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**PYRAMIDS, BALLOONS, AND SQUISHY SPHERES:
THE DYNAMIC CONTEXT
OF MILITARY GRADE CREEP**

**VOLUME I
EXECUTIVE SUMMARY**

STRATEGIC STUDIES INSTITUTE



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**STRATEGIC STUDIES INSTITUTE
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Carlisle Barracks, Pennsylvania**

**PYRAMIDS, BALLOONS, AND SQUISHY SPHERES:
THE DYNAMIC CONTEXT OF
MILITARY GRADE CREEP**

by

Anthony L. Wermuth

20 November 1974

**Volume I
EXECUTIVE SUMMARY**

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FOREWORD

The Military Issues Research Memoranda program of the Strategic Studies Institute, US Army War College, provides a means for timely dissemination of papers intended to stimulate thinking while not being constrained by considerations of format. These memoranda are prepared by individuals in areas related to their professional work or interests, or as adjuncts to studies and analyses assigned to the Institute.

This research memorandum was prepared by the Institute as a contribution to the field of national security research and study. As such it does not reflect the official views of the Department of the Army or Department of Defense. This memorandum is Volume I of a two-volume set. Volume II is the complete study developed on the subject; Volume I is an abridgement in the form of an executive summary.

The author of this memorandum is Dr. Anthony L. Wermuth, a member of the Institute's Advanced Analysis Group. Dr. Wermuth is a 1940 graduate of West Point and a 1959 graduate of the Army War College with MA degrees from Columbia and George Washington Universities, and a Ph.D. in political science from Boston University. He has served on the faculties of USMA and the Army War College during 32 years in the Army, from which he retired as a colonel in 1966. Subsequently, he served in industry for seven years in social science research. He is listed in *Men of Achievement*, *American Men of Science*, and *Who's Who in the South*.



DeWITT C. SMITH, JR.
Major General, USA
Commandant

PYRAMIDS, BALLOONS, AND SQUISHY SPHERES: THE DYNAMIC CONTEXT OF MILITARY GRADE CREEP

EXECUTIVE SUMMARY

Grade creep in the armed forces has become a matter of concern to the Congress; hence, it becomes a subject of concern to the Pentagon.

What is grade creep? Somewhat amorphous in outline and cryptic in destination, grade creep is a feature of modern organizations involving relative status and social stratification. In stark terms, grade creep refers to the tendency of the *average grade* of positions within modern organizations to escalate over time. Within the military establishment, incremental advance of the average grade is said to occur within the officer grade structure, within the enlisted grade structure, within the overall combined grade structure of each armed force, and within the overall grade structure of the total military establishment. It is alleged to be most readily manifest in increasing ratios of higher-grade NCO's to lower-grade enlisted men, of officer strength to enlisted strength, of higher-grade officer strength to lower-grade officer strength, and especially of general and flag officer strength to total strength. Several more complex aspects can be discerned; but these appear to be the principal foci of attention.

Five basic questions obtrude promptly. First, are the allegations true; are these averages really escalating in the armed forces?

Second, is an escalating trend good or bad?

Third, is this escalating trend, if it exists, peculiar to the armed forces?

Fourth, if the trend exists, and if change in the trend is considered desirable, can the trend be arrested or reversed?

Fifth, if it is occurring, why is it occurring? What are the causes?

One thrust behind critical interest in grade creep leads to such specific questions as "Why do we have more generals per same size force than we used to have?" But more obtrusive concern emerges in two recurrent representative questions: "Why don't we get more combat forces out of our total strength in each armed service?" (frequently referred to as the "tooth-to-tail ratio"), and "Why do we (if we do) have more generals and admirals per same size forces than other countries, especially the Soviets?"

Most of us are increasingly aware of burgeoning size, complexity, budgets, and personnel costs of major institutions, as well as of changing organizational aspects which touch our personal lives directly; but most of us are only selectively aware of the organizational phenomenon taking the form of grade creep. Yet, evidence accumulates around us of the escalation of the numbers and status of persons involved in many major social institutions, particularly in those functions at the leading edge of technology.

For instance, in the sense that the "tooth" of any organization comprises the members directly performing the definitive functions of the organization, we may be disturbed to note the shrinking "tooth" of the armed forces, the combat elements, compared to the dimensions of the "tail," the support elements required to sustain the "tooth" effectively in modern, complex, increasingly technological warfare. But the same trend, usually oversimplified in prevailing descriptions, may be seen occurring in other social functions. For example, most of us are aware that the percentage of the population engaged in agriculture has drastically declined; yet, as discussed later, Wattenberg and Scammon suggest qualification of this familiar and somewhat misleading observation that a farm population of five percent of the labor force is "all it takes to feed the United States and a substantial number of foreigners besides." As these two authors show, actually some 37 percent of the American work force is still involved in the production, processing, and distribution of food.

Perhaps the most dramatically disproportionate "tooth-to-tail ratio" occurs in the National Aeronautics and Space Administration, which, in

1972, had 30,000 employees and an annual budget of \$3 billion. Like the armed forces and other major American institutions, NASA performs a number of functions for the nation, some of which are little known; yet NASA's primary mission is to exercise America's interest in space technology. In a sense, the projection of space explorers is the "tooth" of NASA; in this sense, when three astronauts are participating in a space mission, NASA's "tooth-to-tail ratio" may be said to be about 3 to 30,000, and during periods when no astronauts are in space, the "tooth-to-tail ratio" might be said (unfairly, I think) to be 0 to 30,000.

In any event, one wonders about occurrence of the same phenomenon, the aggrandizement of support and the escalation of average grade, in almost every other social organization—the government, religious denominations, hospitals, industry, court systems, sports, universities, law offices, the foreign service, and the merchant marine. For example, organized baseball and football obviously employ larger, specialized coaching staffs than they did not many years ago, and more officials and statisticians. Does the archbishop of the New York diocese require more higher-graded assistants in his administrative hierarchy than were required, say, 20 years ago? Do the mayors of New York and London? Do the presidents of multiuniversities and multinational corporations?

This paper touches only peripherally on such questions as "tooth-to-tail ratios," and does not attempt to comment directly on them, leaving detailed analysis and justification of military grade structure, status, compensation, and requirements to current specialists on military manpower and administration. Instead, this paper gives greater consideration to a number of broader questions, of which the following are representative: Is grade creep simply a manifestation of hubris and self-aggrandizement on the part of supervisors and executives, especially generals and admirals? Is grade creep an independent or a dependent variable, a cause, an effect, or a symbol? Do political, economic, psychological, and social pressures in the general society affect structure and status in military institutions? Are widespread developments in education, automation, and work patterns pertinent to grade creep? Does grade creep affect a single social layer, or is it pervasive? Is it cyclical or permanent? Are social dynamics discernible which contain implications for all organizational structures, statuses, and relationships? Is grade creep an important development, or negligible? Is grade creep peculiar to the military establishment?

This paper is by no means a comprehensive exegesis of the phenomenon of grade creep, nor does it pretend to trace the linkages in cause and effect of any one strand, or cluster of strands, of interaction. Instead, it merely presents an eclectic report on a number of static frameworks and dynamic forces operating among them to produce movement. Some forces appear to decelerate grade creep; many others appear to accelerate it. Among relevant factors examined are social and functional hierarchies, including structural dynamics in American government; stratification; shifts in American values; technological advances, population growth, and related social pressures; the division of labor; the work force; work patterns; organization dynamics; compensation, incentives, and motivation; and leadership and management.

This paper attempts to eschew polemics and advocacy, and claims neither comprehensiveness, rigor, nor definitiveness. It proposes no hypothesis. Its purpose is limited, exploratory, heuristic, in examining a broad spectrum of social dynamics that might help explain the phenomenon of grade creep. In a number of respects, it does little more than scratch the surface and suggest further study along a number of promising lines.

A final word of introduction, to help place the problem of grade creep in perspective. In itself, it is not an earth-shaking, Congress-shaking, or military-shaking phenomenon. Grade creep is assumed to be only an effect, not a cause. The course of grade creep will not explain any course of empire or, indeed, of anti-imperialism, either. Nevertheless, while it generates a certain amount of legitimate concern in its own right, its principal value may be symptomatic. In many respects, including its own characteristics and its complex roots, it typifies the changing forces within the military establishment and changing relationships between the military and the total American environment.

Grade creep within a social institution can be verified, of course, by comparing the grade or pay structures of the organization or institution at different times, to determine whether one or more of the following situations has occurred at the later time:

1. The average grade of the entire organization has risen.
2. There are more persons in higher grades in comparison to those in lower grades.
3. There are more persons in the higher grade, or in the collective highest grades.

4. There is a significant upgrading in status of one or more grades (e.g., more persons within the same grade designated as supervisors).
5. Pay levels have risen substantially.
6. Total membership has increased substantially.

Indicators 1 through 4 above are fairly conclusive evidence that grade creep has taken place (in fact, Indicator 1 establishes it as a fact). Indicators 5 and 6, however, are not necessarily conclusive. In a number of situations, pay can be raised throughout an organization (e.g., a cost-of-living increase) without essentially disturbing the grade structure, and certain organizations expand in numbers while the grade structure, or organization profile, remains essentially intact.

Nevertheless, while recognizing the unreliability of accepting these latter two indicators as firm evidence that grade creep has occurred in any particular institution or organization, this study accepts these two indicators in a general way as evidence that grade creep probably has occurred or probably will occur within a reasonable time in the approaching future. Of considerable weight in our rationale for accepting these two loose assumptions is the evident interaction of pay and grade movements among several or all large social institutions (some lagging behind others), as we hope to suggest in the course of this paper.

Indicator 6, increased size, deserves additional comment, particularly insofar as it relates to the observation in the 1972 Hearings that the configuration of the grade structure of the military establishment is changing "from pyramid to balloon." Galileo insisted long ago that no human institution can drastically increase its size and scale without changing its form, or shape, or internal proportions.¹ It seems reasonable in this instance to reverse this proposition and assume that no human institution can *decrease* its size drastically without altering its configuration.

A modern commentary on what is happening to the classic pyramidal form of organizations is provided by Professor George Berkely. In a chapter entitled "The Crumbling Pyramid," he asserts that a prototype emerging organizational form

"... does not display the smooth compactness of the bureaucratic pyramid... [it] is a loose, amorphous, sprawling affair... constantly changing. It is perhaps best visualized as a squishy, uneven circle within which clusters of small units, like amoeba, constantly form and reform. At the center there is a more or less stationary cluster which is connected by lines to all the others. However, the center cluster, while it may more or

less stay in the same general position within the circle, also undergoes changes in shape from time to time . . . "2

This analysis presents a configuration, however, which appears to be more a symbolization of authority structure and functional dynamics than of grade structure.

In any event, escalation in few or many positions and grade levels within an organization occurs ostensibly from the internal dynamics of the organization itself. The organization's recurrent revision of job descriptions, spans of control, lines of authority and responsibility, work patterns, and so forth, reflect the organization's perception of changing internal requirements stemming from changing missions assigned to the organization, changing internal technology, changing qualifications of the persons on board, and changes in the organization's institutional, group, and individual values, expectations, and attitudes.

Beyond internal response to self-perception, one principal suggestion for further study offered in this paper is that few, if any, organizations experience grade creep due exclusively to internal factors. Grade creep may occur in any one institution or organization because it is impelled by the dynamics in other institutions, in large sectors of society, or in the society as a whole. This paper, therefore, suggests that a wide range of interactions be explored, and itself endeavors to explore a number of interactions selectively, as a heuristic device.

Accordingly, it is suggested that grade creep may occur within one social institution (such as the military) because one or more of a host of events occur outside the institution, such as the following:

- proliferating technology may change the nature of similar work in all social organizations engaged in that kind of work. For example, automation may eliminate or lessen certain jobs, certain kinds of work, certain occupational requirements, certain requirements for number of supervisors per worker, etc.
- political and economic contexts may change the relative proportions among major tasks. For example, the success of nuclear deterrence may impel shift of resources toward increased capability to cope with labor-intensive kinds of war.
- social developments may generate changing relationships within organizations. For example, widespread education raises both competence and expectations in a larger proportion of the available work force. Pervasive rises in standard of living may generate demands

for shorter work periods and greater leisure, requiring more workers to accomplish the same work output.

- many other developments, if they occur, may affect the number and status of positions at any given level of organization, e.g., general increases in disposable income; requirements for greater proportions of professionals and specialists; general decline in the acceptance of authority, in turn demanding greater time and attention from each executive to the interests of a work force of the same size, and perhaps requiring several executives on board to administer what one executive could previously administer in an authoritarian environment.

Having examined a number of forces and trends at work in current society, and speculated about their possible relationship to grade creep within the American military institution, we readily dispose of three of the five questions asked at the outset.

It appears inarguable that grade creep is occurring in the military establishment; the analysis presented in the 1972 Hearings, and in other sources, advances incontrovertible data.

As to whether grade creep is a beneficial or harmful development, this paper vouchsafes no conclusion, one way or the other. Whether grade creep is good or bad, is considered outside the purview of this study.

As to the feasibility of arresting or reversing the trend, if it were thought desirable to do so, again this study arrives at no conclusion. Underlying a judgment as to desirability would necessarily be a prior judgment as to whether grade creep were good or bad in the first place.

Eliminating those three questions leaves two: Why does grade creep occur? Is it a phenomenon peculiar to the military?

Without any illusion that we are explaining the dynamics of grade creep in toto, we report a number of apparent linkages of grade creep with sources and fuels that appear reasonably charged with some responsibility.

While we include one "military" heading among the following categories, we are aware that the coverage given here of the military category, as of every other category, provides only partial explanation of why grade creep is occurring.

A FEW INTERNAL FACTORS WHICH APPEAR TO HAVE SOME CAUSAL RELATIONSHIP TO GRADE CREEP WITHIN THE MILITARY ESTABLISHMENT.

It bears repeating at this point that a number of dynamic forces.

some unique or predominantly peculiar to the military function, operate internally in the military establishment and appear to affect grade structures. From the beginning of this study, we left most such factors to analysis by specialists; but we paused to cite a few such factors, and we repeat citation of several of them here, namely:

1. An imperative for physical vigor and relative youth operates even in higher levels of the military grade structure, requiring selection out and retirement at earlier stages, *on the average*, than of executives in civilian organizations.
2. The uniqueness of war-fighting skills can be developed only within military contexts, precluding lateral transfer of higher executive and professional skills *into* the military.
3. Intensive career-long evaluation, training, and education pervades the military, developing advanced capabilities in many persons, and causing competitive selection of relatively few out of pools of highly qualified persons.
4. The rank-in-the-man concept, coupled with drastic post-emergency reductions in force, results in residual lag in eliminating large proportions of higher-graded persons, excess to the needs of rapidly reduced organizations.
5. The unique experience of large-scale casualties during conflict periods results in the presence of more persons on board in each grade, including higher grades, than represent the sum of all such grades in organizations.
6. More comprehensive requirements for incumbents of leadership and administrative positions occur in a total institution.
7. The enormous scale of the military institution requires reservoirs of persons at all grades who are not at any particular time performing substantive functions (e.g., those in hospitals, in transit, on leave, on sabbaticals, on loan to other government and private agencies, etc.).
8. The steady program has been urged by Congress, to replace military persons with civilians. This tends to occur in lower-graded positions, thus removing lower-graded military positions from the military grade structure, and escalating the *average* grade in the structure.
9. Steady progress has occurred in eliminating the general-duty soldier, the military equivalent of the unskilled laborer, not only through civilianization but also by upgrading technical skills required, and hence upgrading the *average* status of those who remain.

10. The All-Volunteer Force Program has included such measures as hiring local civilians, or civilian contract agencies, to perform such menial tasks as kitchen police, thus upgrading the status of even the lowest military grade.

11. Compensation for the lowest military grade has quadrupled since 1965, thus placing considerable upward pressure on all pay levels above the lowest, and inevitably, upon the military's *average* grade.

SOME INDICATORS OF GRADE CREEP WITHIN THE CIVILIAN AREA OF GOVERNMENT.

A number of evidences of escalation may be discerned in the civilian Federal work force, including the following:

1. Direct support of Congress has increased from 5,000 persons in 1954 to 13,500 persons in 1971.

2. An increase of approximately 67% in staffing senators' individual offices occurred between 1960 and 1970.

3. The Executive Office increased by 25% in staffing and 100% in budget over 3 years from 1968 to 1971.

4. An increase of almost 600% in civilian quota supergrades in the Federal Government occurred between 1949 and 1972 (and comparable escalation in supergrades in other categories).

5. An increase in supergrade-and-above civilians occurred in the Department of Defense, between 1954 and 1972, from 222 to 1526 (588%), while general and flag officers increased from 1205 to 1249 (3 1/2%) over the same period.

6. The highest five General Schedule levels increased by 14% since 1968, while the strength of the lowest five levels decreased by 15% in the same period, inevitably escalating the average grade.

7. The number of general clerical positions in the lowest 3 grades declined by 1961 to 28,000 out of the total of 2.5 million Federal civilian employees (by 1964, technicians outnumbered typists).

8. A steady increase has occurred in higher-grade positions faster than lower-grade positions; while white-collar positions increase, blue-collar positions decrease.

9. The judgment was asserted by former Assistant Secretary of Defense (Manpower and Reserve Affairs) Roger Kelley that grade creep is more startling among the Civil Service than among the military.

SOME FORCES WHICH APPEAR TO HAVE
CAUSAL RELATIONSHIPS TO GRADE CREEP
WITHIN THE CONTEXT OF GOVERNMENT AT ALL LEVELS.

A number of forces, including the following, operate widely within the entire context of government, and are not peculiar to the military, but impact on the military more or less the same as on other government agencies:

1. During the Johnson administration, explicit statutory provisions were enacted, for the first time in history, to maintain government compensation comparable to compensation in the private economy; since government salaries had lagged behind for many years, a surge of efforts have been launched to catch up, escalating all government salaries over the past decade.
2. State and local governments employ four times as many people as the Federal Government, and are becoming steadily more competitive with the Federal Government for skills and experience relevant to government; competitive pressures toward upgrading thus increase Federal job statuses and pay structures, both civilian and military.
3. Some government occupations are unique, without counterpart in the private sector. This tends to eliminate the necessity for keeping abreast of private industry, and may permit upward pressures based on uniqueness (this coin has a reverse side, of course; certain jobs unique to government may have no counterparts with which to achieve comparable status, and the lack may be disadvantageous to incumbents).
4. The power of the administrative state is growing in all societies; in the United States, public employment is growing faster than private employment. Government comprises a steadily increasing proportion of the work force and the economy. Hence, the weight of this sector of the work force and the economy increases in importance; public agencies are less likely to *depend* on private-economy models for precedents (and limitation) in developing grade structures.

INDICATORS AND INSTIGATORS OF GRADE CREEP
IN THE BROAD CONTEXT OF AMERICAN SOCIETY.

Social. Beyond the government context, forces are at work, such as those cited below, which permeate government walls in both directions and affect all major institutions in American society, public and private,

alike. Some forces are political, some economic, some social, some peculiar to the work force; and many are mixed in their effects. We shall indicate first some of these social indicators:

1. The most important factor in changing occupational structures is change in social values (Johnson), a conclusion of particular relevance in this period of dynamism among American values.

2. Mobility remains a powerful dynamic in all societies, and is especially characteristic of American society. Moreover, channels of mobility are multiplying in all societies, both advanced and modernizing societies (Wilensky).

3. Status-seeking remains a powerful contributor to mobility in American society, and all its social institutions. Status-seeking generates continuous status inflation (Milner).

4. Knowledge is proliferating at geometric rates, and knowledge occupations and workers are proliferating swiftly in the work force. As nonmanual occupations increase, pressures increase for escalating status, in the classic pattern of nonmanual workers. Educational requirements steadily rise for most occupations, including blue-collar jobs. The education-skill channel emerges as the most important route to power in society (Bell). The largest occupation, education, has been experiencing escalation in numbers, pay, and specialization; yet many teachers surveil fewer pupils and fewer class hours per week. Graduate degree accessions are multiplying geometrically, and educational attainment rises in absolute and median terms throughout the entire American population. In sum, requirements for brainpower and skills are rising, spurred by many sources and spurring higher educational attainment. Such escalation increases two factors affecting grade creep: competence and expectations.

5. As the median of educational attainment rises nationally, larger proportions of the population become increasingly sophisticated and participate more actively in political processes. Certain implications arise, to the effect that societies will be less manipulable by elites, that political power will become more widely diffused, that the dominant political consensus will downgrade elite status and upgrade *average* status, and that economic power may follow suit. Economic benefits may be more equitably distributed, affecting status and pay structures.

Economic. Certain forces, best identified in connection with the economy, tend to encourage status escalation in all, or most, major social institutions. The following appear notable:

1. Inflation has steadily increased in intensity, the national

wholesale price index, at the end of July 1974, standing at 161.7% of the 1967 average, 20.4% above the 1973 level. The effects of such inflation on pay scales, probably the clearest indicators of relative status, are irresistible.

2. Exclusive of inflation, affluence is a pervasive condition in America. Affluence changes priorities among values; as soon as basic wants are satisfied, they cease to be motivators of behavior, and men turn to other "higher," more sophisticated wants (Masland and MacGregor). While certain fundamental American values remain influential, such as status seeking and rising expectations, others are undergoing change in emphasis (Reisman, Kluckhohn, Williams, Resher, Bell, et al).

3. Compensation is rising steadily and relentlessly in all sectors of the labor force in all advanced societies, inevitably generating increase in the average pay and status within each institution.

4. More than direct compensation is escalating; it is estimated that by 1985 fringe benefits will constitute 50% of total compensation. Since most of the increase in fringe benefits in the private sector has occurred within the past 25 years, the previous situation, in which significant differentials in fringe benefits, in lieu of comparability in direct pay, existed to the advantage of the military, has disappeared. The elimination of this relative advantage, one of the few enjoyed by the military in comparison with private sector and the civilian sector of the government, introduces some degree of escalating pressure upon the pay structure of the military.

5. Starting salaries for many professions, in addition to the military, have risen sharply in the past decade, thus driving up pay scales at all levels above the lowest.

6. At the same time, a comparable factor, the national minimum wage, has been raised by legislation, including additional statutory raises during the next two years. Raising the minimum wage throughout the nation cannot help exerting upward pressure on pay scales in numerous institutions throughout American society, including individual expectations involved in military efforts to attract entrants from civilian society.

7. Life expectancy increases, swelling the numbers and proportion of the elderly in the largely nonproductive post-work sector of the population; the average age of retirement from the workforce, both mandatory and voluntary, is declining, also swelling the elderly sector. At the other extreme, the early dependence period of education and

life-preparation stretches out. Declining proportions of the young and of the elderly participate in the work force. The economic value of benefits available to both sectors increases and is not likely to be reduced. Accordingly, the economic burden of "supporting" the entire society falls increasingly on the dwindling (proportionately) income-earning sector of the population, underwriting that sector's demands for escalation in grade and pay status.

Work Force. The American work force is a special context, pervasive throughout the public and private sectors of American society. Certain factors, such as those below, operating in the total work force, inevitably affect the military grade structure:

1. Upgrading is a significant long-term trend occurring among all occupations (W. E. Moore).

2. Every indicator points to higher requirements of employability in the future, and increasing percentage of unemployables in all age groups (Chamber of Commerce of the United States).

3. Workers are less dependent upon their work organization, due to unemployment compensation, Social Security, medical insurance and similar benefits, and other current arrangements. Hence, there are fewer restraints upon making demands.

4. The average age among top executives in business and industry is steadily becoming younger, and executives are more mobile.

5. The context of supervision is steadily becoming more complex. The proportion of foremen per 1,000 employees in the entire American work force rose from 2.76 in 1940 to 4.23 in 1960 (thus escalating the average grades in the entire American work force).

6. The more complex the context, the more leaders it takes to run things (Cleveland); for this and other reasons, management skills will be the most critically short resource by 1980 (Research Institute of America).

7. The ratio for executive requirements is less stable than that for supervisors. The demand for executives appears to increase with size, but details differ in every organization.

8. Specialization is accelerating rapidly in most occupations. The fastest growing sector of the work force is that requiring the highest-trained people.

9. A substantial level of intermediate workers is proliferating, viz, paraprofessionals, involving skills above those of apprentices and journeymen but lower than full professionals. These perform many routine functions for which professionals are responsible but not

requiring high professional skills. In general, this movement tends to upgrade status as "semi-professionals."

10. The standard American work week of 5 days and 40 hours is under pressure toward reduction. Some economists predict eventual acceptance of a 3-day work week, permitting 2 work forces in each organization in order to keep high-capital equipment in full operation. Meanwhile, increasing flexibility is being incorporated into the work force, permitting variable forms of part-time work and variable lengths and combinations of work spans—hours, days, weeks.

11. Automation is producing mixed effects on the American work force. The social and political impacts are not yet well understood. Automation clearly eliminates many jobs; simultaneously, it produces demands for new jobs. Whether these two effects balance out in maintaining maximum employment is not clear. Moreover, the new jobs created by automation tend to be jobs requiring skills different (or more complex) than those it displaces. Automation appears to increase the ratio of required supervision and maintenance. Computers have already automated many jobs in the IQ levels up to 100, and may proceed to jobs at the IQ level of 100 and up.

Organizations. Organizational dynamics provide a specific context of particular relevance to formal grade structure:

1. There does not exist smooth linear or pyramidal models applicable to the configuration of organizations of different size, or of different size stages of the same organization (Baker and Davis). The classic pyramidal model is eroding (Berkley). No human institution can drastically change its size without changing its shape or configuration (Galileo).

2. Despite occasionally expressed reservations about correlation between college education and institutional leadership, 65% of all American college graduates occupy "professional" positions, and 85% are included in the "professional and managerial" category.

3. The channels of interaction between any organization and its social environment are proliferating and widening. Powerful dynamics in the general society will inevitably influence internal features of organizations, such as status structures and procedures.

4. All organized social groups are stratified, and will continue to preserve differentials in some structure of status, authority, and rewards commensurate with requirements, responsibilities, and skills.

5. Amidst dynamic, rapid change, organizational emphasis is shifting from stability to innovation ("No established institution in our

society now perceives itself as adequate to the challenges that face it."—Donald A. Schon).

6. As specialization proliferates, professionals are increasing their membership in all organizations, with ambivalent effects. On the one hand, their services in complex functions are indispensable. On the other hand, professionals are more independent, tending to direct greater loyalty to their profession than to their work organization, and refusing to yield career authority to the organization. Tension between generalists and specialists will be endemic in organizations. One effect on structure is that, since professionals tend to receive salaries comparable to those of managers, the hierarchical salary structure is tending to flatten, especially in government (while in industry, some very high executives may still receive 50-60 times their secretary's salary, a government executive's salary will not exceed 5-6 times his secretary's salary).

7. Rigidity in hierarchical structure is giving way to flexibility, and authority is coming to rest more on expertise than on hierarchical position. The Great Man, or charismatic leader, syndrome is declining, diffusing power and generating requirement for more people for consensual decisionmaking.

8. Bureaucratization is increasing steadily in all major sectors of public and private life, on both sides of the Iron Curtain (Brady, Bennis, et al), requiring more persons in bureaucracies.

9. Organizations will have to downgrade administrative convenience and upgrade emphasis on the interests of their members, and reflect them in status and pay structure.

FACTORS WHICH APPEAR TO HAVE AN AMBIVALENT RELATIONSHIP TO MILITARY GRADE CREEP.

While the foregoing factors appear to generate or intensify grade creep, it would not be appropriate to give the impression of asserting that all political, economic, social, and organizational dynamics occurring in America clearly influence status in an escalatory direction. A number of factors appear ambiguous in their potential effects—possibly partially escalatory, possibly the reverse in part.

For example, when Professor Moore reports that our society is subject to a definite long-term trend toward upgrading in all occupations, it is clear that the military, as one institution within the

context of American society, is subject to the upgrading occupational pressures impinging on all organizations. Similarly, when the lowest-grade military salary is quadrupled within nine years, and when advancing technology decreases the number of positions in the lowest grade of organizations, it is clear that grade creep will inevitably occur in the military establishment, whatever other internal considerations also exert pressures on grade structures.

A few of the listed indicators appear to point in the other direction. For example, compression in managerial salaries would appear to argue that while salaries in the lower managerial levels may rise, salaries in the upper managerial levels may remain static or decline. Automation may sharply curtail the number of middle managers required in the future, possibly lowering the average salary among all managers.

A number of indicators listed are ambivalent. The one just cited above, for example (curtailment in the number of needed middle managers), might well result in *raising* the pay and status of the lesser number of middle managers who remain. In fact, a large area of the future course of many trends is uncertain, and the effects of the trends unpredictable, such as the following:

1. The American Work Ethic appears to be losing some of its force. Many workers feel not only less commitment to work organizations, but also experience alienation from their own jobs and from work in general.
2. More than one in four in the labor force now work for a nonprofit organization, increasing the influence on the whole economy of economic decisions (such as pay structures) in the nonprofit sector.
3. The American economy is the first in the world in which the agricultural and production sectors are exceeded by the service sector, and in which white-collar workers outnumber blue-collar workers.
4. The proportion of national income derived from wages has increased steadily for 50 years (reaching 70% in 1963.).
5. It appears likely that computers will substantially reduce the need for the five million persons now classified as middle managers.
6. Among values suffering apparent decline, especially among youth, are patriotism, general morality, and success (Yankelovich, et al).

THE DESTINATION OF TRENDS.

In trying to discern the future, we may assume that we are

attempting to discern trends in the future—an impossible task. What we are really trying to do is discern the future destinations (or, at least, interim milestones) of *current* trends. A very few can be projected farther than others, but whether such trends can ever be projected ahead very far with even moderate confidence is doubtful. For one thing, the intensity of any trend, or cluster of interrelated trends, is highly uneven; the net effect of any cluster of trends, for example, may be positive in the short term, negative in the mid term, and positive again in the long term. Possibly no trend in human affairs progresses either upward, level, or downward in an unbroken linear fashion, even a trend which, subject to vagaries, appears to progress in a single direction over a very long period of time (such as, for example, the centuries-long decline of the concept of the divine right of kings, and the rise of the concept that political legitimacy resides in the entire citizenry of any polity).

How far ahead will current trends extend in the same direction as is occurring now—specifically, for example, how much longer will the average grade in the military establishment continue to creep upward? How far will the effects of escalation extend? No one can say. While grade creep appears likely to continue, one relevant prediction appears sound; it will not continue indefinitely. How far escalation of the average grade will have been carried, and how long the trend will have continued upward, by the time it is halted, it is impossible to predict.

It may profit us more if we try to discern milestones, or tentative plateau destinations, as resultants, or net effects, of broadly aggregated trends relative to status escalation and grade creep. With such an intention, we may profitably identify two conflicting fundamental trends in American society (and, at least, all other advanced societies), involving political, economic, cultural, social, work-force, and organizational dynamics, each with profoundly different implications for status and reward structures in major social institutions. The two trends are egalitarianism and meritocratic emphasis; if either is carried out to become the explicitly dominant system in American society, the nature of the society and its internal structures would be radically different, one from the other. The course of grade creep would be different, and possibly radically different, in each instance.

It may be useful for the purposes of this paper to suggest a succinct model of each extreme plateau-society; intermediate variations can then perhaps be more readily envisioned and implications conjectured about. It is emphasized that there is considerable evidence among the

multiplicity of current trends to support the thesis that we are on a road leading toward a meritocratic society, and also plenty of evidence that we are trending toward an egalitarian society.

THE MERITOCRATIC TREND.

Trends can be discerned toward greater roles for government; greater proportion of government members at all levels in the entire work force; potential scarcity in energy and other critical resources; increased requirements for centralized planning and the accumulation of relevant data; necessity for increased social control over an increasingly diversified society; demands for increased number and proportion of executives, managers, and leaders; the projected critical shortage of managerial talent; increased dimensions of available knowledge and of knowledge required for key positions, eventually becoming more esoteric and capable of being dealt with by fewer and fewer persons of high brainpower; escalating technological and interdisciplinary complexity, demanding higher levels of brainpower, up to levels of scarce availability in any society; continued ambivalence in relating high intellectual capacity to competence in handling human affairs; the possibility of genetic and behavioral manipulation; increasing influence of knowledge institutions and data centers; the effect of automation in eliminating lower-qualification jobs; the related but imbalancing effect of automation in generating higher qualification jobs for operation, supervision, and maintenance; the declining proportion of the entire population participating in the income-earning labor force; declining commitment to the Work Ethic and projected decline in average working span; increase in hedonism; increase in the power of the media to manipulate attitudes; and others.

The net effect of such trends, and a number of others, might conceivably be to force society into structures with higher and higher requirements for fewer and fewer incumbents in higher levels of hierarchy, with wide differentials between the status and rewards provided for such incumbents, while limited work-participation and limited status and rewards are allocated to the mass of the population. Although such a society could still be jealous of the civil rights of all citizens, this "vision" suggests a modernized, even futuristic, version of Plato's Republic.

THE EGALITARIAN TREND.

Trends can also be discerned toward the decline of the Great Man

syndrome (the ascription of almost superhuman qualities to selected individuals); the decline of the authoritarian style of leadership and the emergence of the contract theory and pluralistic styles of leadership; escalating levels of median educational attainment among the entire population; the concurrent rise in consequential political participation in larger proportions of the population; the diffusion of power down from political and economic elites; proliferating population and increasing urbanization, combining to intensify the crowding of living conditions and the escalation of conforming, cooperative social values; increasing pressures toward legal and social equality, and more equitable distribution of wealth; erosion of authority and hierarchy; adversary orientation toward exercise of power by large social organizations; flattening of executive salary structures, and increase in starting salaries and the minimum wage; insistence on elimination of unemployment, through utilization of marginal and substandard workers; and others.

The net effect of such trends might conceivably be to force society into flatter structures with fewer and fewer distinguishing layers, with fewer and smaller differentials of status and rewards among incumbents of all levels and occupations, and with dominant emphasis on the social values of cooperation and actualization of the full capabilities of every individual in the society. In its own way, such a "vision," however attractive it may appear on humanitarian grounds, may be as unrealistically utopian as the other extreme.

Both trends are supported by contributory current trends; but who can say which one will approach closer to future reality? What tremendous forces would have to impact on American society in shaping an atmosphere of opinion which would accept either alternative as reasonable, and not regard them as far-fetched—as we regard either one, today? We cannot know, and we have great difficulty even in guessing. So that we cannot forecast how far grade creep, as one indicator, will go, or how long it will last. We can feel confidence only in analyzing the short-term implication of grade creep as it is occurring, and as it appears woven into the tapestry of past and present social interaction.

It remains to make one final distinction. We have cited a number of factors which, on balance, appear to testify to the ongoing momentum of grade creep, of status escalation within organizational grade structures. But to some degree, grade creep might be regarded as an amorphous movement pervading whole organizations, discerned most

clearly in *average* status. We may profitably consider, more pointedly, another manifestation of grade creep: relative expansion in higher levels of grade structure—highlighted by an initial subsidiary question in this paper: are there proportionately too many generals, admirals, and colonels in the military establishment?

Relevant to this question, a number of indicators have been cited which are demonstrative of trends emphasizing escalation not only of whole structures, but especially of upper echelons. Other analysts may address the specific question of whether escalation in the upper echelons of the military is excessive, inadequate, or about right. The only aspect addressed here is whether or not a general trend is in motion that tends to swell the relative dimensions of upper echelons in organizations.

On that point, we have cited rising levels of education; escalating knowledge and technology to be coped with; tenacity of stratification in social structures; expansion in the roles of the administrative state, bureaucracy, and government at all levels, including nonroutine functions requiring nonroutine competence; rising requirements for employability; decline of authoritarian styles of leadership and rise in cooperative, participative, consensual styles of leadership (requiring more extensive coordination in decisionmaking and probably increase in the number of persons at directive levels); escalating requirements for leaders and managers of increasingly complex affairs; projected shortages of managerial talent; the effects of automation, including greater allocation of manpower to technology, maintenance, and supervision; increasing proliferation of specialization throughout organizational structures, eroding the utility of many generalists but heightening the requirement for effective generalists; rapid expansion in the work-force sector comprising managers, scientists, and professionals; decline in the proportion of low-level positions and increase in the proportion of high-level positions across a wide spectrum of organizations; and other indications of disproportionate growth in higher echelons.

Thus, we have presented a number of indicators of grade creep, approached from several perspectives. From these data, we may conclude that, while we have not advanced any hypothesis nor have we "proved" any, enough evidence has been presented to warrant tentative argument that grade creep is by no means a phenomenon peculiar to the military establishment.

NOTES

1. D'Arcy Thompson. *On Growth and Form*. Cambridge: Cambridge University Press, 1963, Vol 1, p. 27.
2. George E. Berkely. *The Administrative Revolution*. Englewood Cliffs, N.J.: Prentice-Hall, Inc. (SPECTRUM), 1971, pp. 24-25.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) One relentless focus of questioning of the military establishment has concerned grade creep, that is, steady escalation of the average grade within the armed forces, which is in turn related to questions concerning the ratio of combat to support among US forces, and the proportion of general/flag officers to overall military strength. This study eschews polemics or advocacy, or judgment as to whether the trend is good or bad. This paper accepts the premise that the trend is occurring. It adduces data indicating that the same trend is occurring in the Executive Department, the Congress,		

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20. (CONTINUED)

and the Civil Service, and explores broader developments in stratification theory, social values, the American work force, and organizational dynamics, indicating that status escalation is a widespread secular trend in technological societies, one that apparently has an extended course to run in the future, with significant implications.

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