military, and a decline in the importance of the civilian Reserve Components (resulting from emphasis on forces in being and declining support for the mobilization-base rationale) will provide further impetus for this trend. This model will probably not be realized either; divergence implies conflict with the general culture and trends within it, a course which is not likely to attract enough quality personnel in the future, and not likely to be compatible enough with the complex interactions that will be required of all future social institutions.

The third scenario, perhaps the most plausible, predicts a mix of both types, whereby combat and support elements of the armed forces will be segmented into traditional and civilianized sectors, into partially divergent and partially convergent sectors. These are general distinctions, however; all elements of the military will be affected by drastic social change, will interact with civilian society more, and be called upon to perform more non-military functions. New administrative tools, such as automation and the development of more precise measurements of motivation, evaluation, incentive, etc., will combine with value and attitude change to keep the whole area of personnel administration in flux for the next decade. Internal and external specialists are developing new insights and techniques across the whole spectrum of personnel problems of concern to the Navy and Marine Corps. New norms of interpersonal relations will undergo persistent readjustment. Initiatives— suggestions meriting consideration involve stabilization of tours; rotation of units rather than individuals; reduction of unaccompanied tours, and minimizing other similar disruptions; deep selection of promising young individuals; authorizing unit commanders to promote with fewer restrictions; lateral entry of specialists into both officer and NCO ranks; eliminating the Regular-Reserve distinction and promoting by ability only. Command per se might become a career specialty rather than a ticket-punching slot, obviating the current problem of too many officers in command positions for too short a period of time.

Further professionalization of the NCO corps might involve expansion of programs to provide both junior and senior NCOs with a full pattern of career education, guidance, and counseling. Senior NCOs might be allowed to resign,

like officers. Test periods for prospective recruits to be terminated at the discretion of either party would enable the Services to prevent many undesirables from reaching career status. Combat-liable personnel might be paid a special bonus, and credited with extra retirement and longevity time. Non-military offenses might be remanded to civil courts, except in combat theaters or other extreme circumstances. Enlisted men might be allowed the same off-duty freedom as officers. Accrual of leave up to 120 days might be restored to its pre-WWII status.

Many legal restrictions on the employment of women in the military have already been removed, eroding the concept that women are useful to the military only to free men for combat duty. In any case, men will have to work with women, and eventually treat them as equals.

Training efforts will take cognizance of the fact that recruits will be more inclined than ever before to question and analyze critically. Training itself will be more realistic, less rote and more imaginative (especially physical training), less spit-and-polish and more mission-oriented, and will place more emphasis on leadership skills, the handling and controlling of people.

A de-emphasis of traditional military perspective toward violence may occur. Participative management will increase; as leadership becomes more manipulative than directive, the distinction between the troop commander and the staff officer will blur. A major challenge to the future military will be the reconciliation of specialists' expertise and generalists' responsibility and power. All Service branches will be involved in systematic search for and reward of the brightest and youngest individuals, and will be under pressure, often from those same personnel, to allow wide latitude of debate and discussion.

Two final caveats are in order. Many current problems facing the military can be charged to the usual decline in morale and purposelessness that accompanies the end of a long war, and a large proportion of the American population has traditionally been biased against the professional military. Yet whether or not the United States needs a military force, and what kind of force is required, depends

not only on domestic considerations, but on the actions and policies of other countries, who may choose to impel society towards worlds of kinds different from that in which Americans want to live.

#### IMPACTS:

1. The decline in the proportion of Navy men who actually meet the enemy supports a reduction in requirements that all or most entrants into the Navy meet personnel criteria designed for combat personnel.
2. Future competition for competent manpower may press the Navy to more vigorous exploitation of areas of the total national manpower pool previously neglected, viz., women, younger adolescents, and the handicapped.
3. As automation tends to eliminate lower-IQ jobs, the average Navy grade will probably continue to rise.
4. As meritocratic tendencies become more compelling, more reliable methods for evaluation and selection will probably have to be devised, in order to retain the confidence of those affected.
5. Psychometric career analysis, incorporating physiological, psychological, and social data, may be illuminating to both the Navy and its people.
6. Military specialization in a career field of command would be difficult to design in such ways as to provide fully for the early sky-rocket and the late bloomer, especially in the uncertain contexts ahead.
7. The physical, historical, temperamental, and public-opinion aspects of combat roles, or near-combat roles, for women would have to be thoroughly explored before the subject could be approached in serious, meaningful ways.
8. The admission of large numbers of women into the ranks of the Navy would bring a corresponding influx of husbands, both military and civilian. Relationships of husband with the Navy would not be precise counterparts of Navy relations with Navy wives.

9. Changes in future internal Navy environments may lead to reconsideration of the nature of round-the-clock discipline requirement; useful study might be devoted to other activities which employ different forms of crisis discipline.