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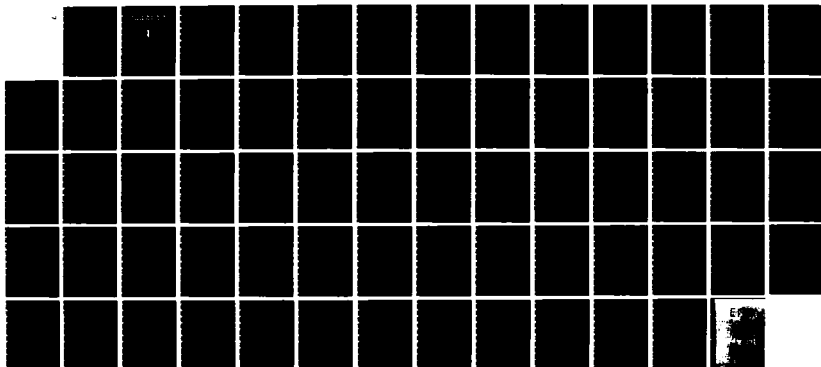
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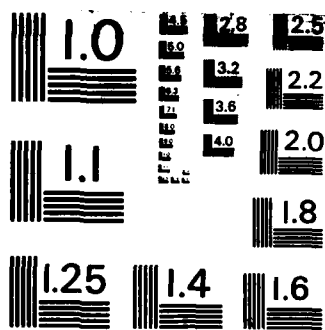
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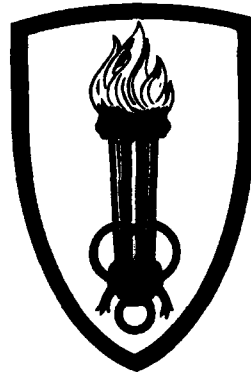




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SOCIAL ISSUES IMPACTING ON THE AIRLAND BATTLE 2000

AD-A141 366



by
Phillips N. Gordon
Randy L. Long
Bruce S. Sterling

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U.S. Army Soldier Support Center
Fort Benjamin Harrison, Indiana
February 1983

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SOCIAL ISSUES IMPACTING ON THE
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P. N. GORDON
R. L. LONG
B. S. STERLING

Ft Harrison, IN

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PREFACE

This study has, as its primary objective, delineating the social issues, or the human implications of the year 2000. Population, socialization, work ethics, values, and personnel policies are examined, as broad functional areas. These broad areas have significance in reference to psycho/social implications of individuals comprising the younger cohorts in the Army. Specifically, this study has implications for how individuals are to be acquired, and how they should be managed, led, and retained. This study will not review the concept of how the Army will fight and support the operations into the turn of the century.

INTRODUCTION

There has been extensive research to determine the most effective ways to increase the combat capability of the Army. Emphasis has been primarily on equipment and organizational structures with lesser consideration of who the young soldier will be who must operate in the environment addressed by Airland Battle 2000. The various soldier developmental models that are used and others under study include the somewhat traditional influences that impact on how and where the future soldier acquires their values, skills and knowledge. The acceleration and proliferation of technological information and the youth adaptation to it must also consider how the future soldier will react to a structured organization and the sophisticated combat systems with its lethality and independent operation(s).

This report addresses what those young soldiers will probably be like. I acknowledge that the human is indeed very complex, but this does not mean they are unpredictable, especially if we know enough about them. The youth/ the potential soldiers of the year 2000, have already been born. The kind of a family, home, community, education and what he will value are already indicated in trends. This study will not suggest that the Army compromise the standards of professionalism that are essential for success in combat; but in its quest for that future soldier, it will have to consider the need for well-educated cross-section American youth in a highly competitive market. There are many issues to be addressed that will impact on the Army of the future, not the least of which is - to what extent, if any, should the Army be a close mirror reflection of the country they will defend?

The Army, like other Armed Forces, is considered a sub-culture within the larger culture. The basic question to be answered, but not a part of this study, is how best the Army can achieve a level of individual and group productivity with soldiers obtained from a culture that is increasingly straying from family cohesion, children whose values are more impacted by the media than their parents, the sole parents, the role of child day care centers, the growing sterility of our communities, and houses that are expanded mobile homes or apartment complexes. The changing patterns of employment, while job sharing and less emphasis on the traditional work day, will also impact on the expectations of the youth as they enter the young adulthood period, and pursue their vocational and career interests.

Perhaps out of the disarray, meaning accelerated change - this term used to distinguish it from the traditional expectations of family, community, school and job - the Army should be able to provide a "family structure," with the various support systems that will attract the youth who can learn that excellence and cooperation is self-rewarding, a factor in motivation - a need, I believe, that will become more difficult to satisfy. To the degree that the Armed Forces rely on inducements that compete closely with the civilian market, e.g., monetary, it may well find it more difficult to retain the skilled specialist/NCO.

As the United States moves from a mass industrial society to an information society, the diversity in the interests of youth will have a bearing on what they might be willing to do in a job and avocation. The section dealing with population clearly shows that the older group of

Americans will not be in competition for the jobs that an "information society" will need. This suggests that the Army may have to consider the enlistment of the older citizens who consider themselves underemployed or to develop a personnel utilization system that can provide job satisfaction to the youth whose allegiance is to their skills rather than the organization. The Army must be prepared for tomorrow with its continued and accelerated change!

The evolution of the family, schools and community proceeds hand in hand with the evolutionary changes in society. Based on the consideration of deep changes in society and its structure, people are also modified. It is from this expected change that we believe a profile of the youth can be developed.

Population. The Bureau of the Census, U. S. Department of Commerce has developed a number of projections of the United States population. The projections are updated periodically to incorporate changes in mortality trends. There are a number of other organizations that make projections, to include the Population Reference Bureau, a nonprofit research group in Washington, D. C. Of course there are many factors that can and will impact on the actual results, but for consideration, I have selected a somewhat conservative estimate.

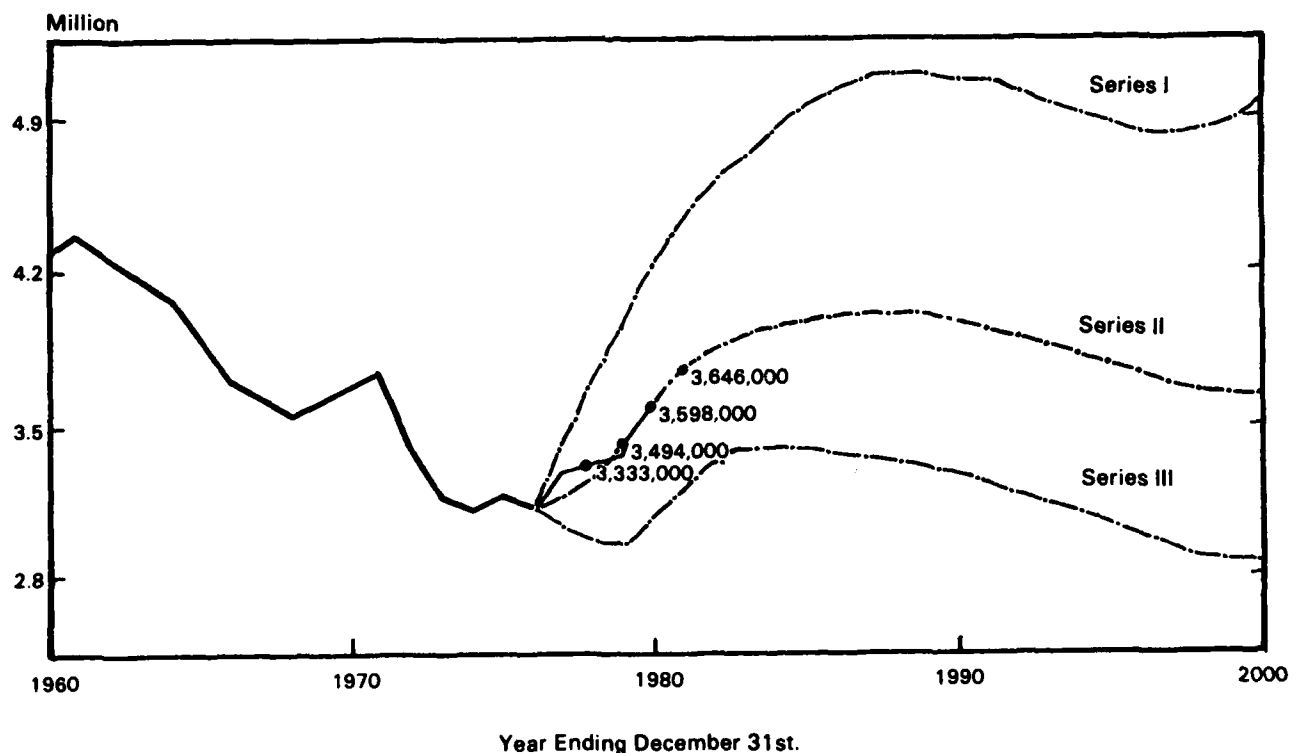
There have been some significant adjustments to the projections made in the 1970's that will impact on the soldier of Airland Battle 2000, especially in the areas of total population growth, not because of an increased

birth rate, but because of an increased life expectancy. Examples of predictions that were wrong are many, for example: Experts had predicted that life expectancy would increase by six months during the decade of the 70's; but in fact, it rose by 3.4 years with the primary reason being a sharp decline in heart disease and stroke. Already in the century, the control of malnutrition and infectious diseases has helped bring out a dramatic increase in life expectancy from 47 to 73 years. Who knows what medical-technological breakthroughs will occur soon that will greatly modify the projections provided in this study? Dr. Edward Schneider, associate director of the National Institute on Aging, stated there is a continuing extension of the average age and also the maximum lifespan. The evidence is that there are over 26.3 million Americans 65 years and older. There will be a 33% increase in the 75 years and up during the next 8 years.

The females born during the "baby boom" following WWII had been expected to bear over 40 million children during the 70's. They produced only 33.2 million children, or 7 million fewer than the "experts" had predicted, taking their conservative prediction. The total fertility rate (number of births per woman) has been hovering between 1.8 and 1.9 for the past few years. There are those who believe the trend toward smaller families is here to stay while a competing theory predicts increased family size if favorable economic circumstances occur. Regardless of what may actually happen to the fertility rates and number of future births, the primary group that will make up the manpower pool for the period under consideration are already born. A middle range projection of the U. S. population for the year 2000 is 260 million people. It is expected that the fertility rate

will remain low with as many as 25% of women now in their twenties remaining childless. The assumption is based on the changing expectations of the American female and their high degree of knowledge and control over reproduction. However, there will be a continued increase in the total number of women of child-bearing age. It is reasonable to conclude that the number of children born each year will increase, perhaps to 4 million a year by 1990. These children will not be old enough to be considered in the manpower pool until after the year 2000.

Figure 1 - Estimates and Projections of Annual Number of Births: 1960 to 2000



Source: Current Population Reports, Series P-25, No. 870 Vol 30, No. 12: 18 Mar 82

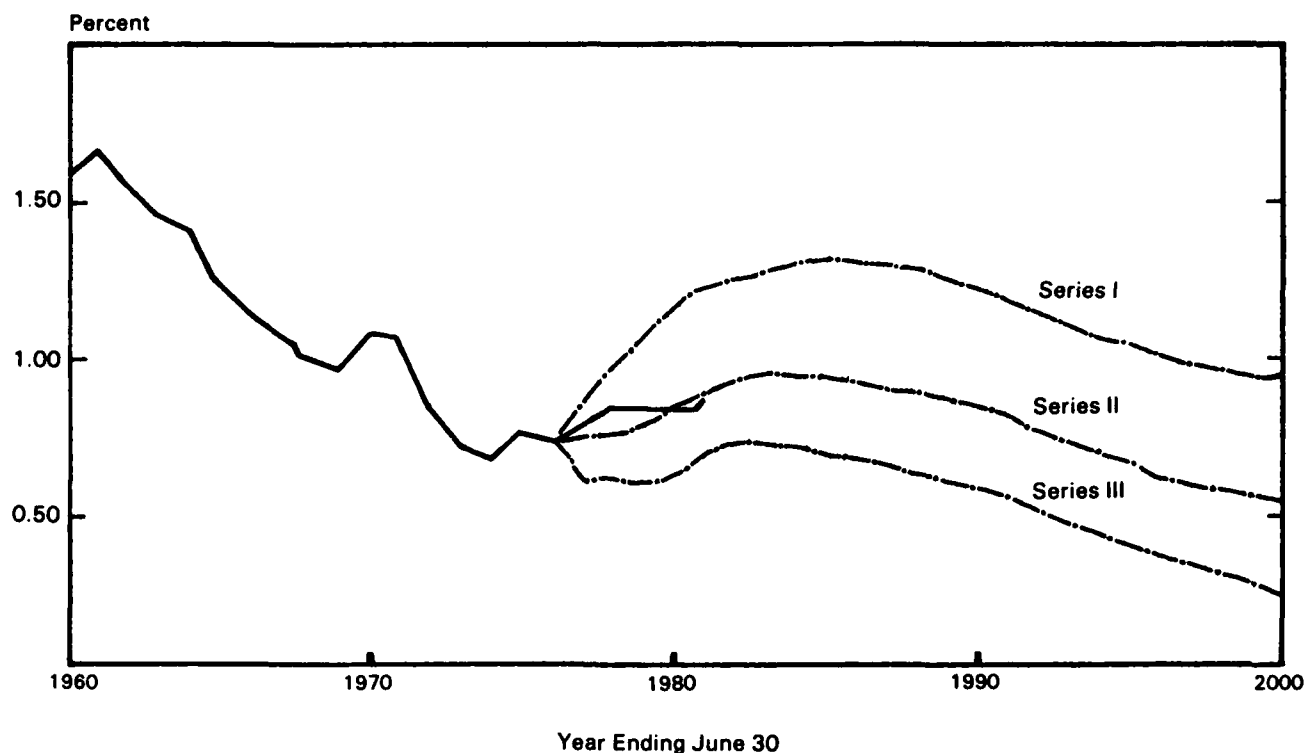
The children who were born 1978 - 82 will make-up the primary military manpower pool (age 18-21) for the year 2000 are already born. In order to obtain reliable estimates for that cohort we apply reasonable mortality tables to obtain the result arithmetically. The fact is that the cohort group will continue to decrease during the balance of the 80's and into the late 1990's.

Table 1

Year	Total Births*	Male	Female	Whites	Blacks	All Others
1978	3,333,279	1,709,394	1,623,885	2,681,116	551,540	100,623
1979	3,494,398	1,791,267	1,703,131	2,808,402	577,855	108,123
1980*	3,693,892	1,893,530	1,800,362	2,968,753	610,844	114,295
1981*	3,742,408	1,918,399	1,824,009	3,007,744	618,867	115,797

*Excludes Puerto Rico - estimated births at 60,000 each year. There is a discrepancy for 1980-81 as provided by Nat'l Ctr for Health Statistics.

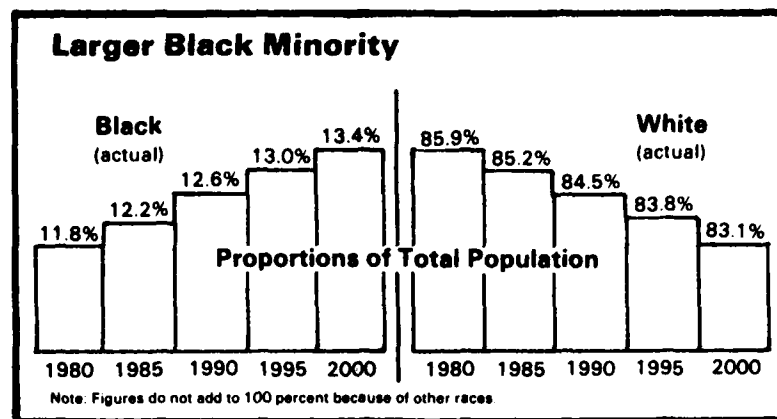
Figure 2 - estimates and projections of average annual percent change in total U.S. population: 1960 - 2000.



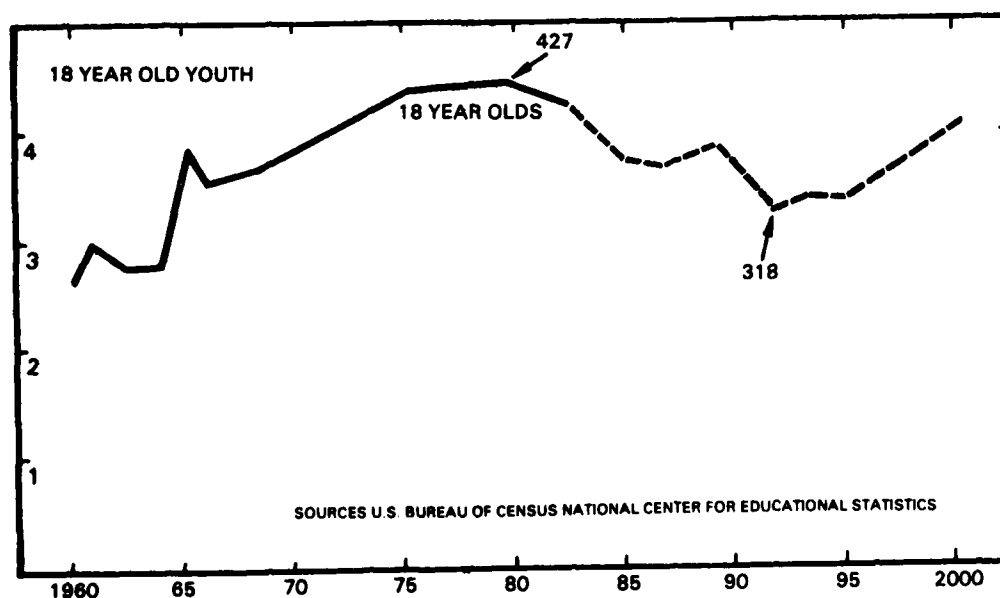
Source: Current Population Reports, Series P-25, No. 704; No. 870.

The black fertility rate is higher than the white fertility rate. Although there were predictions of a convergence between the black and white fertility rates, it has not yet occurred. The National Center for Health Statistics has now noted that such a convergence will probably not happen during the 1980's. Blacks who now make up approximately 12% of the total population are expected to increase to 13.4% by the year 2,000.

Figure 3



The 18 - 21 year old cohort is expected to decline from 12.3% of the present labor force to 9.5% by 1990 with a further decline by the late 1990's. If there is a revolutionary breakthrough in the medical area referred to earlier, and life expectancy is significantly increased, then the percentage factor of the cohort group is further reduced when compared with the total U. S. population. Figure 4 identifies the 18 year old cohort showing an increase beginning in the mid 1990's.



If it were not for increasing teen pregnancies, the number of births to women from stable homes and who have completed their education would reflect a low reproduction rate. The Office of Adolescent Pregnancy in Washington, D. C. reports that over 1 million teen-age girls became pregnant in 1980. Of these, 600,000 had their child. These young females were primarily from low income families and were marginally educated. The implications for child-rearing and their subsequent value development is important to Airland Battle 2000 and will be covered in more detail in this study. However, it should be noted that regardless of the marital status of the mother at birth, one out of four children now live with only one parent, and among black children, three out of five do. The proportions are higher for those children who begin life with an unwed mother and this is expected to continue. Although I could not find any definitive studies, there is evidence suggesting that children from one parent homes show lower achievement in school, present more discipline problems, and have more difficulty in accepting discipline than those children raised in homes with both parents present.

To sum up the population consideration that has relevancy to this study may be best shown by the status of the "typical" American family. It has been traditionally depicted as a wage earning husband with a homemaker wife and two children. This "average family" now represents only 5% of all families. We are becoming a greying America, with median age now at over age 30; by 1990 it is expected to be almost 33 years, and by the year 2000 about age 36.

Table 2 shows the estimates and illustrative projections of the population by regions - 1970-2000.

REGION AND DIVISION	POPULATION				
	CENSUS, APRIL 1970	ESTIMATES 1975	PROJECTIONS 2000		
			SERIES II-A	SERIES II-B	SERIES II-C (NO MIGRATION)
UNITED STATES-TOTAL	203,306	213,032	259,869	259,869	259,869
NORTHEAST	49,061	49,456	54,854	52,152	59,767
NORTH CENTRAL	56,593	57,637	65,787	63,307	69,612
SOUTH	62,813	68,043	88,335	92,402	81,897
WEST	34,838	37,899	50,890	51,009	48,593
NORTHEAST:					
NEW ENGLAND	11,848	12,187	14,615	14,449	14,855
MIDDLE ATLANTIC	37,213	37,269	40,239	38,703	44,912
NORTH CENTRAL:					
EAST NORTH CENTRAL	40,266	40,946	47,005	44,398	49,951
WEST NORTH CENTRAL	16,327	16,691	18,782	18,909	19,661
SOUTH:					
SOUTH ATLANTIC	30,678	33,658	45,400	47,949	39,666
EAST SOUTH ATLANTIC	12,808	13,516	15,918	16,661	16,124
WEST SOUTH ATLANTIC	19,327	20,869	27,017	27,792	26,107
WEST:					
MOUNTAIN	8,289	9,625	13,351	14,732	12,602
PACIFIC	26,549	28,274	37,539	36,277	35,992

Jobs. The American work force and the kinds of work are changing as dramatically as the population. Within the next eighteen years, the worker performing the jobs, on the average, will be older, better educated, less likely to be a member of the union, and there will be a high percentage of female workers.

Due to the decline in the number of births, only 15 million new workers will enter the workforce during this decade, as opposed to some 22 million who entered the labor force during the 1970's.

Although unemployment is currently high, the outlook for job seekers through most of this decade and the next decade appears very promising. According to Theodore Barry and Associates, a management consulting firm, there will be more jobs available than workers to fill them.

For the labor market, the projected decline in the number of workers and the increase in jobs is a bright note. But, the needs of the military may not be well-served. Overall, the total labor force is expected to grow at an annual rate of 1.6%, as opposed to the over 2.7% annual growth during the 1970's. A slow-growing workforce could push the jobless rate down from the 9.8% (July '82) to about 6% in 1985 and 4.5% by 1990. It is expected to stabilize or again slightly decrease during the 1990's until the year 2000.

After almost twenty years of a surplus entry-level labor pool, the labor market demand is expected to exceed available workers. Of course, there is an opposing view that women will not represent an ever-increasing proportion

of the labor force because of what is vaguely perceived to be a desire to return to child-bearing and family life. If such is true, then the jobs available for the male worker(s) will increase which will generate greater recruitment competition and wage demands for entry-level workers. There is no question that there will be fewer new entrants to the workforce each year.

By 1990, social minorities could make up about 28% of the workforce, with further percentage increases during the 1990's. This is up from less than 17% in 1980. I believe that many of the criticisms and problems found in job training programs of the 1970's (i.e., CETA, YIEPP) will be corrected for future job training. It did not make much sense for our nation to have shortages of critical workers while using Federal and public funds to overcrowd fields where workers were not needed.

The jobs that are considered routine, repetitive and boring will be hard to fill and will be held as employment of "last resort" with high attrition. There is little doubt that business leaders and educators will develop a more responsive partnership to provide training for workers to meet the labor markets needs. This consideration should also include the Armed Forces as an employer of intelligent and educated youth.

There are differences among the experts and futurists regarding the jobs of the future. There is however, consensus that white collar and service occupations will grow faster than total employment in each version of their scenarios.

The Bureau of Labor Statistics has developed occupational employment projections. The projected new jobs for the remainder of this decade are shown. (Figure 6)

Projected number
of new jobs 1980-90

(in thousands)

Secretaries	699.6
Nurses Aides and Orderlies	507.6
Janitors and Sextons	501.2
Sales Clerks	479.3
Cashiers	452.0
Professional Nurses	437.4
Truck Drivers	415.2
Food Service Workers, Fast	399.9
Food Restaurants	
General Clerks, Office	377.4
Waiters and Waitresses	360.3
Elementary School Teachers	250.9
Kitchen Helpers	231.2
Accountants and Auditors	220.6
Helpers, Trades	212.2
Automotive Mechanics	206.3
Blue-collar Workers Supervisors	205.7
Typists	187.0
Licensed Practical Nurses	185.2
Carpenters	173.2
Bookkeepers, Hand	167.2

Source: Bureau of Labor Statistics -- Figure 6

Employment opportunities by percentage growth for the balance of the 1980's is shown in Figure 7, below.

Occupation	Projected percent growth in employment 1980-90
Paralegal personnel	108.9
Data processing machine mechanics	93.2
Computer operators	71.6
Computer systems analysts	67.8
Office machine and cash register servicers	59.8
Physical therapists	50.9
Food service workers, fast food restaurants	49.6
Computer programmers	48.9
Tax preparers	48.6
Employment interviewers	47.0
Speech and hearing clinicians	46.6
Correction officials and jailers	46.5
Peripheral EDP equipment operators	44.0
Aero-astronautic engineers	43.4
Travel agents and accommodations appraisers	43.4
Nurses aides and orderlies	43.2
Claims examiners, insurance	43.0
Economists	42.0
Brickmasons	40.2
Psychiatric aides	39.9

In reviewing the kind of job that will become available, it appears that they will hold attraction for the youth who will be entering the job market. Many of the new jobs will require specialized training as compared to the traditional industries where assembly lines and time clocks prevailed. The education system will be modified to provide courses and skills in technologies such as electro-optics, computer science, biological engineering, solar, energy assessment, medical technology, industrial processing, and communication technician. High technology-electronics, computers, microprocessors, and semi-conductors are already some of the fastest growing economic investments and sectors in our Nation. The "want ads" for employment in these areas indicates a shortage of skilled workers.

The biggest and probably most significant jobs probably haven't been yet defined - they lie ahead yet to be discovered! The possibilities of using biology in place of chemistry to grow commercial products with gene splicing, self-fertilization and salt resistant plants are but a few of those probabilities.

The opportunities for jobs in these specialized areas will be available to the new worker who has some understanding and education in the possibility of turning the 2.35 billion acres of salty soil into high yielding food sources, and not the unemployed steel or automobile worker whose training and education took place in the '70's or earlier. A recent study by Haines Lundbert Waehler, a specialty firm that designs research and high technology facilities, reports that two thirds of the U.S. industrial firms plan to invest more money in new laboratories for the development of

new technologies and products during the remainder of the 1980's. The resulting new products and systems will be the basis for yet-to-be-determined new jobs in the 1990's. Reflect on the changing requirements for jobs in agriculture, where about one percent of the U.S. population is now involved, but consider the ever-increasing size of the harvest. This is in contrast to the high percent of workers required on farms thirty years ago. Employment of farmworkers has declined for decades while productivity has risen as the result of improved equipment, seed and fertilizer. Many fine soldiers have been attracted into military service who have some farming background, and their skills and work values have been important contributions to the Army.

Adding to the changes in technology and new products are trends changing patterns of the work schedule, such as part-time workers holding a full-time job through job sharing. I'm sure some of the part-time workers desire full-time jobs, but there is growing evidence that more individuals "choose" to work fewer hours because it fits their personal schedule and needs. Futurists expect that the "live where you like" trend will increase rapidly because of high technologies, home computers, terminals and television, that do not require large offices, only minimal energy and materials, and can be accomplished in a home office. There is evidence that there will be a continuing change in the definition of our work. For a growing segment of the population the ability to control one's own time is more important than pay or power. John Applegath, Director, Human Economy Center, in Amherst, Mass, has written a book on this subject, Working Free: Practical Alternatives to the 9 - 5 Jobs, in which he provides samples and benefits to

various alternative work styles. There are magazines and other periodicals that are increasing in circulation, such as In Business, Mind Your Own Business At Home, and Jay Levinson's resource book, 55 Ways to Earn Extra Money, that emphasize freer work styles and how to achieve them. The growth of Amway and similar distributorships is further testimony that many people want to be self-employed and schedule their own work periods.

Alvin Toffler in his book The Third Wave states that: "Flexitime and self-pacing replace the old need for mass synchronization of behavior." According to opinion researcher Daniel Yankelovich, only 56% of the U.S. workers, primarily older ones, are still motivated by the traditional work incentives.

Steven Sandell, an analyst at the National Commission for Employment Policy predicts that by the year 2000 as many as 80% of all women reaching age 65 will qualify for retirement benefits based on their own work record. This suggests the continued growth of women in the workforce.

The U.S. industries are already buying and installing automated robots who will need technical maintenance and programming, but only few assembly line workers. We will be well into the explosive technological revolution.

The Child. If Eric Berne, the well known author of the book, Games People Play, and other well-read books is correct in his theory that people are born OK, then what happens following this is critical to what the later

adult will be like. Dr. Berne introduced to psychiatry the aphorism: "People are born princes and princesses, until their parents turn them into frogs." This wouldn't be all bad, if the parents were still the primary agents of change.

In essence, Eric Berne said that the Child ego state is essentially preserved in its entirety from childhood. We build a sort of mental road map about ourselves and what life is like - or a script. If children are delivered into the social situation in which they can make totally free choices, then who is responsible for the script? The Children's Defense Fund, a Washington, D.C. group, reports that some 5.2 million children under the age of 13 are without any supervision during a significant part of each day, suggesting that the value programming of many children is left to *chance or free choice.*

When parents are busy with their own lives, or work excessively hard and long hours, when children are left alone a considerable period of time and obtain their view of life from the electronic media and peers, who will teach them honesty, the value of freedom, and cooperation? Those hundreds of thousands of illegitimate children born during the past four years - many of whose mothers are still teenagers - will probably build scripts that may be very different from the child born to a successful career woman who consciously became pregnant at age 28 or older. Perhaps we could be building to have a more defined youth population of "haves" and "have nots". The young and uneducated mother who must enter the job market to support herself and child will be quite different from the mother who gets

extensive paid maternity leave, and who can afford well-trained help or well-run child care centers, even if there is no father present in either case.

There is the chance that those young people who do not, or can not, develop the knowledge and skills needed will be competing with illegal immigrants and Third World refugees for the few unskilled jobs available. This group may come from the babies born to unwed teenagers of '79 thru 1982. A youth from this background would not be considered the best soldier for operating and maintaining weapons and equipment in Airland Battle 2000. The behavioral patterns of youth have both a direct and indirect effect on employment. Youth from disadvantaged backgrounds manifest behavior patterns that influence the hiring practices of firms, particularly those with well-developed internal labor markets. These factors will tend to force these youth into the less stable sectors of the labor market and many may seek military service primarily as a "job", as opposed to the professional model.

This new breed of citizens, whose parents were influenced by the social movement of the 60's and the electronic miracles of the 70's, appear to have a set of values quite different from their parents. These will be discussed in more detail in the Values section of the study. The young and educated parent(s) appears to have accepted that a sense of well-being - or perhaps a sense of self-esteem and a conviction of one's self worth - will no doubt help the child to learn these values. This value is well above that of the security need that has in the past been a strong motivator for enlistment in

the military services. If the child is perceived as an economic liability by the parent(s), then there exists a motivational reason to limit education and to get their children quickly into the job market, and perhaps the security attractions offered by military service.

Sociologist Amitai Etzioni has recently published a book, An Immodest Agenda: Rebuilding America Before The 21st Century (McGraw-Hill Book Co.) in which he perceives the attitudes developed and encouraged since the 1960's as having so corroded American life that unless the attitudes are changed political and economic renewal is not probable. He also expresses that schools do little to develop underdeveloped personality, and may in fact foster increased maladjustment.

The family life of the worker, once considered a private matter, is becoming a corporate issue. The day care centers sponsored by the employer will influence the child, as well as the probable increase in paternity leave and the flextime available to either one or both of the parents. For the aggressive business organizations, the work life and family life of their employees will be given attention. Although child care needs appear to be a major fringe benefit desired by the employees, it will take a lot of management sensitivity to be willing to provide it within the near future at corporate expense. Those firms that need highly qualified technicians will be more quickly responsive to providing the "quality" child care programs in order to be competitive for the highly skilled worker. The Work in American Institute, Inc., a Scarsdale, N.Y. research organization, estimated that last year a minimum of five million children received inadequate care while

their parent(s) was at work - these are not included in the data regarding the children with no supervision for most of the day.

There have been a number of studies on the impact of television on violence and behavior. That we all are affected by television there is little doubt, but if the children are exposed extensively to the electronic media during their early years, or the "IMPRINT" period as described by Morris Massey, author, then the impact is high. A Los Angeles psychiatrist, Rodney Garney, wrote a widely read book on the development of values in human beings, THE HUMAN AGENDA. His studies include television, and it was reported that television does affect behavior, both for good and bad, but it does affect! Researchers have destroyed the myth that television is merely innocuous entertainment; it is a sort of learning center.

With the availability of home box office (HBO) and other home video systems, the children can obtain exposure to many programs and movies whose plot may help provide "values" and direct subsequent behavior that will not be easily erased. Look at "Love Boat," a popular TV program on which most of the passengers embarking on the cruise ship have some problems. By the end of the cruise the problems are resolved - all in a one hour program with time out for commercials! The young person's expectations are directed toward quick and happy solutions. And in many programs the "good guy" isn't the hero or the winner!

Children age 5 and under can be considered a laboratory generation. They will be exposed to the full extent of learning from the media, (TV-cable and home box office) child day care centers, fewer siblings and perhaps a sole parent. In this content, more learning will occur outside the classroom than in it. About 55% of women with children between 3 and 6 are now working. It will be some time into the future before the full impact can be assessed, but there is little doubt that Mom and Dad may have lost their number one place as the provider of their children's values. Even if the child is brought up in a somewhat "traditional" family environment, the values that will be transmitted will reflect the "aware" mothers who understand and accept equality for themselves. They will have learned that sexual urges are natural and entitled to be satisfied, as well as to say "NO" and not feel guilty. In short, the values and behavior patterns of the young child who will be 17 - 20 years of age in the year 2000 are being formed now and during the near future. They will be the "microkids" who will understand computers and software because they will have a respect for how to use it by playing games and "think" strategy required by use of computers, even in elementary schools. With reasonably simple commands, a program, LOGO, allows young children to manipulate a triangular figure and trace many shapes with it using their own computer instructions. This will be a "plus" in terms of the soldier in the year 2000 who will be well-versed in operating the equipment that requires black-boxes and programmed commands.

While positive attitudes toward health and physical fitness are becoming more widespread, there may be some difficulty in having them transfer to actual behavior.

The value of nutrition and exercise will be accepted as leisure activities become more important and are stressed. There is convincing evidence to support the belief that exercise and diet improves one's total well-being. The children are exposed to many programs that show how to exercise and they hear the testimonies of older Americans who have improved their lives because they exercise on a regular basis. Fitness awareness and a desire for firm and lean bodies will be a positive influence force for the Soldier Airland Battle 2000. However, while there are those that point to the increased sales of sporting equipment, varieties of running shoes, health spas and sign-up rate for marathons as indicators that the United States is undergoing a renaissance in fitness, the facts may prove otherwise. We have moved from the farm to the city and even those remaining on the farm have more implements to lessen their tasks. The assembly lines and factories are increasing the numbers of robots and other labor-saving devices leaving the individual to do work with the mind rather than with brawn. We are rapidly becoming a society where technology triumphs over muscle. Leisure time has admittedly increased, but is being absorbed by spectator sports, TV, and electronic games. The net result for the children born in 1980-1983, the soldiers of the year 2000 is that they may be less fit. However, the demands of the battlefield are not projected to lessen, in fact they will increase. The increase will be in terms of greater intensity, increased violence, longer periods of sleep deprivation, the need to carry food and water (because of contamination), the increased work effort associated with full chemical protective suits and the need to handle increased amounts of material. Fitness programs for entry soldiers in the year 2000 must

concentrate on assessment of fitness ability, then design and execution of fitness programs that will enable the soldier to carry out all assigned missions.

Although the teenager of the future may not reflect what today's teenagers think or how they behave, there may be some clues as to the directions they may take. Jane Norman and Myron Harris co-authored a recent book, The Private Life Of The American Teenager, based on a survey of over 160,000 teenagers.

The results: 64% reported they had experimented with some form of drug; some 85% are pleased their mother returned to the work force. Although 90% indicated they wanted to get married someday, 75% stated they plan to live with somebody before they marry. Of the 10% who indicated they did not plan to marry, twice as many were girls! As a group they have accepted the belief that divorce is better than a couple staying together if the parents are unhappy together.

Ms. Norman also conducted some direct interviews with the teenagers and reported her amazement at the incredible willingness of young people to share their deep feelings. The teenagers interviewed indicated they wanted to be trusted and wanted their parents to listen to them, "without lecturing, criticizing and over advising -- even if the parent(s) don't agree with us and what they're doing." In other words, "listen to us without judging." This information pertains to the teenager in 1981 - 82 and, as noted earlier, it does not mean that teenagers in the late 1990's

will feel or believe the same, but it does show a trend of openness and ideas that are not based on the "normal" of the senior NCOs and officers of the Army.

The young child of today is growing up in a family somewhat less child-centered than even that of a generation older. With the continued increase in the elderly population, and their propensity to use their voting franchise, greater public response to their needs will probably reduce attention on the young. This could further accentuate the polarization between "haves" and the "have nots".

Alvin Toffler in his book, The Third Wave, projects that; "the baby born tomorrow is likely to enter a society no longer obsessed with -- perhaps not terribly interested in -- the needs, wants, psychological development, and instant gratification of the child. If so, the Dr. Spocks of tomorrow will urge a more structured and demanding childhood."

The manpower demands of the Army, to include the Reserve Components, will obviously be determined by the force, the strategy and tactics to be implemented, and the systems and weapons available to support the strategy. The strategy requiring a global deployment of tailored forces may require multi-skilled specialists who can operate and maintain the sophisticated weapons and equipment independently in battle zone of the future. This suggests that the manpower requirements of the Army may increase, as well as the increased need for soldiers who have technical skills and aptitudes, not those who can not compete for the new jobs, in the private sector.

What limitations would be placed on the Army's Airland Battle 2000 if the trends noted actually come to be "true"? There is no solution(s) offered, but clearly there must be some unless the Army can live with significantly fewer soldiers in the future or those youth who are going to require a full education, socialization, and training program that wasn't a part of their school curricula or prior life experience.

This section has described who the soldier of 2000 will be in terms of demographics, skills and attitudes. The next section will describe the soldier of 2000 (or more accurately the population from which he/she will come) in terms of values.

Cultural values, in a sociological sense, refer to those widely held beliefs that certain goals, activities, or relationships are important for the continuity of the social structure. On a more specific behavioral level, cultural norms entail positive or negative valuations relative to more concrete phenomena. In addition, there can be, and is, a great deal of subculture and counter-culture variability. In essence, values and norms are those elements of a culture of social milieu that aid the individual in defining "right" and "wrong," and condition his subsequent behavior; they are extremely important to examine, as this human behavior derives a good deal of its motivational criteria through the satisfaction of individual and group "needs." Therefore, the military, as a reflection of society, is obligated to consider and satisfy the needs and wants -- the values and norms that are found in a cross section of society at any point in time.

The next two decades will witness an acceleration of trends already visible, now. Alvin Toffler ("Future Shock", "The Third Wave") refers to these trends as the "Third Wave" - de-massification or pluralism, or diversity "in family forms, in communication, in religion, in technology - in everything from politics to poetry," which is replacing the former industrial and bureaucratic uniformity.

This "third wave" society will revolve around technological and communication advances that disseminate increasing variability and diversity; the singular role-model/mass value system characteristic of the 19th and 20th centuries will give way to an ever-widening array of material and non-material choices. New forms of communications media (cable, satellite TV, specialized journals, etc.) will no longer broadcast the same widely agreed-upon messages, with the result that peer and special-interest groups will be in the ascendancy and of great significance in value formation. The individual and group will be thrown back on its resourcefulness in trying to devise coherent identities.

Societal trends, extracted from the literature and surveys and revolving around the afore-mentioned "third wave" pluralism will be examined. These trends will be looked at largely in a social change context, or in the manner of how values are transmitted and acquired.

Socialization influences of past decades are lessening and by the year 2000 will have decreased significantly. The traditional bulwark of family, home, church, and school are yielding to the pressure of the peer group, the

mass media, and celebrities. According to the Robert Johnston Co. trend report (Aug. '79 - Mar '80), pg. 2), "the system by which values of youth are acquired or altered -- and by which values are transmitted from one generation to the next -- has been drastically changed. It is not just values which are changing, but the manner in which they are formed, changed and transmitted." This same report delineates steps in the value change process (pg. 100).

Peer group influence has not only increased in importance, but has changed in focus, from largely supporting establishment values and being devoted to avocational endeavors to being highly pluralistic, frequently anti-establishment, and influential in major growth areas such as drugs and relationships to parents and other authority figures. The authority of parents, teachers, and religious figures is still important, but increasingly giving ground, as the peer group becomes one of the most important socialization factors in transmitting to the group members values around which they can achieve an identity. These peer-transmitted values may be, and often are, in conflict with those of the family. The Johnston study further points out how many youth are currently caught in between value systems, with this being a reflection of society in general, as many former "frontiers" (lifestyle, social, technological, etc.) have given way to a preoccupation with self.

The communications media is another key factor in accounting for changes in socialization and personality. As mentioned, the former uniformity of the mass society is being undone. While rural/urban and regional

differences seem to be becoming homogenized, this is nothing but a reflection of all parts of society becoming immersed in, and saturated with the media blitz. Former social/moral standards will increasingly be replaced by standards of the marketplace -- what sells, works, or is valued becomes a goal.

Toffler claims that the media will present us with a smorgasbord of role models and lifestyles from which to choose. Having discarded traditional "heroes" new ones will be everywhere. Again, the individual is thrown back on his resources, his peer group, and whatever other motivational sources are present to form an identity. Uniqueness will be the name of the day, as there will be no limit to characteristics one may assume. As will be examined later, individuality will be cherished, leading to some profound impacts on the economic front. And, by being able to interact with the media (influence the outcome of the plot), it will be possible for one to assume a variety of roles, leading to a multi-faceted personality. Understanding sophistication will be enhanced, necessitating adept analytical skills to arrive at the significance of one's learning for the self.

The import of the communications revolution may be summarized in this paragraph - philosophically. The basis for human behavior is found in symbolic interaction. A symbol represents not only a material or non-material object, but a behavior pattern or course of action. Empathy, or role-playing, develops understanding of alternative lifestyles and role models. By being simultaneously presented with a large diversity of

media-sponsored amoral role possibilities, and with the ability to interact with the media presentations, individuals will have both an array of possible standards and identities, along with a paucity of criteria for selection from among the standards. Satisfaction of the self, and loyalty to one's own talents and skills, as seen above, will be one of the resultants.

Work/Self Ethics. Satisfaction of self needs has become the social byword, and will continue to be manifest through the year 2000. As noted above, the flood of media images, along with the glaring absence of moral imperatives affords the context, or the backdrop, for pre-occupation with the self.

However, according to surveyor Daniel Yankelovich, there has been a fundamental shift in social ethics, from that of self-denial and reward, to one of self-fulfillment, which has thrown our institutions into a state of temporary chaos. This state of affairs has plausibly arisen for a number of reasons, which include: the end of the economic affluent decades of the 50's and 60's, which saw self-denial or delayed gratification pay off, due to the almost limitless economic opportunities. It was easy to postpone need satisfaction when one was supported by the knowledge that the opportunity to advance was right around the corner, and that inflation was not a problem. In addition, the social climate offered support, in the form of solid traditional values, and more enduring personal relationships.

In contrast, Americans have seen economic prospects shrink, inflation grow, and general achievement opportunities wither. The old ethic of self-denial doesn't appear to pay off any longer. In addition, many have reacted to the mass homogenization of society by "second wave" (19th & 20th century) industrialization and standardization. Individuality is being asserted. People are saying that their attitudes, values, and uniqueness count for something, whether or not (formerly) it contributes to the general good. Yankelovich (Oct '81, pg C1) says that "seekers of self-fulfillment now impose new demands for intangibles - creativity, leisure, autonomy, pleasure, participation, community, adventure, vitality, stimulation, tender loving care."

While it is claimed that we are currently in a transitional stage between old and new value systems, the point is that young adults do, and increasingly will want meaning in life. Meaning revolves around the satisfaction of "needs" (wants) endemic to the self, or those that will "self-actualize" the individual. This self-satisfaction is also a response to the de-personalization and bureaucratization of society. Individuals are seeking any form of nexus or tie that will assert their variability as humans in this machine age. Consequently articles refer to the "postponing generation" and the "laidback philosophy."

In a major survey of these trends, Sheehy (1979, pg. 25) says in reference to American men under 30, "They don't want to work hard. They demand more time for 'personal growth'. They are obsessed by what they call 'trade offs' in life. They dream of achieving the perfectly balanced life,

in which there is time for love and leisure and children, and personal expression, and playing lots of tennis. . . Highest on the list of personal qualities that young men consider important is 'being loved'. Dismissed to the bottom of the list of qualities they care to cultivate are 'being ambitious', and 'being able to lead effectively'."

The shrinkage of economic opportunities helps both engender the multi-faceted personality and lead to its uncertainty, but will almost require the individual to become this way in order to survive. Having many talents, skills, and traits will be the order of the day. "Striver-loafer, bread winner-dependent, lawyer-cop -- the new survivor may be one with the ability to shift personas at will, to do several different things well. Having personal flexibility to this extent becomes particularly important when no one trusts the institutions of a society - the very institutions that have traditionally shaped the individual" (Sheehy, pg. 33).

Organizations and employers will find that there will be a new kind of worker. While "second wave" organizations found that they could often stay afloat with plodding, non-creative bureaucrats, this is giving way to the manifestations of individuality and meaning. Money and security, while still important, will be superseded by a variety of other factors. These factors include: a) employment matched to one's training, education, or aptitude; b) meaningful involvement in the work, with the capacity to make decisions affecting one's career; c) more flexibility on the job, including variable working schedules, time off, and having the opportunity to be

trained in sub-specialties relating to a career path; d) more benefits; and e) appropriate leadership and management (which will be covered in depth, below).

For employers and the military services, the crux of the new worker ethic is that workers are increasingly more loyal to a profession, skills, or life-style, than to the company. This attitude, in the past, was either seen as an indication of high intelligence or, negatively, as characterizing a trouble-maker, because of disobedience etc. In the future, this loyalty to skills will be accepted, rewarded, and even become necessary, as creativity and analytical skills will be necessary, to adapt to the information overload and diversity in society or any work environment.

There is currently a crisis of confidence in leadership in America. The Connecticut Mutual Life Report on American Values in the '80's (1981) reports that "half of the public do not believe that important decisions on public issues should be left to our leaders. Further, when asked to rate today's leaders on a scale of one to ten, 60% of the public gave them a score of five or less" (pg. 26).

However, leadership is only part of the problem. Leaders are largely a reflection of the type of organization that they are a part of. As reviewed in the foregoing, surveys point toward the worker of the next two decades requiring the type of environment where creativity, innovation, variability, and active meaningful involvement in the work can be manifested. The style of leadership conducive to these aspirations occurs currently in what are

known as Type "Y", or "Z" organizations, as opposed to "X", as popularized by Dr. Douglas McGregor.

Theory X assumes that employees have little interest in and avoid work, are lazy, incapable of taking responsibility and need to be coerced or forced by an authoritarian manager. Theory Y, on the other hand, assumes that people have a need to be creative and productive, derive satisfaction from, and be responsible for, their own efforts and do not need to be forced. There is substantial evidence for Theory Y, with it being seen that most individuals greatly prefer the opportunity to express their ideas, to have reasonable freedom in the work place, and to be able to take reasonable responsibility for their efforts.

Theory Z, in a formal sense, is an adaptation of Japanese management style to American organizations, as made popular largely by William Ouchi. "Pure" Japanese management partially depends for its success on the culture, with its group orientation, respect for tradition, and father-like relationship between company and employees. In contrast, Americans are more individualistic, change jobs and residences more, are more competitive, and value monetary rewards more than the Japanese. Adapting Japanese management style implies that people, in general, have certain common needs, such as freedom, responsibility, and self-esteem, that can maximize company functioning and productivity. Satisfying these human needs is a large part of a company's (or military's) making the most of its human resources. Optimizing human resources is the key to Theory Z's effectiveness.

Unlike most American organizations where decision-making is practiced by a select few, the Japanese rely on teamwork or groups. While there is always a manager or supervisor having ultimate responsibility, the Z-type company allows individuals who would be affected by a decision to be party to it, through a group discussion. Managerial ideas that are clearly not supported by the staff, or that need further refinement would probably be altered. In some instances, the management has already reached a conclusion, and merely wants the staff to air opinions. In any case, the central concept is that employees learn of a proposed course of action, have a chance to become actively involved with, and possibly alter it, and even if the action carried is contrary to the belief of some one or few, the chances of these few supporting it are greater than if they were uninformed altogether. In general, group support for an idea will be magnified if the group has a part in the idea's origin and implementation.

A well-known aspect of Z-type organizations growing in the U.S. are what is known as "quality circles." Quality circles consist of from 8-20 individuals, including a leader, whose function is to examine, critique, and suggest improvements relating to any familiar facet of the organization. In this way, "each worker becomes a manager," in the sense that the employee builds self-esteem through being able to express opinions and take responsibility. Again, decisions reached in the group have a much greater chance of being observed than if they were ordered. And, company productivity is furthered, since with the liberal use of technical advisors, product quality is usually substantially improved. The Z-type organization, in America, then, as well as the future organization, would entail collective decision-making and individual responsibility.

Communication Patterns:

Effective communication is essential in any organization, but perhaps most important in the military. Communication serves a number of purposes, here summarized: a) conveys information essential to company and individual job performance, b) integrates the staff into a team, as each member shares a common philosophy and goal, c) builds morale and cohesion, as the employees see products arise out of joint effort and involvement, and d) permits every individual to maximize his own efforts and realize his own potential, depending upon the extent of that effort.

Communication, to be effective, must be both vertical (superior to subordinate, and vice-versa), and horizontal (one department or individual to another). Having caste-like barriers between superiors and subordinates because of rank has a very negative effect on communication, and inhibits the subordinate from being able to freely express himself. Artificial barriers, such as confined offices, or extreme deference or respect only limit communication and mission accomplishment. This Z-type company makes the assumption that each member of the staff is valuable in his/her own unique way, and can make a maximum contribution to the team effort, if allowed to contribute what he/she is capable of, regardless of rank. Open communication thus has a direct bearing on both the psychological health of the staff, as well as the productivity and cohesiveness of the organization. Failure to communicate and involve will certainly lead to alienation and apathy.

Holistic Concern for Employee Welfare

In today's automated, computerized and de-humanized society, it has become increasingly difficult to satisfy one's needs for feelings of belonging. Large bureaucracies are notorious for fostering impersonal relationships that are a factor in feelings of alienation. Japanese, and 7 organizations in the U.S., try to foster, in the managerial staff, concern for the overall welfare of every individual. This takes the form of an open-door policy at all times, extensive face-to-face communication in the office, and off-duty association, if appropriate. The feeling (and result) is conveyed to the employee that he is a valuable contributing member of the team, whose life and needs are important. Trust, openness, and equality among all employees reinforce these self-worth feelings, eliminating the need for employee surveillance, and helping to insure productivity.

Human resource management, as described in the foregoing, will become an essential component of future organizational philosophy, and practiced in its entirety -- not on a piecemeal basis, and not altered by a change in management. The key dilemma in modern bureaucracy -- the conflict between the need for centralized coordinated control, and conveying reasonable freedom and responsibility to the staff can be solved in the future. The solution is to decentralize decision-making as much as possible, giving each individual the right and responsibility to contribute to his work environment, according to his training and capacity. The organizational reward for maximizing human resources comes in the form of loyalty, dedication, cohesiveness, maximum productivity, and satisfied and fulfilled employees.

The above description of the Z-type organization gives a glimpse of what the future healthy company's environment will be similar to.

Marriage and the Family. While formally a part of the socialization influences section, marriage, family, and lifestyle will be examined separately.

Arising out of the major trends toward individualism, self-satisfaction, diversity, and meaning, it is understandable how traditional institutions can increasingly be viewed instrumentally - in a utilitarian sense, according to how it meets one's needs. The sanctity of many formerly sacrosanct values and norms will, in the next two decades, devolve into the experimental mode. A variety of practices or arrangements will be tried, and evaluated in the light of largely situational criteria.

As late as the 1950's, surveys by Yankelovich, Skelly, and White demonstrated that the vast majority of Americans - especially women, expected to be married and center their lives around the nuclear family. It was almost inconceivable that any other institutional arrangement would be as positively sanctioned. The attitude has undergone a radical revision. "In the late 1950's, 80% of all Americans held that being unmarried was an unnatural state for a man or woman; to be normal was to be married. By the late 1970's, a mere generation later, virtually the same proportion (75%) had changed their normative premise" (Yankelovich, 1981, pg. 58).

The nuclear family is currently in a minority position, compared with alternative "family" arrangements. These include single-parent families, couples without children, singles, and unmarried couples. Needless to say, the divorce rate has skyrocketed in the last 20 years, and by the year 2000, is expected to continue. For those opting for the married state, serial monogamy, or repeated marriages and divorces, will continue to be the norm. It has become fashionable and acceptable to think of the married state as not being permanent. It is estimated that approximately 45% of all children born in the mid 1970's will have lived with a single parent prior to becoming 18 years of age. And, in the first half of the 1970's, the percentage of children with a divorced mother jumped by 66%, and those living with a single mother increased by 40%. This is an older cohort of individuals that will become available for military service, and have an altered outlook on life, accordingly.

What do the altered family arrangements portend, and how are they continually impacted by society? One major consequence (and conditioner) of the nuclear family's decline is the increasing number of women in the work force - female breadwinners. Prior to the 1960's, women's work roles were extremely circumscribed and relegated to traditional positions, such as secretary, nurse, and others, where they often won out over minority competition. Recent sex militancy, the garnering of equal rights, and economic necessity, have opened professional and executive doors previously closed. Women away from the home has had a number of profound domestic consequences, including democratizing the marriage relationship, giving women greater power, and permitting the continuity or even existence of the

single parent role. Companionship will become the main reason for marrying, and domestic division of labor will attenuate, with men assuming many formerly women's household duties, and vice versa. These trends will continue through the turn of the century.

Further consequences of family changes are that obligations (what parents and children owe each other) will change, by lessening. Parents will not make as many sacrifices for their children, and will, in turn, expect less. The new spirit of individualism will also lessen parent's identification with, and living former dreams out through their children. Parental authority, and children's acceptance of such, will theoretically decline also, although some researchers forecast the necessity for a turn away from permissiveness, to a more controlling role.

It is clear that with medical advances and the aging of the population, more resources and attention will have to be devoted to the elderly. The future portends decreasing attention paid to children - a swing away from child-centeredness. Parents are likely not to be particularly interested in the special needs or desires of the offspring, which should correspondingly shorten adolescence.

A distinct future likelihood examined by Alvin Toffler is the transfer of many jobs out of the factory and into the home. Production engineers even now report that as much as 50% of the work force could perform technical work in the home using computers and other electronic aids. In the near future, it may well be possible for a substantial number of

employees to either alternate between home or office, perform all work at home, or engage in diverse forms of trade-offs with others. This has positive socialization implications, as children could, from junior adolescence, be incorporated into a work-at-home "electronic cottage" (after Toffler), which would further shorten adolescence, overcome adverse peer pressure, and develop productivity and responsibility skills. It is even possible that the traditional intimacy of the nuclear family could be re-captured; a sort of economic extended family is also possible, as different groups link together to provide a needed service.

Toffler, in an extract from "The Third Wave", claims that "behind all this confusion and turmoil, a new Third Wave family system is coalescing, based on a diversity of family forms and more varied individual roles. This de-massification of the family opens many new personal options. Third Wave civilization will not try to stuff everyone willy-nilly into a single family form. For this reason, the emergent family system could free each of us to find his or her own niche, to select or create a family style or trajectory attuned to individualized needs" (1981, pg. 1).

Education and Training. The educational forecast for the next two decades will be contingent upon demography, economics, and technological advances coupled with the information explosion. This section will first briefly examine these factors, as a prelude to a number of predictions.

The "baby boom" of the 1940's and 50's, which resulted in vastly accelerated enrollment (including higher education) in the 60's and early

70's, has already turned into a bust. "Birthrates in the United States have declined significantly over the past 18 years, with 28% fewer children being born now than were born in 1959. This 'baby bust', which has followed the post-war baby boom, has already reduced the number of children enrolled in elementary school by about 10%, and a further drop of another 7 or 8% by the mid 1980's is certain" (Coates, 1978, pg. 35). The next two decades portend sharp reductions in the 18-24 year age group, as has been seen in the demographics section, with as much as a 10% decline in university enrollments.

Setbacks for schools will also take place, in reference to economic growth, which is expected to be reduced. This, accompanied by high inflation, frequent special funding defeats, diversion of federal money to defense and the elderly, and energy increases, is expected to lessen financial support for education, and result in quality declines. It is estimated that as many as 300 colleges will close their doors in the 1980's, alone. Higher institutions expected to survive include large research universities, selective liberal arts institutions, and public community colleges.

Confronted with declining enrollments (and tuition), and reduced levels of other income, schools will attempt to cope, in whatever way possible. One "natural" way of adjusting to enrollment declines will be accession of older students, including those into their mid 30's. This group will be motivated by career educational demands, especially in specialized fields like computer science and mathematics. In addition, there will be a general recognition that education is a lifelong process, and not restricted to the

"formal" years; in addition, individuals will increasingly seek "contextual relevance," or links between their formal studies and the "real" world. Other alternatives available to school administrators include shrinking staffs, eliminating subject areas with the least return (such as the humanities and social sciences), and, conversely, offering training in the sciences and electronic fields, as well as providing vocational and other job-oriented courses.

According to Dr. Arthur Combs (1981, pg. 7), "the first certainty about the future is the information explosion. Explosions of knowledge have occurred in every discipline and will continue at even faster rates in years to come, making the concept of the teacher as a fountainhead of knowledge ridiculous. Marvelous techniques provided by science for dissemination of information have also made the teacher's role as information-provider obsolete. The second certainty is the increasing pace of change."

Responding to, and seeking advancements in, technology schools are expected to make use of the following learning aids: a) computers and video playback devices, utilizing coupled instructional modules; b) holography - projection of three-dimensional images, by laser, to convey realistic learning experiences of distant places; c) drugs that improve memory and enhance learning, for the normal and retarded alike, and; d) use of bio-feedback, through various modalities, to induce the optimum learning state of mind. Teaching styles, or future methods, are likely to include, again, substitution of electronic learning for the in-class; individualized instruction - self-paced or utilizing peers; ventures into the community or

work-setting to "ground" one's classroom learning; and role-playing in the classroom that simulates a real-life event.

Education, in the next two decades, will be subject to requirements generated by the information explosion. Secondary schools can hope to convey nothing but brief topical overviews in courses. University study will emphasize narrow specialization, within one field, especially on the graduate level. Career and vocational training will take precedence, although a number of educators are hoping for a return to liberal arts education, to build the "rounded man." Gay, Dembowski, and McLennan (1981, pg. 656) claim that "there has been a definite shift, nationwide, from the 'human relations' and 'academic skills' of the late 1960's and early 1970's, to the current preoccupation with vocationalism, job-seeking, and minimum competence."

Individuality, diversity, and the information explosion, will also dictate that the goal of education will focus on process and problem-solving; in highest demand will be those who have become good synthetic or analytic thinkers - those able to creatively select among many alternatives. In addition, school curriculum will be unable to adhere to standardized courses or subject areas for long; innovation will become the order of the day. Combs (pgs. 8-11) further states that education will also be called upon to offer instruction in values, a personalized and self-fulfilling curriculum, as well as one directing attention to social responsibilities, and lifelong learning.

The following forecasts were made by The Futures Group, in "Overview Of The Future Of The Labor Force" (1981, pg. 21):

Education and Training

- Proportion of black and Hispanics completing High School will increase (75% of blacks and 55% of Hispanics in 1977).
- Proportion of total population attending college will grow more slowly and number of bachelor's degrees earned will level off.
- College enrollment of blacks and Hispanics will increase (for men 18-24 in 1977, 28% of total were enrolled in college, 20% of blacks, and 18% of Hispanics).
- By 1990, possibly over 10% of college students will come from abroad; by 2000, 40-50% of high-tech students may be foreign.
- Pressure for performance and accountability in education will increase.
- Work/study high school programs will grow.
- Continuing professional education of highly-schooled mid-career adults will show strong gains.

- The previous concentration of national employment and training policy on the structurally unemployed will shift somewhat toward upgrading the skills and performance of the employed, and smoothing economic adjustment of displaced workers.

- Efforts will be made to make public training programs more relevant to private employers, and to enlist their participation.

- Employers will increasingly offer remedial work in English and mathematics.

The preceding sections have presented a rather thorough description of the population from which the soldier of 2000 will be drawn. Taking these factors into consideration, the following section outlines some innovations in personnel policy designed to help the Army meet its personnel needs in terms of attracting and retaining the quantity and quality of people needed for Air-land Battle 2000.

Personnel Policies. To formulate appropriate personnel policies for the Army of 2000, one must consider both the "supply" and "demand" elements of the future personnel equation. As for "supply," the demographics section of this paper makes clear that there will be a shortage in the Army's traditional source of people-youth. The demand for personnel is probably best envisioned by the Air-land Battle 2000 scenario. This scenario portrays the future battlefield in terms of a soccer game, with quick, deep strikes into enemy territory and continuous action everywhere rather than the current battlefield analogy of football, with relatively clear friendly and enemy line and intense action followed by brief respites. This "distributed" battlefield of the future calls for man-machine systems capable of high mobility, the ability to see and strike from a distance (without being seen) sophisticated communication with the other small units, and ability for small units to operate autonomously to a much greater extent than now possible. This indicates a need for a highly sophisticated soldier.

Putting both elements of the personnel equation together, one fact becomes clear: the Army cannot continue the personnel policies of today into 2000. To do so would mean that the Army would be competing (unfavorably) with private industry for a higher percentage of sophisticated soldiers from a smaller population base of youth.

There are at least three general solutions to this problem. The first, and probably most common Army solution, is to be "innovative" and attempt to do more with less. The second is to use different strategies to obtain an adequate share of the Army's traditional population: youth. The third is to invent strategies to recruit different populations. The remainder of

this paper will discuss each of these three general solutions in greater detail.

In order to do more with less personnel, one must turn to the social sciences. The Army is already exploring various "human technologies" designed to do more with less. For example, the Soldier Performance Division of the Soldier Development Directorate is now field-testing a technique using audiotapes to increase concentration while inducing relaxation and hence increase learning speed and retention. Nonetheless, perhaps the most promising innovation in this area is being overlooked. Most social scientists would agree that the best established principle of behavior is the law of effect. That is, behavior followed by a positive consequence increases, while behavior followed by no or negative consequences decreases. The author believes that the Army currently makes poor use of this principle. For example, there is only a tenuous link between scores on objective tests such as SQT and PT and promotion. Time in grade requirements and grade ceilings in various MOS weaken the performance - reward link. Also, although the SQT is designed to act as a negative reinforcer in that failure to verify is supposed to lead to a bar to reenlistment, this effect can be negated by a commander's waiver. The performance - reward link in the Army could be strengthened.

Another area in which human technologies are being explored to improve performance is cohesion. LTC (RET) Jim Shannon and others are designing organizational myths and rituals to bond units together. Again, however, perhaps the most important principle of cohesion is being overlooked. Over

30 years ago, Sherif demonstrated that the best way to reduce inter-group hostility and build intra-group cohesion is through establishing a superordinate goal, that is a goal which can be accomplished only through the cooperation of all groups/individuals involved. This principle could be tied to the law of effect mentioned earlier. Objective tests for squads/crews/teams could be devised. The group score on the test could then be linked to the level of status/responsibility/pay given to the group as a whole. This strategy would, in turn, require stabilizing the membership of small groups to a much greater extent than is now common which would in turn necessitate Army-wide implementation of the emergent regimentally-based unit rotation system.

Using objective group testing methods to determine the status and compensation of small group members seems especially feasible for the Army of 2000, since most weaponry foreseen by Air Land Battle 2000 is high-tech (electronic) hardware and such hardware seems to lend itself to simulation, as the numerous arcade games using a warfare scenario illustrate. Thus inexpensive training/testing of groups would be possible.

Perhaps the best way of doing more with less people is to eliminate the need for certain people entirely. This can be done with robotics. The robotics division of the Combat Development Directorate is currently examining ways of using machines to replace people in arduous/dangerous jobs which do not require complex decision making skills.

The second set of solutions involves using new strategies to attract the Army's traditional population: youth. Four such strategies will be briefly explored here. One idea frequently expressed is instituting a "new GI bill." Data by Blair suggest that roughly a quarter of all youth would be willing to join a military service for three to four years tour in return for higher education. This includes a good percentage of youth who stated on an earlier question that they probably wouldn't serve. Further, Canter presents data suggesting that such youth are higher in quality than those primarily attracted by economic incentives.

Another strategy to attract youth involves developing a sense of the responsibilities of citizenship in youth. Canter, among others, has suggested that future youth will be more self-centered and to paraphrase John Kennedy asking more what their country can do for them than what they can do for their country. Action to reverse this trend is necessary. Not long ago, civics classes taught the responsibilities of citizens of a democracy (e.g., keep informed, vote). It may be possible for the Army (or joint services) to contractually develop first class teaching materials (including audiovisual aids) for a civics-style course on rights and responsibilities of citizens, including a segment on the desirability of national service. The course could be distributed to interested high schools/teachers through the recruiting command, which contacts high schools now anyway.

A third strategy to attract youth involves the creation of a national service act. Currently, the federal government has regulations requiring

contractors who do business with the government or institutions receiving funds from the government to observe certain affirmative action guidelines or lose federal business/funding. In other words, the federal government uses the power of the purse to support a national value: Equality. Could not the federal government do this to support our most basic value: The security of freedom? All organizations receiving substantial business/funds from the federal government could be required to hire a certain percentage of people with a national service background. National service could include civilian (e.g., road maintenance) as well as military service, but terms of service (e.g., tour length, educational benefits, pay) could be designed to favor military service. An article published by one of the authors of this study (P. N. Gordon; That Youth May Serve) considers such a tiered system for performance rewards for national service. Since most large businesses in the United States do substantial business with the federal government, national service of some sort would greatly improve a youth's chance of obtaining the job he/she wanted.

A final strategy involves recruiting foreign nationals. The large number of Mexicans, Haitians and south-east Asians (largely young) attempting to illegally enter the United States may be a source of personnel for the Army. That is, for those who meet the physical and mental requirements, U.S. citizenship could be offered in turn for a satisfactory tour in the Army. This would, of course, require more (and better) English as a second language courses, but as Wilcox points out, the increased numbers of Spanish speaking Americans in the Army will require this anyway.

The Soldier Performance Division is in fact investigating whether proven methods of teaching languages more quickly and effectively can be implemented in an Army context.

It is recognized that few of these strategies for recruiting youth can be implemented by the Army alone, without action by the executive or legislative branches. Thus taking any of these steps means making the needs of the Army known to our political leaders. It is the author's opinion, however, that the Army cannot afford to simply attempt to make bricks out of straw the political system may give it. To do so invites the possibility that the Army may eventually fail in its mission and thus endanger the very existence of the nation itself.

The third general solution to future personnel problems is to attempt to recruit a new population: older people. Numerous authors, including Canter, Gordon and Site, and Scott and Taylor recommend making up the youth shortfall with older people who will be a larger percentage of the population, as pointed out in the demographics section of this paper. Besides being an effective strategy from the "supply" viewpoint, it also seems to meet the "demand" requirements. That is, the technology envisioned for Air Land Battle 2000 will need extensive maintenance/repair personnel with hi-tech backgrounds. It will be cost effective for the Army to let a civilian agency do the training for its needs (rather than the opposite condition, which now exists).

Of course, as many of the authors cited above point out, this personnel policy change would require other changes in personnel policy in order to be effective. First, it would require a change from the all or none pension system to a "vested" system similar to industry, where one would receive a small portion upon retirement for over a few years of service. However, since many of these rear echelon jobs would not be physically demanding, the age for full retirement might be extended to 30 years, offsetting the cost of the partial retirements. Secondly, it would require creating "true specialist" positions, and ending the "up or out" system. As Canter and Gordon point out, these mid-life soldiers' primary loyalties will be to their skills and many will not be interested in giving them up to move into leadership positions in order to stay with the Army. Thus a technician should have the ability to move up while staying with the technician classification. Finally, the influx of these older soldiers will necessitate improving the current physical training programs. Along these lines the Soldier Performance Division of SDD is currently examining the feasibility of including martial arts type training, which can be participated in by soldiers of varying ages, in the Army Physical Training Program.

The discussion of the above solutions as three separate categories is not meant to imply that they are mutually exclusive. In fact, in order to meet the challenges of the twenty-first century, solutions from all of these categories may well be necessary. The Army should start now to consider and implement these (and other) solutions in order to meet the challenges it will face in the next century.

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