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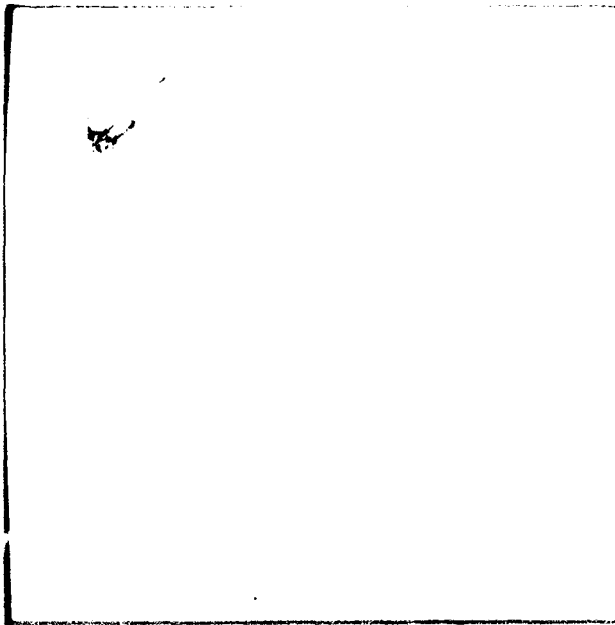
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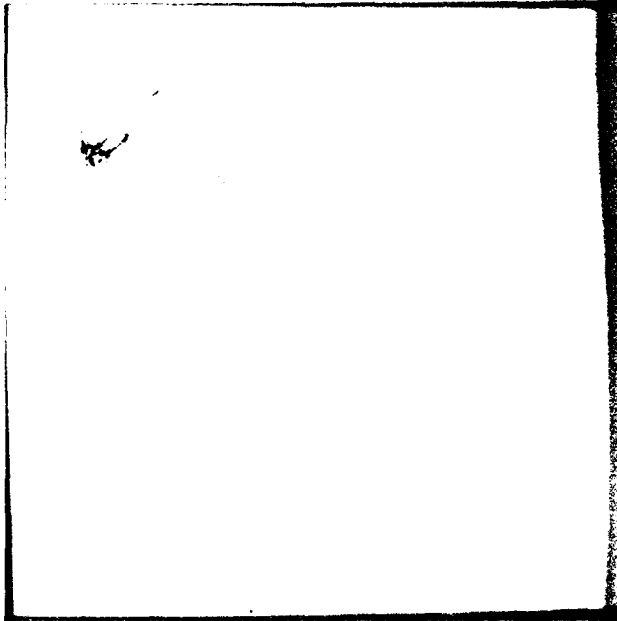
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① LEVEL II

⑥ WORK AND ORGANIZATIONAL LIFE
IN THE YEAR 2000.

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⑨ TECHNICAL REPORT, 52   ⑪ Dec 72

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WORK AND ORGANIZATIONAL LIFE IN THE YEAR 2000

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The year is 2000 A.D., the place is Boston. Our informants tell us that the attractiveness of the work is equalized by differential amount of hours so that onerous, dirty work is done by people who work few hours, whereas white-collar and professional workers in more desirable kinds of jobs, work longer hours. Self-actualization is the basic drive of most workers. Extrinsic compensation is unimportant in comparison to challenging work. Small businesses have been eliminated by large business. Strikes are a thing of the past. Poverty and unemployment have been wiped out. Careers are self-chosen based a great deal on the study of occupational information. There is universal national service for youth. Selection for career depends mainly on scholastic tests and performance. But the choice of profession can be delayed until thirty. There are open stack libraries, supermarkets and orders filled from central warehouses. Medicine is socialized but qualified medical schools and proper licensing of M.D.'s are well-maintained. Music is piped in by telephone cable to each home. Credit cards are universal and international. Saving accounts have disappeared because they no longer are needed.

There is central filing of individual records of merit and workers are classified according to ability. Promotion is based on merit. Opportunities to advance into different careers are based on merit. These promotions are publicly announced. Paid vacations are regular. Retirement is at 45.

Crime is treated as a mental illness. There is national planning of production and consumption. There is full equality of women with all types of occupations open which are suited to them. Marriage is for love, not economic or social necessity.

Looking Backward

This description of Boston in 2000 A.D. is not much different in many ways from Boston in 1970. Much of what is mentioned is already with us today-- or almost so. However, when it was first published by Edward Bellamy in "Looking Backward" 83 years ago, it was a sensational prediction of things to come. For the public of 1887, it represented indeed a radical Utopian departure from life of that day.

Despite the validity of many of his forecasts, Bellamy missed completely foreseeing the increase in change itself. He imagined a static Utopia. He had little notion of how information and service would be mechanized except for the use of pneumatic tubes for delivery of written messages -- available in 1887. He had central laundries instead of washing machines in the home; domestic servants instead of household equipment. Many other prognostications of Bellamy fit developments in the socialist countries rather than what has occurred in the United States, such as badges for meritorious work, severe punishment for deviation from the work norm, international bartering and the use of small panels of judges instead of trial by jury.

In the ironic tradition of Jonathan Swift and Samuel Johnson, Bellamy created in his fantasy a world which had no further need for lawyers, legislators or politicians!

Bellamy looked ahead in terms of a future in which the major problems of his day would be solved: private monopoly, class privilege, ruthless competition, the business cycle, economic dislocation and its consequential unemployment and distress. No doubt, like Bellamy, we are likely to be victims of what we see is needed now and what we would like to see happen, rather than what unbiased trends and counter-trends suggest will be the most likely scene in the year 2000.

In trying to peer into the year 2000, we may find it instructive to look back to Bellamy's time, to the year 1887 to see what changes in work and organizational life have occurred since then, as the amount of change in the next 30 years will probably equal or exceed the amount of change of the past 83 years.

In 1887 much of our current communication and transportation media had been conceived scientifically at least or were already in their infancy. Telephone service and automobiles were about to begin; the first powered flight was 16 years away; the existence of radio waves had been mathematically deduced; radioactivity and X-rays were about to be discovered; the theory of relativity was less than a generation in the future; tests of individual differences were being developed; modern anthropology, psychology and sociology were about to be born; the "war" was the Civil War, and it strongly still affected sentiments and politics North and South. In 1887, ethnically, the

United States was British, Irish, and North European for the new immigration
from the South and East of Europe had not begun in earnest yet. Steam
locomotives were setting speed records which still are unbeaten; the Hollerith
punched cards -- basic to much of modern high speed data processing -- were
about to vastly speed up the 1890 census. Then there was much that seemed to
be in the early stages of development that never did develop, or if it did,
has long since died -- lighter-than-aircraft and interurban trolleys, for
instance.

Work in 1887 meant sweatshops, 12-hour days and 84-hour weeks. In Oregon,
a widow of a fatally injured employee was being sued by the company for damage
to the equipment that occurred in the accident that killed the employee. In-
dustrial unionism of the radical I.W.W. and of the Grange was failing but in-
fant trade unionism as represented by the A.F. of L. was to survive. Child
and union labor laws were more talked about than enacted. Most of America was
rural and agricultural and in many respects a developing country aided by French
and English Capital. The Negro was confined for the most part to the unrecon-
structed South, disenfranchised, impoverished and uneducated.

The Amount of Change Ahead.

There have been quite a few changes in the face of America and the world
since 1887 but we think that the amount of change in society we have seen will
be less than what will occur between now and the turn of the next century.
Change has become an evermore prevalent feature of our time. Both the magnitude
and the rate of change that seem to be symptomatic of our business, social and
political climates today has given rise to a growing concern about the future.

Illustrative of the rapidity of the change is to look at what the senior author completed writing 12 years ago about the primary motivations to work in the United States. Societies were seen to move from a task-oriented concern for nation-building to an interaction-oriented concern for getting along with others; then finally to a self-oriented phase of withdrawal and contemplation. The United States was seen to be shifting to interaction-orientation in the 1950's after generations of emphasis on achievement.

...Riesman has described the shift in America in the last 100 years from 'inner-directedness' to 'outer-directedness.' Instead of concern for his task assignments, as such, or his personal contributions and needs, the contemporary man in America (of 1960) is one trained to get along with the group; sensitive to the attitudes, needs, and beliefs of the group; and allows himself to be directed by the group...(Bass, 1960, p 151).

This decline in the emphasis on achievement was noted in an analysis of editorials in the National 4-H Club News from 1924 to 1958 (Straus & Houghton, 1960). Similar results appeared from a review of advertising in the Ladies Home Journal from 1890 to 1956. The frequency of achievement imagry in children's stories peaked about 1890 along with the annual amount of innovative patents issued per capita (McClelland, 1961).

And just ten years later, today, we now must say that for many concern about work in the U.S. has begun to move from "what will others think" into the self-oriented phase! (Bier, 1967) Thus, we note now the rise of a counterculture which at its heart rejects technological advance in particular in all its manifestiations (Roszak, 1968). Emphasis is now increasingly being placed by an avant garde of middle class dropouts on "turning on, tuning in, and dropping out." The conservative, "uptight," rationalism of the fifties is being replaced by emphasis on radical emotionality. "I think, therefore, I am" is being replaced by

"I feel, therefore, I am". Even among the majority who have not made such a radical shift, the concern for achievement "has indeed receded in salience and intensity in relation to "success" (Williams, 1967, p. 35.). And interest in success is self-oriented; that is, climbing mountains for fame and glory is self-oriented and quite different from task-oriented climbing a mountain to achieve the top because it is there (Bass, 1960).

Change is indeed rapid.

Clues to the Future in the Present Scene

What's about to be born today or is in its commercial infancy already? High speed mass transportation. Vital organ transplants. Lasers, Holography. Space flights manned and unmanned to the planets. Mass-produced housing. Artificial (computer) intelligence. Working and living undersea. Self-stimulation of satisfaction (to the limbic area of the brain). Computer and electronic-controlled autos on highways. Jumbo and supersonic commercial jet planes. Abolition of the internal combustion engine. Legalized marijuana. Synthesis of life. New protein sources.

National concern about pollution, population, health, education, welfare, urban decay, "slurbs", drugs, the Negro and other minorities are the important social elements of the early '70's likely to strongly influence our futures.

Looking Forward

Some predictions seem fairly safe to make for the year 2000. We will be long into a post-industrial society where only a minority of the population is engaged in productive enterprise. Those at the young end of the age scale will be kept out of the labor market by longer schooling and travel opportunities. Many will pursue years of full-time leisure or, unpaid voluntary service, before beginning employment. Most of those at the older end of the age scale will retire earlier than in the 1970's. The 10% to 20% of the work force identified

as managers and professionals will probably be the only portion of the population which will keep working longer into middle and old age and work longer work-weeks in doing so.

In chapter 4, we reviewed some of these social, economic and political trends which we felt would be of consequence to work and organizational life in the future. Now we propose to examine the consequences to work and organizational life of these trends which included in our review, growing urbanization, the population explosion, the continued burgeoning of the electronic data processing industry, the growth of mass communications and mass media, the civil rights revolution in the 1950's and 1960's, the expansion of business interests into overseas markets, changes in management philosophies, a growing number of corporate mergers, the expanding influence of the government in private industry, and changes in basic individual values.

We will discuss systematically what we see is most likely to happen in the future world of work. We will look at the individual in an organization of the year 2000, his motivations for working, the rewards he receives, and his attitudes toward work. We will try to forecast what interpersonal relationships will be like in the prganization of the future. We will suggest what we think communications, authority structures, work group functioning and formal organizations will look like in 2000 A.D. Finally, we will try to speculate on what it will be like to manage a productive organization of the future and ask whether conflict or the way it is managed will be any different from what it is now. We will look at how we think decisions will be made and how the problems of growth and change and management development will be handled.

As we have cautioned elsewhere (Bass and Ryterband, 1971): "...
prognosticators in the late 1930's predicted a future without
jet planes, lasar beams or radar, without suburban sprawl,

population explosion or decolonization and without computers,

campus revolutions or the communization of China. No doubt,

like our predecessors, we also will underestimate the

technological changes that lie ahead and perhaps overestimate

associated social and psychological changes of consequence..."

ORGANIZATIONAL OBJECTIVES IN 2000 A.D.

Making money will still be the paramount corporate objective in 2000 A.D. but continuing a trend all during this century, management will be more attentive to objectives of employee morale, community welfare, satisfactory government relations and good will.

Starting back in 1958 with Leavitt and Whisler's (1958) 'Management in the 1980's", numerous commentators have presented from extrapolation of current technological trends predictions about organizational objectives in the 1970's onward. Just as we observed in Chapter 4 that basic individual values in the larger society are changing, so are the values changing that are more directly related to the conduct of business (Mann & Neff, 1961). All this rapid change and widening choice are yielding insecurity in organizations concerning their products, their basic goals, their managing techniques, and their marketing plans. Line employees and managers in organizations are also suspected of experiencing a growingg sense of insecurity generated by the problem of technological obsolescence (Katz, Knight & Massey, 1965).

Adaptability to Change

Each of the major trends discussed in Chapter 4 is bringing on changes in organizational objectives and perspectives. Perhaps most clearly of all by the year 2000, we shall see the consequences of the "Technological Imperative." For instance this technological momentum should result in a

much greater orientation by most firms toward research and development as an important part of their attempt to provide competitive goods and services. In addition, changes associated with technologically inspired progress will orient most firms to growth and change as goals, not events, as necessary means of providing up-to-date products or service and meeting competition. The life expectancy of products will be much shorter than today. Rapid replacement by technologically more advanced substitutes will be the rule. It took thousands of years to "discover" electricity, hundreds to extract the transister and only a few decades to develop micro circuits.

Consumer and Community Orientation

The "Revolution of Rising Expectations" will have fostered by the year 2000 much greater worldwide consumer demand and a sustained worldwide marketing outlook. As the public everywhere comes to expect a better life, it will force business and government to attend to consumer needs and become conscious of community needs as well as marketing requirements. A commercial photographer in Rochester, New York recently was not only being asked to produce better for minimal cost increases, he was also being urged to shut down his plant (and it was) for discharging photo-process wastes into a nearby stream, causing pollution. Much will have been accomplished to deal with the pressing problems now facing us, problems of conservation, avoidance of pollution, full employment, equality in hiring, training, and promotion practices. The rise in public interest in these matters will produce a much greater concern at all levels in the firm about its social responsibilities. The "lip service" given to this by senior management in the past will more often be seen in 2000 A.D. in involvement in socially-relevant actions either voluntarily or by regulation.

Aging Effects

The generation gap will produce more problems in attracting the young to the work place in the 1970's and 1980's. This may, in turn, force business organizations to be more youth-oriented in their recruitment appeals on the one hand and pay more attention to internal development of its incumbent employees on the other. In addition, when no more than two children per family becomes the rule by 1985 or so, the age structure of the population will inexorably shift upward. Aided by the conquest of heart disease and cancer, average life expectancy will increase considerably. By 2000, we may be far into a new domination by the aged. Paradoxically, included in this group 30 years hence will be some of the militant youth of today. Youth oriented concern for educational opportunities in the 1970's will shift to age-oriented concern for recreational opportunities for the senior citizens of the 1990's.

Popular Image

Popular culture is probably going to have less direct influence than other trends on organizational goals. In a rather circuitous way, it may, however, lead to more "popular" goals even in organizations which currently appeal to specialized segments of the society. For instance, in an age dominated by mass media, firms like Xerox which do not sell to individual consumers but extensively invest in institutional advertising, are likely to be as well-known as those selling directly to consumers. And when institutional advertising portrays a firm as sensitive to social issues and community problems, it may well influence the firm to live up to its own public image. When its products or services are seen as progressive, up to date, by association it may, in turn, try to become progressive as a place of employment whose structure, environment and opportunities are also progressive. That is, its environment will allow for the freedom, variety

and equality that are likely to be themes of the popular culture of the
coming decades.

Disappearing Traditional Institutions

The continued decline of traditions will probably force organizations
to examine their own goals to see if they reflect out-of-date perspectives.
Though efforts at increasing profit are likely to continue as an important
consideration, other goals such as community service and providing for
employee welfare may receive more emphasis as guidelines for organizational
endeavor. In addition, a "traditional" religious ethnic and educational
background may be seen as less important for tomorrow's managers than it is
today and has been in the past.

In total, the advancement of our own and other societies into a post-
industrial condition seems to reveal many potential changes in the texture
of organizational goals. A question one may ask is whether developing
countries today will have to evolve through an industrial revolution of
similar duration to our own and be committed for that time to the purely-
growth-oriented goals and Protestant-ethic values that have typified in-
dustrializing societies to date. The possibility exists that increased
technological and economic assistance from the developed countries may
allow the emerging societies to experience an abbreviated industrializing
process and possible vault immediately into a post-industrial condition
with its more complex and varied goals, its concern for consumer and social
welfare and its change-oriented values.

Shift of Emphasis

Many of the newer advanced technology companies of today will be 30
years older by 2000 and as a consequence will tend to reflect greater em-
phasis on maintenance than growth like the older firms of today. In terms

of goals, IBM in 2000 A.D. may resemble Penn Central of today.

INDIVIDUAL DYNAMICS AND THE ORGANIZATION OF THE FUTURE

The Motivation to Work

In the year 2000, it is to be expected that the reasons people work will still vary as they do today. The question we ask now is whether the motives for work and the things people expect from work will be the same in the year 2000 as they are at present and have been in the past. For example, at present, there are still a sizable number of people for whom a primary motivation to work is subsistance. Even within this country, there are estimated to be 30 million urban and rural families that live on incomes that are marginal or sub-marginal given present guidelines concerning what is officially considered the poverty level. For such people the importance for the monetary returns for their work should not be underestimated. If present legislative programs continue, however, it may well be expected that by the 1970's or at least by the 1980's many of these poor will no longer be afflicted with subsistence considerations in their working life. For example, already in New York City, minimum wages after costs of carfare and taxes are about the same amount as welfare payments for some without a job. If he can arrange it, a New Yorker can stay home and make about the same amount of money as he would if he had a job paying minimum wages. Much of the rest of the country is likely to follow this pattern in the next 30 years. In such a condition, there will have to be other features of work that will be a source of attraction for people.

Leisure. It may well be that in the future world of work men will seek a simple reduction of work and working hours rather than any different rewards from work. There have already been changes in this century that

have reduced the work week substantially, particularly for hourly employees.
With the shorter work week, leisure time has become more abundant. The
continuation of technological advances will conceivably continue to reduce time
at work for a typical non-professional individual to less than the present level.
Particularly before 1985 relative shortages in the population in the age group
25-44 may mean longer working hours for those in that age category in jobs
requiring young adults. Along with this, it is apparent that in the next decades
greater life expectancy coupled with a lower retirement age will substantially increase
the time available for leisure based activity (Linden, 1967). It may seem
strange that we discuss leisure in a section dealing with what will attract
men to work in the 1970's and 1980's. We are not saying that men will look
for leisure at work. Instead, we are saying that whether they look for it
or not, more leisure time will be available to certain groups working in the
1970's and 1980's. The reason that we mention it

here is that such greater increases in leisure time could pose severe problems
for a great number of individuals. In our society, much of man's self-esteem
is inextricably bound up with his productiveness in his occupation although
evidence is that satisfactory adjustment to retirement is subject to wide
individual differences. Some do well--others poorly. Nevertheless, decreases
in on-the-job activity may pose threats to some individuals' self-image and
increase their need to find self-fulfilling outside activity. One outcome will
be consistently greater attention to counseling people on their avocational
interests just as now we have vocational counseling. Leisure activity inter-
ests inventories have already been constructed (Bryson, et al., 1967;
Stewart, et al., 1967) to assist in such counseling.

Security and obsolescence. In the midst of all this abundance of
leisure time and multiple careers, some individuals may still have increasing
concerns about job security, many with good reason. The future will see more

frequent obsolescence of products, enterprises, management techniques, marketing plans, managers and employees themselves (Ream, 1968). This does not say that people will become obsolete, merely the activities that they are performing will more quickly have changing (if not decreased) market value. Just as the blacksmith of 1920 had to change so do many of today's bookkeepers and type setters. In contrast, the next two decades may find this country gaining a new supply of aggressive middle-level professionals who are not so security-oriented as those of the last few decades and who will have the aggressiveness and adventuresomeness to take risks and push hard in this changeable kind of environment (Michael, 1966).

Other motivations to work. Although much may change in the next two decades, there seem to be certain constants in terms of the things people will be looking for at work. A recent survey identified a list of factors important to college students in the work they look forward to doing. The factors they mentioned seemed to have a familiar ring about them. They mentioned opportunity for advancement, social status and prestige (e.g.,the feeling of doing something important and the recognition of this fact by others), responsibility, challenge and adventure, opportunity to be creative and original, and high salary (Schein, 1966). Notable in this list and relevant to the discussion above is the fact that security is missing as a factor the young would consider in choosing their first job. In addition,

increasing numbers of college graduates and graduates of MBA programs may use these same terms but they are beginning to have an entirely different meaning. They are asking newer questions or the old questions in new ways such as "will I be considered worthwhile," "will my contribution be appreciated," "will I be able to maintain my integrity and individuality," "will I learn and grow," and "will the organization in which I work meet my ideals of the

rational business organization?" It is not that this is the first time in the history of business organizations that new employees have thought about these questions. But it does seem that young college and MBA graduates are more forcefully asking these questions of the organizations which are trying to hire them (Jenkins, 1966; Schein, 1966; Fortune, January, 1969).

The proportion of middle-class "drop outs" may continue to grow eventually by 2000 forming a considerable segment of society relatively uninterested in material benefits of work. This segment is likely to remain both low in productivity and low in consumption. The entire economy and society could feel the effects of this underutilization of material goods and services should the segment bf "drop-outs" become sufficiently large.

The Rewards Offered by Organizations

Many of the rewards offered by the organizations of the future are likely to be different from those offered by today's organizations. Increasingly, we may look for material benefits that fit with a society in flux. Possibilities include educational payment plans for the worker or his family to help him keep up. A serious reform of Federal income tax laws, if it materializes, will no doubt be accompanied by new approaches in tax sheltering of compensation. Temporariness of project teams may lead to pay schemes based more often on the completion of projects rather than at the end of a time period.

Changing meaning of rewards. Since firms are likely to be more sensitive to new demands, both internal and external, to a large extent the nature of the "reward" will be determined by the changing values and character of the work force that are expected in the next three decades. For example, if rapid change is to be an increasingly prevalent characteristic of the coming years, then it may affect the nature of what seems to be rewarding

at work. For some, a change from change, or stability over time may be the thing that employees most desire and see as a rewarding feature of their work life. In fact, new political, religious and social leaders may rise as a consequence of their identification with stability rather than change. The prime desire of the newborns of today may be freedom from the need to face continuous change. Nevertheless, for many, variety and novelty as part of a larger pattern of change will continue to be rewarding. For management positions at any rate, greater variety is seen by many to be something that managers of the future will look forward to even more than they do today. At least a portion of management in the 1980's will have jobs that involve more varied and creative work. (Leavitt and Whisler (1958). In a time of advanced automation, the computer may act as a vehicle toward job enlargement producing more opportunities for greater activity in management (Anshen, 1960). As machines take care of matters of quantity, speed, and communication, their human partners will be able to elevate themselves to more difficult and challenging intellectual tasks like long range planning and developing new markets and products. (Ramo, 1964).

Rewards in a new work force. Changes in values may be one source of changing definitions of what is seen to be rewarding in organizations of the future. Still another source is the changing character of the work force. The work force of the 1990's will be characterized by much greater proportions of white collar workers, of highly educated people, scientists, engineers, and other professions compared to blue collar workers (Whisler, 1965). The predominance of these people in many industrial and service organizations will have a distinct effect on what seems to be rewarding in those organizations. For example, loyalty and the interest in the survival and growth of the particular corporation will have to contend with values of technical competence and

loyalty to profession. In elevating professional loyalty and technical compet-
ence, these people are likely to value mobility and independence from the
organization but not their profession, (Porter, 1968). They will be inde-
pendent in that they will be much in demand by competing organizations.
To retain them, their employers will have to provide challenging problems and
the freedom to be creative. Rigid decision-making hierarchies will be less
attractive to many of these professionals.

Other changes in the work force which are just now emerging may continue
and forecast still other changes in the nature of things that seem to be rewarding
in organizations of the future. For example, only recently has some concern
emerged for the development of blacks for management positions (Consortium for
the Negro MBA, 1968). As these efforts take hold, greater numbers of blacks
will rise to positions of management. Consequently, the concern of organizations
about meaningful equal opportunity for career development beyond providing entry
jobs will become increasingly important.

Similarly, women will be seen more frequently in top management positions
as well as in many kinds of professional and skilled occupations now effectively
closed to them. (One international oil firm has just hired its first woman
MBA.) This will be brought about by a combination of circumstances including:
(1) legal sanctions against discriminating against women; (2) increasing need
for middle-class wives to work to maintain a family's desired standard of income;
(3) greater sexual and social freedom for women associated with a marked reduction
in differential expectations, standards and norms for men and women; (4) increased
amount of educational attainment by women and (5) more favorable attitudes
toward women as colleagues and supervisors of men at work.

Pressure has been mounting in recent years for the establishment
of a guaranteed annual wage. Recent labor negotiations by the United Auto
Workers, for example, have this as one of their major issues. What these

demands seem to foretell is some concern for establishing once and for all
a baseline of salary security. Once this is established, of course, the
issue of salary security will diminish in its importance and other issues
will take its place. Other issues may be such things as organizations
providing self-fulfillment programs. As Peter Drucker (1969) states,
organizations of the future "must learn to recognize that the typical approach
to man as a worker actually blocks man's efforts to achieve his full potential.
The primary function of any human organization is to help man enjoy a meaning-
ful existence." Although labor has always been the lot of man, the indus-
trial revolution has given him the opportunity to satisfy more than just his
subsistence needs.

Jobs in the Public Sector. As noted in Chapter 4, these opportunities for
self-fulfillment, for more meaningful work, may be provided in the future to a
greater extent in the public sector--in community services, parks and recreation,
housing, special services for the elderly, etc. The desire for using the
government to provide meaningful and gainful careers and plan for culturally
deprived minorities has been growing and will probably continue to grow in the
coming decades (Edgerton, 1967) The government and publicly regulated agencies
will eliminate unemployment by becoming the "employer of last resort."

Attitudes Towards Work

The attitudes of man at work in organizations of the coming decades
will be even more important in attracting and holding him to the job. As
mentioned earlier, everywhere he will probably be able to "make out" quite
well without working steadily if he so chooses. Much work of a routine, mean-
ingless quality increasingly will have been automated out of existence.
People will either be satisfied with their jobs, likely to move on to others
in which they can find satisfaction or else content to remain on some form of
dole -- relief, negative income tax, unemployment insurance benefits, public
welfare assistance or the like.

<u>Job</u> <u>attitudes</u> <u>and</u> <u>the</u> <u>computer</u>.   Some commentators expect that computers
will displace many middle level managers as well as employees at lower levels
(Leavitt & Whisler, 1958; Simon, 1964; Michael, 1966).   In anticipation of
such events, many of these middle managers will feel a distinct lack of loyalty
to the corporation and the sense of security in it.   So that many of those who
would otherwise be working overtime in an effort to advance themselves into
higher levels in the organization may find that it is not worth the effort and
retreat into apathy (Michael,1966).   This course will prevail only for those
middle managers whose jobs have been routinized by the advent of the computer

and for whom there is no room at higher levels of management.   Logically
that "room" may be dictated by assessments of the individual's broad,
managerial skills.   For those managers for whom there is room at the
higher levels, increased satisfaction may be the outcome.   In any case
the computer will create a squeeze on middle management.   Broadness,
agressiveness and a tolerance for insecurity will probably be prerequisites
for the gladiators in tomorrow's management arenas.

The advances of automation will concern other groups besides managers.
For example, in recent years, automation has severely affected the feelings
and job status of many employees in the newspaper industry.   Clinical diagnosis
for medical and psychological disturbances is beginning increasingly to be
handled by automated systems.   In such cases, it is not at all unlikely to
expect that technicians currently administering to these functions will suffer
some increased insecurity about the possibilities of technological unemployment.

<u>Sources of job satisfaction</u>: <u>Their changing meaning</u>. Many of the same
sources of job satisfaction and dissatisfaction will remain.   Their meaning,
however, in organizations of the future will vary.   Consider how job satisfaction
depends on good supervision (Vroom, 1964).   The meaning of "good supervision"
in the future may be different, however, from the meaning of good supervision

today. This may be so both because we will know more about what good supervision is in organizations of the future and the jobs to be supervised will require different supervisory practices. These practices may include more knowledge of how to communicate with technical specialities, Mexican-Americans, and Blacks as well. By the 1980's, our question about what is a good supervisor will hopefully go beyond the rather naive and broad questions of whether or not we should be considerate or directive in our approach to supervising employees.

As a consequence of world-wide rising expectations, it will take more to satisfy employees in the future than it does today. Already, today's students are requesting more and more of the organizations which are responsible for educating them. Skilled workers demand and get wage and incentive packages that match and sometimes exceed professional incomes. Young MBA's have developed new and somewhat unprecedented expectations about the conditions of their work. We do not take all of these as signs of disaffection toward a basically unsound working environment for students, labor, and young managers. Rather, they seem to be indications that annually increasing compensation is the rule rather than the exception and that our continually rising expectations can be fulfilled on a regular and rather satisfying basis.

INTERPERSONAL DYNAMICS IN THE ORGANIZATION OF THE FUTURE

Communications

Communications in organizations in the coming decades are integrally related to what the general structure of those organizations will be like. For example, it is quite likely that organizations will be increasingly complex. They will also increase in size and the variety of activities within them. In addition, they may well become involved in a greater degree of specialization as their technology advances. This enlargement, complexity and specialization will create the need for faster, effective handling of

greater amounts of more complex lateral or cross-functional as well as vertical communication. Effective in this case means getting the right information to the right person at the right time (Haas, 1969).

The specialist and communications. The greater number of technical specialists who will be in-residence in organizations of the future will present a special problem in communication with their highly technical language. This communication problem is especially critical since it is likely that such specialists will occupy increasingly important positions within the organization (Hurd, 1964) and exert a great degree of "expert" power (Secord & Backman, 1964). With the growing occurence of technical specialists in top positions, care will be required to prevent machine-generated dehumanization in communicating and decision making. In addition, the difficult nature of this task will be increased by the larger size and/or complexity that is likely to typify such organizations. In these larger or more complex organizations, it is quite likely that there will be an increase in the number of meetings, calls, and other forms of verbal communications as a means of combating both the impersonality of the computer and the paper explosion it will cause (Murray, 1967).

CATV. Cable television is expected to provide at least 80 different channels of two-way communication between given senders and receivers. Specialized closed circuit transmission of computerized diagnosis, printed documents, specialized data retrieved from data banks, news, training information, up-to-the minute facts about inventory, prices, markets, schedule changes and the like will greatly broaden the average manager's immediate access to information about conditions and changes inside and outside his organization.

Teleconferences. Conference telephone calls are commonplace today making it possible for a group of managers in different cities to hold a meeting

without physically coming together face-to-face. Printed matter can be
distributed at such teleconferences by currently available transceivers.
Particularly, with the increasing availability of channels due to CATV,
the audiovisual teleconference will become equally practical and feasible
obviating much of the current need for traveling to business meetings.
At the same time, we will see greater dispersion of offices and factories
out into the countryside in small industrial parks as the need declines for
managers and representatives of different departments and organizations to meet
face to face. Thus alongside their growing size and variety of goals and
activities many firms will be geographically dispersed into smaller; more
homogeneous affiliates. In turn, the cities will hopefully come to exist
more as centers for culture and government -- although such culture, as we
know, will survive through the TV and post TV generations -- where whatever can
be seen and heard in a large city auditorium can be realistically transmitted
in live-size scope -- or even to surround the viewer -- in his own home.
Again, we do not suppose that the cultural interests in art, music and drama
could be satisfied at all, if what is transmitted is limited to 3 or 4 channels
for the mass audience in most cities today. We are thinking of 40 to 80 channel
transmission by CATV -- back to Bellamy's cable -- to provide viewers with great
varieties of choice and near-perfect transmission free from atmospheric
or weather interference. Since transmission will be two-way, opportunities
for viewer participation will be immediate and flexible.

By the year 2000, the most dramatic change in work life may be the
marked reduction in both commuting to work and for leisure as well as
traveling between cities for organizational requirements. This predicted
shift ought to have a profound impact on the landscape,on environmental
pollution and on the proportion of the economy devoted to transporting
people.

If this change in travel and commuting occurs, leisure time will be available. People will stay at home and near the home. More home offices will be common. There will be less control over workers who do their jobs isolated from superiors and colleagues except by teletransmission. Workers will have to be more responsible for their own diligence.

Maintaining of performance will have to concentrate on checking on whether objectives are being reached as planned.

We can only speculate on the socioemotional side effects of reduced face-to-face contacts between organizational colleagues. It will be much easier to disguise one's feelings; consequently, trust levels will have to be greater. Little annoying mannerisms will be magnified but people will have to be schooled in presenting a better TV image. The lack of physical contact will decrease the opportunities to satisfy the need for intimate contact and therefore increase the therapeutic value of such intimacy. Inhibited in the past by convention, we will be inhibited in the future by communication technology. The sense of isolation and alienation from the community may be greater -- but the primary family group will be together more.

The computer's effect on communication. The burgeoning of computer technology will most profoundly continue to shape the course of communication processes in organizations. Such technology will continue to make possible the more efficient storage of far greater amounts of information. The amount of information possible for an individual to survey and the availability of such information will continue to increase as the way it is stored continues to improve. Vast reductions in space requirements are being achieved. A variety of microstoring processes for library materials continues. The information in a library of books can be reduced to occupy one storage cabinet. Accessibility likewise continues to increase. Until

recently, the amount · of information that could be stored on a computer was limited by the fact that tapes containing relevant data were kept in what amounted to a dead storage until they were needed for a specific decision. Modern computers, however, are more commonly providing random access to virtually unlimited amounts of data kept in permanent live storage in memory banks. Coupled with their ability to switch in shorter and shorter time periods (micro-seconds), such systems are able to respond to a number of requests in almost simultaneous fashion even though the requests are for unrelated information (Gilman, 1966). It is this capability that will continue to provide the basis for growing information technology and information systems in the decades to come.

In the design of more efficient systems, information retrieval will also become more rapid and less errorful. These new capacities for information storage and retrieval will create pressures to take advantage of new developments; i.e., rationalizing decision making in organizations (Michael, 1966). In addition, there will be strong needs for increasing rationalization, that is the making of decisions where outcomes are consciously intended and based on surveys of well estimated costs and gains associated with various alternatives. In the first place, it can be expected that there will be substantial increases in the knowledge needed to understand and manipulate the more complex society of the future and to alter its institutions. As this statement will be true for societies as a whole, it will also be true for the organizations within that society. (Michel, 1966).

Besides the increase in amount of knowledge needed to run society and its organizations, there will be increasing numbers of knowledge workers in organizations of the future (Michael, 1966; Drucker, 1968). Organizations and their leadership will be eager for the contributions

of such scientists and knowledge workers to the development of better
information systems.

Rationalization of communications: Subsequent effects. Complexity,
specialization, and the growth of automation will lead to both increasingly
rationalized (non-spontaneous, task-oriented) communications and increasingly
difficult communications in organizations of the future. These direct consequences,
however, will be followed by subsequent ones which also need examination.
There will be resistances and counteractions to the rationalization that
will encourage behavior different from the past, since it will still be not
seen as "rational" to communicate because of personal needs rather than
task or company needs. In some quarters, managers in organizations will
put a greater emphasis and more appeal on face-to-face relationships and
intimate self-enlarging experiences for their subordinates to avoid or
compensate for the depersonalized experience of highly rationalized
organizations (Michael, 1966).

Supervision.

What we have been outlining up to this point is a picture of organ-
izations in which there will be substantial forces moving enterprise toward
greater economic efficiency. There pressures will encourage individuals
to behave in an efficient and rational way. At the same time, there will
be increasing psychological and social pressure exerted upon the people
within those organizationsto minimize their loss of humanity, creativity, and morale in
highly automated, complex and large firms. The manager of the future will
thus have to stand between the forces of economic efficiency and psycho-
social pressures. He will have to act as scientist, administrator of
scientific activity, and humanist (Kirkpatrick, 1968).

The supervisor's job. There are some who feel that the supervisory
process of the future will be not different than it is today (Henry, 1968).
Supervision will still contain innovation, planning, and non-programmed
decisions. Others forecast changes for the supervisor of the coming decades.
He will be confronted with more complex technical and commercial problems.
Thus, he will be less able to do all the jobs himself and will need to
depend upon and delegate responsibility to good skilled men working for him.
Because of the great array of specialists under his command, many supervisors
will have to function more as generalists than they do today (Jenkins, 1966).
The supervisor will need to be more open so that he can receive the greater
variety of ideas expected from his subordinates and staff specialists. He
will have to be more logical and scientific in his evaluation of subordinate
skills since logic & science will become more pervasive features (and values)
of times in an EDP dominated future. He will have to be flexible as changes
in the information he is supposed to know about will be more frequent. He
will finally have to do more creative thinking than he does today as his
more routine jobs are relegated to automated control (Jenkins, 1966;
Oriorne, 1967). Finally,   he will have to be better prepared to
cope with heterogeneous teams of subordinates of varied ethnic, racial
and socioeconomic backgrounds as the formerly disadvantaged hard core
unemployed, mainly from minority backgrounds are moved into industry. More
often he will supervise mixed groups of men and women. Likewise, "he" more
often will be a "she". As greater demands for supervisory and technical
talent grow, women will augment the labor force in previously closed managerial
and technical occupations.

Supervision *and* *the* *computer*. Over a decade has already passed since Leavitt and Whisler (1958) predicted that electronic data processing for information gathering, storage, retrieval, and decision making was to make a substantial impact on the organizations in the 1980's. A principal area of impact was seen to be that of the supervisory process and management structure. The authors felt that top managers will take on increasingly creative functions. Middle management, in turn, they felt will be re-organized. Much of middle management will become more structured as its functions become increasingly amenable to the use of electronic data processing systems. Less able managers will perform in managing the maintenance of equipment that handles routine functions . More able ones will be moved toward the creative jobs at top management. Growing numbers

of specialists, the authors predicted, will create a widening rift between planners and doers in an organization. Planning in an age of electronic data processing, will be the domain of operations researchers and organization analysis specialists. Leavitt and Whisler also predicted that the line between top management and middle management will be more impenetrable than ever. The gap will widen because more middle managers will be placed in higher positions with increasingly creative functions. Along with them will come the computer management elite. This elite will consists of analysts whose professional skills and capacities are essential to computer operation and who acquire some line of authority (Gilman,1966). This emerging computer elite has been discussed by many other observers (Whisler, 1967; Simon, 1964) and is seen frequently already in many organizations. These predictions principally center around the assumption that whoever has the responsibility for managing computer operations will have access to any

and all information including that relevant only to particular functional departments. In that sense, the manager of the computer operation will be in a most truly managerial role. That is, he will have access to all departments and will be the most pure generalist.

The computer will affect lower management in some way or another. Earlier predictions generally forecast greater routinization of job requirements for these lower levels. Since then, actual trends in supervisory practices have produced a variety of different, sometimes conflicting, but more specific extrapolation. For example, some commentators now emphasize that a computer-based information system can save an appreciable segment of time for middle and lower managers who bear the weight of furnishing detailed information required by higher levels. Thus, their time may be spent in less rather than more routinized activities (Gilman,1966; Katz, Knight, & Massey, 1965).

restrict or liberate the lower manager will depend to some extent on the attitudes toward automated decision-making by lower managers themselves--whether they take advantage of the opportunity or deplore its coming. These attitudes may be strongly negative due to lack of knowledge of the computer and what it can do for them--although students in school today will all be minimally indoctrinated with computer usages. Thus, the modal supervisor by the year 2000 is likely to see the computer as a tool to give him better and faster information and more time to concentrate on more important aspects of the job such as the handling of human relations problems ....(Katz, et al., 1965).

Above lower level management, middle and top level managers are increasingly affected by the information analysis and decision functions of the computer. Middle managers are concerned with the interpretation and judgment of operating results. Dependence is likely to continue to grow on the computer for analyzing information, processing data, and making decisions particularly as every high school student is introduced to programming as he now is to biology or math.

As for top management, predictions are that both its composition and its context will be quite different. Though the process may be the same, top management will be made up of different people than it is today. Increasingly, people who have expertise in linear programming, operations research, and those who are allied with computer management will either comprise top management or will act as close advisors to top management. Besides its composition, the content of general management too will be affected by the computer developments in the coming decades. Already today, for example, the computer is enhancing the collection, analysis,

and interpretation of data which leads to better understanding of the relationships within a firm and between it and its environment (Katz, et al., 1965). For example, the development of real time information processing will probably have such effects on top management. A real time information system receives information at any given point in time and processes and returns the analysis or decision material through an output terminal (the top manager) almost instantaneously. Real time as a phrase simply means that management gets this information in time to do something with it. The pay-off of such real time systems for top management can be in the area of synthetic experimentation for long range planning. In this area, the computer can be used to evaluate the effects of broad differences in company strategy over the long run while not having to risk the possible damaging results in actual experimental changes in strategy direction. These simulations based on more comprehensive and accurate information will be able to provide more accurate forecasts of what would happen if the company, for example, introduced a new package or new product, or changed its warehouse locations, etc. The process is like "quickening" in the controlling of submarines and space vehicles. The computer displays for the operator where the vehicle will be in a few moments. The operator responds to this information about what will be occurring shortly. This computerized quickening procedure should have many applications in real as well as simulated time for various kinds of industrial operations when human operators cannot react fast enough to present conditions so that the near-future must be displayed for them.

Such synthetic experimentation is an example of the more creative functions managers will be liberated to do by the computer. Applications of synthetic experimentation can be envisaged elsewhere. For example, the computer may be used to simulate the decision processes of consumers to

test out new packaging and sales strategies. Nonprogrammed decisions of those recruiting and hiring management personnel may be simulated and examined in "slow motion" for better understanding. The effects of new production processes or materials mixing may likewise be advance-tested at markedly reduced costs.

The Work Group of the Future.

The technological imperative will play a major role in shaping the character of the future work group. Because of the need to increase

flexibility in the sharing of expertise, organizations of the future increasingly will be made up of project task forces. These task forces will be groups of people whose interrelationships will endure as long as it takes to complete the project they will be working on. At the end of a given project, the task force may well disband with the individual members being assigned to a number of new task forces (Jenkins, 1966). It follows next that at all levels, an individual more often will belong to a number of different work groups, some simultaneously. Managers will be working with teams whose purpose may be to administer or plan activities for other groups. They will be members of task forces whose purpose will be to carry out specific projects. They will work with committees; for example, labor management committees which will have industrial relations types of responsibilities. They will work with pressure groups from outside the organizations such as community agencies (Jenkins, 1966). Such conditions of multiple membership, of course, will produce more challenges and problems for the managers of tomorrow as well as for any other employee of an organization who experiences the conditions of multiple group

membership. Certainly, loyalty conflicts, excess conflicting demands on
time and confusion of perspective, present possibilities in the negative
direction. Loyalties may conflict. For instance, a professional engineer
serving on a production team to reduce production costs on a product may
have to also serve as an advisor to a marketing team for that same product.
Concessions to one team may be costs to the other. In addition, the
temporary quality of these project teams will likely enhance the feeling
that employees have many acquaintances, few friends and none that last at
work.

Still, job enlargement and job enrichment are likely payoffs
of such multiple membership. People in such project teams will be part of
smaller work forces and thus have a chance for making more of a contribution.
They will be more autonomous from central authority (though dependent on
central information). In a smaller group with one project to master,
cohesiveness is more likely and information sharing probably more complete.
In addition, contributions on such projects may be the basis of compensation,
with pay coming as various phases of a project are completed   rather than
at regular time intervals. Similarly peer assessments could join supervisory
evaluations in formulating compensation for project team principals that
was more nearly based on individualized contribution.

Increasing numbers of highly educated people in the work force of the
future, especially scientists and technicians, will bring up the need
for new considerations of appropriate work group composition and authority.
For example, the research and development team with its permissive atmos-
phere and egalitarian authority structure will become a more common mode
and more generally applicable in the scientifically oriented future.

From the trends in society to date with an increasing youth orientation and the decline in traditional institutions, informality will increase, order and meeting rules will diminish as the desire becomes greater for authenticity of relations and greater emphasis on feelings. Office landscaping and management by objectives rather than authority are already signs that the symbols of status are consciously being looked at as costs to many as well as gains for the few.

Organizational Structure

In "The New Industrial State" (1967) John Galbraith argued that continuing developments of technology first will increase the cost of production. Tasks will take longer to complete in organizations of the future. These are the global tasks or goals organizations set for themselves, not the production of a single unit which will probably take less time with the more sophisticated equipment. As a result, greater investments of time and money will be required in the efficient operation of any given organization. These greater investments of time and money in turn will require a greater commitment to a plan which is finally adopted by an organization. In turn, the elaborate nature of these plans will require more specialized manpower which will result in a decrease in the number of general managers. With the extensive time and money to be invested in any given task, the need for and the incidence of precise planning will greatly increase.

The continuing technological advance seems likely to produce many
changes in organizations in the coming decades. For example, there is
likely to be increasing reliance on research and development to achieve
competitive advantage in markets of the future. The boundary positions
which relate the firm to its larger environment will also change.
Relationships between government, distributors, consumers, shareholders,
competitors, suppliers, sources of employees. (trade unions, and groups
within the firm) have become and probably will continue to become more
complicated (Bennis, 1966). These relationships will be more compli-
cated because the tasks of the firm will be more technical, intricate,
and unprogrammed. Also they will be more complicated because many components
of the environment will overlap. For example, governments will often be
consumers, unions will often be shareholders. Within the constraints imposed
by fixed investment in equipment, just mentioned, organizations will have to
become more adaptive, rapidly changing, temporary systems dealing with different

problems as they arise (Bennis, 1966). That is, firms will be organized
around problems to be solved with the relevant work groups being made up
as temporary task forces of standards Leadership in such groups will
emerge on the basis of title or tradition (Likert, 1967; Bennis, 1966;
Bennis, 1967; Leavitt & Whisler, 1958).

Continuing new technological developments will dictate moving
away from rigid bureaucracy toward more adaptable forms of organization.
Business organizations will have to be more aware of and more quickly
adapt to new developments in technology. In such an environment of change,
models or organizations may have to compromise between the control required by
expensive capital investment in equipment and more fluid adaptability offered by
less structurally rigid models. Already taking form are matrix organizations

in technologically advanced companies and agencies. A scientist, say a
glass chemist, is assigned multiple membership in both a department,
say Chemical Research, and also joins one of more temporary project
teams working on various glass projects with other kinds of scientists
and engineers.

For these new organizations, bureaucratic or otherwise, certain key
structural variables are likely to be most affected by the changes in the
decades ahead. These variables include the organizations' amount of
centralization, their size, their staff and line demarcations, their
complexity, their international character, and their relation to the
government.

Centralization vs. decentralization. As a consequence of the
increasing influence of electronic data processing on the future of organiza-
tional structure, Simon (1964) and Leavitt and Whisler (1958) forecast that
larger organizations will recentralize from their current trend toward
decentralizing.

Since electronic
data processing systems will centralize the processing of information,
this should lead to comparable centralization of decision making, planning
and control. But this view is challenged. Some commentators see decen-
tralization as the principal trend in organizations of the future. They see
an increasing tendency to decentralize organizations into profit centers
such as the case of Texas Instruments. A middle ground seems most likely.

In fact, the computer as it has actually been put into use up to this time appears to be capable of facilitating decentralization as well as centralization. Mathematical techniques have now been developed that can support the dispersion as well as the concentration of authority. It may well be that the impact of the computer on organization structure is not so much to change it as to force those involved to recognize what that structure actually is and systemize the collection, processing, and distribution of information about it (Gilman, 1966). Earlier, Leavitt and Whisler suggested that computerized organizations of the future will resemble not a pyramid or a sprawl but / football/on top of a bell. an American (ellipsoid) The football will represent top management, a ruling group or scholarly elite trained in the arts of computers, mathematics, and statistics. Within the football, problems of coordination and autonomy and decision making will be dealt with quite independently of the bell portion of the company. The football can be envisioned as an organic head or organizations of the future with the bell representing the more mechanical bureaucratic bottom.

Still another possibility is that future organizations will centralize certain functions while keeping other functions quite decentralized. For example, more centralized control may occur in planning, resource allocation, and reporting activities where a centralized EDP system will be a clear aid in coordinating and treating masses of information. On the other hand, day-to- day line functions where local control is more feasible will exercise decentralized decision making prerogatives (Murray, 1967). Only those line functions that are machine controlled may become more centralized (Whisler, 1965).

Of course there are many factors beyond EDP that will determine the dispersion in a firm's structure. Availability of labor, tax benefits in a given area, new population shifts creating markets in new areas all will have to be considered.

Organizational size.   Generally, organizations of the future are
likely to be larger than those of today (Walton, 1968). This is so for
a number of reasons. First of all, the population served by any particular
organization is likely to grow. As demand grows, the facilities to fulfill
the demand must also grow.' Secondly, a record pace of mergers has been
recently observed (Wall Street Journal, 1968; Hartman, 1969). If these
mergers continue, then such large and growing amalgamations such as LTV,
I.T.T. and Gulf and Western Industries are likely to continue in their
growth and be joined by other large conglomerates. Two conditions exist,
however, that indicate that mergers may not be the unequivocal force for
larger companies in the coming decades. For one, these conglomerates
produced by mergers truly operate as a complex of nearly autonomous smaller
corporate entities. As such, they cannot wholly be considered to be a
homogeneous corporate form.   In addition, recent government pressures
have been brought to bear that will most likely stem the tide of the
number of .mergers that do occur. Moreover, business men are having
growing concerns about the viability of the conglomerate model as a
short cut to corporate success. For example, in 1968, LTV--Ling.-Temco-
Vought Inc., one of the most glamorous and formerly successful conglo-
merates, wound up with lower operating profits than the year before.

In 1967, before the merger, the combined companies reported
earnings of $34 million on $1.9 billion sales. In contrast, 1968 produced
only $30 million of profit on total sales of $2.7 billion. And the story
darkened in the recession of 1969 so that LTV eventually became a loss leader.

Staff and line functions. It is generally felt that there will be a
growing number of highly educated professionals especially in the technical
and scientific disciplines occupying positions in some organizational

staffs in the coming decades. Two principal categories of these new staff personnel will be research and development specialists and computer-allied specialists. The relationship between these new specialists and the rest of the line organization remain to be seen. The potential for conflict, however, is certainly there since these people represent new and possibly very influential forces in an organization. For example, professional experts in automated data handling have already been earmarked by some for positions which will exercise greater influence on the whole system of information processing and decision making in organizations of the future (Anshen, 1962; Leavitt & Whisler, 1958; Toan , 1965). Very possibly the power these people exert will leave our present day staff adviser as a relic of a bygone era. In addition, organizations of the future are likely to be more complicated as the following section will document. In these more complicated organizations, the coordinating specialist or as Likert (1967) has put it, the linking-pin specialist will become a more common and necessary occurrence.

Organization complexity. Some such as Simon (1960) have predicted that the hierarchial structure of organizations as we know it today will continue since it is both natural and efficient. More forecasters argue that there will be changes in the nature of organizational hierarchies in the future. Though the football-bell model (a large elite on top of a lower level traditional hierarchy) seems exotic, the conditions which may lead to its emergence are already present. There is already a distinction between line managers and staff experts. The newly emerging top management elite with increased creative responsibilities is already well documented and becoming an important reality at the beginning of the 1970's. Though organizations may not represent footballs on top of bells, it certainly

seems likely that present hierarchial structures are likely to undergo
severe changes. For example, with automation to help supervisors at
first and second levels to gather the information they need and use,
the number of subordinates supervised will be increased. Supervisors'
time to handle human relations problems will be increased because they
will be freed of much of the burden of information gathering (Lipstreau
& Reed, 1965). If this is true, then the number of levels that are
needed for an organization are likely to decrease since the span of
control will be increased (Whisler, 1965). For some jobs, especially
those jobs which are highly routinized, organizations are likely to
remain pyramidal in structure. For the increasing number of tasks
that will require innovative work, however, a flexible design which is
less pyramidal in nature is likely to be employed (Argyris, 1967;
Bennis, 1967).

The question of hierarchies in organizations of the future is com-
plicated by the fact that organizations are more likely to be multi-
dimensional in nature. The traditional organization chart has presented
a pattern for accountability or authority. It outlined who reported to
who, who was responsible to who. Organizations of the future are likely
to have such charts that will describe patterns for accountability,
patterns for information flow,and patterns for decision making as well
(Bass, 1968). What this seems to indicate is that organizations of the
future are not only going to be concerned with organizing around who is in
control of whom. In addition, they will likely be concerned about organization
around principles of organization flow, who receives information from

whom, not only who is responsible to whom. In addition, organizations
will be concerned with the question of who makes decisions that affect
which other people and groups in an organization and how are those
decisions made on the basis of what information and from whom. Thus
the project team makes sense in that mutual control, high degrees of
information sharing and interdependence are all fulfilled by such a
structure, while the structure itself maximizes the impact of a highly
specialized cohesive work force.

Increasingly the line-staff destruction will become obsolete, a
direction first noted by Fisch (1961) to be replaced by teams of managers
and professionals working as temporary task forces in dealing with non-
routine problems prior to their being turned over to automatic control.

Internationalism. Not only are organizations likely to be larger
in the future, they are also likely to become even more international
than they are now. For example, Standard Oil of New Jersey already has
57 foreign affiliates (Bennis,1967). IBM markets in over 100 countries.
Socony Mobil, National Cash Register, Singer, Burroughs, and Colgate
Palmolive already derive more than half their income from foreign sales.
Phillips, Shell, Unilever, Siemans, Imperial Chemical represent European
based international firms of comparable character and size. Increasingly,
firms in the United States have found more lucrative markets and growth
rates by investing overseas, particularly in Western Europe. In the
opposite direction foreign firms are finding equally lucrative markets
in our own country. The French or Japanese executive who now resides in
New York City is commonplace. Multi-national corporations are likely to
be even in more evidence in the coming decades of the twentieth century
(Walton, 1968) with top management represented by men from many countries
in addition to the one in which the company originated. Third-country-
national managers--managers like those who are citizens of Holland, for

example, working for an American firm in Colombia--are likely to accel-
erate in their incidence as the multi-national firm engages in job
rotation practices for developing its management and top management.

Internationalism is becoming an increasing theme for public organizations
as well as private business enterprises. This spread of multi-national
organizations will occur in a context of rising nationalism not so much
in the developed nations of Europe, but in the third world of African,
Asian and South American nations when current struggles for national
identity already lead to conflicts with business interests from "imperialist
foreigners." To counter many of the complaints of such host countries a
typical division within a given international firm will contain mostly host
nationals in its management and work force. Beyond personnel practices
such firms will have to be more sensitive to assisting the development
of their host countries. Financial concessions such as those extracted by
Arab nations from oil companies will be more common. Merely creating more
jobs will not be enough. In any case management will increasingly

find itself dealing with divisions of the firm from different countries.
A gadget may be designed in France, built in Japan with Australian raw
materials and marketed in Brazil by the same international firm.

There are also increasing numbers of government agencies with over-
seas responsibilities such as foreign trade missions or our own Peace
Corps as well as multi-
national politico-economic alliances like the European Economic Community
(Common Market) in Latin America and Asia. This growing incidence of
both public and private organizations in the international setting seems
to reflect a concern for the international community as a source of
financial and social gain.

One effect of internationalization will be the increased transfer

of business and personnel practices from one country to another. The
family allowance granted in Europe will become more common in the United
States. The lay off practices of the United States will be accepted
in Japan and Europe. Real income for workers doing the same job in
different countries will begin to become more uniform as competition
for workers transcends national boundaries and some percent of managers
rotate from country to country continuing to work for the same firm.
Rising expectations and opportunities of workers and managers in countries
where income is still depressed compared to the United States or Sweden
will create continually increasing brain drain pressures to push
compensation of management and professionals upwards in countries like
the United Kingdom.

Government and organizations. Generally, it is felt that government
and private organizations will have growing and mutual influence on each

other in the coming decades. As a regulator of business activities and
as a consumer of business products and services, the Federal Government
has a singular influence. For example, in 1965, the Federal Government
alone spent $16 billion in research and development activities and is
predicted to spend $35 billion by 1980 (Bennis, 1967). In addition, there
are a whole host of legislative and judicial control agencies within the
Federal Government that exercise control over the processes of private
business. Examples of such regulatory agencies include the Interstate
Commerce Commission and the Federal Trade Commission. The latter, for
example, has recently been very active in hearings examining merger pro-
cesses that had become a concern in the merger boom of the late 1960's.
In addition to its established agencies, Congressional regulatory legisla-
tion will increase in restrictiveness in a probably only partially
successful attack on controlling monopoly practices.

New politically-potent pressure groups are arising in the economy
to constrain business freedom. The voice of the consumer is beginning
to be heard loudly led by the new muckrakers--witness the impact of
Ralph Nader's crusade in the mid-1960's for auto safety and the
regulatory legislation that was introduced. Since then Nader has
pioneered in the development of a new breed of defender of the consumer's
interests in foods and drugs. At the beginning of the 1970's, public
alarm about air and water pollution has reached proportions likely to
result on considerably more restrictive legislation combatting the
polluting effects on urban water and air and the despoilation of the
remaining countryside by industry.

Apart from being compelled to take more account of social needs,
increasingly, industry-government cooperation is likely to meet social
ends with such programs as those providing equal employment opportunities

for blacks. If the United States follows a similar course as in Western Europe, we are likely to move further away from a capitalistic to a more mixed economy with increases in public non-profit corporations such as TVA to meet national and local needs that cannot or will not be met by private enterprise alone. Services such as the Post Office, now operated as a government agency, have already been modified into an autonomous non-profit corporation. Similarly, private railroads may be reorganized into a public corporation, as well.

It seems that in the world of the future, the structure of organizations will have to change for a variety of reasons. Population explosion, the advancement of science and technology, the increasing interdependence of public and private sectors all require reconsiderations for the structural properties of organizations. The nature of these new structures may vary and may not even be foreseen with any clarity at this point in time. Certainly, forces afoot today are likely to change the complexity and size and structure of organizations of the future. Likewise, the managing of key activities within those organizations is likely to change.

MANAGING ORGANIZATIONS OF THE FUTURE

Managing Conflict

We can speculate about the answers to three questions about conflict in organizations of the year 2000. Will that conflict be more intense or less intense than it is today? Will it have a different content than it does today? Will it be managed in different ways than it is today?

If the labor history of Western Europe is indicative and trends continue, organized labor will continue to become less militant. In a sense, organized labor in the United States is now part of the "establishment". Militancy comes today from other quarters: the blacks and other minorities and student radicals. But, there, is potential for more intense conflict in the future among many diverse working and management groups. First of all, the job environment will become increasingly changeable and turbulent. In such conditions of rapid change, the frustrations of adapting are more considerable than in quieter or more stable times. Previous research has shown that when frustrations accrue, the reaction to them in the form of aggressive behavior is more intense (Miller, 1959; Berkowitz, 1962). Indeed, many of these changes in society bear on the survival of occupations as we know them today (Simon, 1960). For example, the hand setting of type in the newspaper industry is an occupation that has recently been severely challenged by automation. This challenge produced a series of the longest, most protracted and bitter strikes in recent history in the nation's largest cities such as Detroit and New York City .

Although the intensity may grow, the conflicting parties may be quite different in make up than they are today. Trends will continue toward the development of fewer, larger and more highly centralized union organizations such as has occurred already in the Teamsters and Autoworkers unions. Planning and negotiating at national levels will be done with the aid of highly professional staffs. Local unions will be concerned with social and educational rather than economic activities. Local leaders primarily will be information transmitters.

Even more than today, unions will be broadly based over a number of industries and occupational groups. The typical multi-industrial union will cover clerical, professional, and technical employees as well as those in production. To cope with managerial programming of a flexible work flow, unions will attempt to cover the entire process with one integrated organization. This need to follow industrial process change will require highly specialized and centralized union staffs to coordinate union activities.

Another trend likely in the coming years because of industry-wide and multiple bargaining demanded of management will be increased use of professional agents who are likely to identify more closely with their professional counterparts representing the unions, like career diplomats from different countries do.

Still a third major difference about the parties in conflict will be that a *different segment of the work force will be militant*, i.e. actively protesting. That is, disgruntled labor will include by agricultural workers, white collar professionals, police and teachers rather than blue collar workers. In fact many already associate the blue collar with the hard hat, i.e. a force for reaction rather than revolution. The new militant groups, however, will be quite powerful through their ability to immediately affect the public interest. For example, strikes by garbage, hospital workers, and teachers all occurred in the late 1960's and each had an immediate and unsettling impact on the cities in which they occurred, far more immediate than a walkout of steel or auto workers.

Finally, there seems to be a growing trend of consolidation of blue collar labor and management arming itself against society's newest militants; students and blacks. On the one hand, rising affluence has led to a more settled status for blue collar labor -- many of whom are now customers and stockholders as well as employees. In fact, many unions may

become rich enough to buy sufficient stock in firms to control them.
Already, union pension funds may be the largest single stockholder
of many of our largest firms. In addition, their power in communities
is likely to continue so that they may remain quite influential
politically (Bass, 1968). In contrast, this affluence has led to rising
expectations among minority groups who have become frustrated and
militant because they have not fully participated in the bounty they see.
Moreover, many liberal, educated young whites not only feel the bounty to be
inequitably distributed to black and other minorities, but at its heart, they
feel the affluence to be a corrupting force leading to empty, materialistic
values. Strangely enough, the educated blacks and young educated
whites are likely to be coalescing in the future and for very different
reasons confronting other whites from both labor and management.
Education is a significant connecting bond for in a future containing
large masses of "knowledge workers." Common interests among those who
gain their living from the use of their knowledge will likely bind them
together to bargain or at least protect their occupational and pro-
fessional investments.

While labor-management strife continues to diminish on the whole,
industry becomes involved in a rising tide of disturbances in the community,
in the inner city, and in educational institutions. Behind these conflicts
seems to be a social fabric which is in a deep state of rapid change.

The last decades have seen a marked influx of blacks from the rural south to northern urban centers. Likewise whites have fled to residences in more secure suburbs. As a result they work in the cities where their firms remain but they, the white workers, leave at night. Cities become factories by day, ghetto's by night. The factories are part of the blight, a symbol of the ghettoizing mentality. Signs now exist that the flight may be slowing; that cities are rebuilding and trying to reattract lost citizens. Building expensive center city apartment and town house complexes seem to be an emerging trend in many cities (e.g., Philadelphia, Pittsburgh). Building of such complexes alone will only squeeze out the poor, leading them to more exasperating conditions. And such narrowly conceived efforts are likely to occur. They are easier than consolidating communities to provide better tax bases and providing truly equal employment to economically develop the urban poor and thus destroy the ghetto.

No doubt, management and labor will be arguing over the wage - and-price spiral in the year 2000. What will be different is greater concern for vested interest of workers in their own pensions so that if they change jobs before retirement age, the value of their pensions go with them as they do today for college professors. Large severence pay will be common place for workers displaced by automation although it should be kept in mind that "workers" by this time will be few and far between in automated factories and business offices of 30 years from now.

From the advent of the Industrial Revolution, technological improvements in the work process from EDP controlled bookkeeping to teaching machines have met opposition from workers whose jobs were threatened by the new machinery. In contrast these same improvements have led to many desirable technical advances in consumer goods, e.g., the car. Automation has accelerated the impact of change on jobs, although national growth has made possible retraining and absorption of many of the displaced workers. Nevertheless, featherbedding practices have continued. Today, an unneeded flight engineer is added to the air crew of a commercial plane the way   the unneeded fireman was added to the crew of a diesel locomotive. In 1960, Herbert Simon predicted that by the 1980's, it would be possible to substitute machines for any and all human functions in organizations (Simon, 1960). The computer is making itself felt in many occupations and organizations. Indeed, its appearance and emergence often leads to conflict and very severe ones as we mentioned before in the newspaper industry. Even in the absence of anti-technology strikes the computer causes a good deal of concern amongst workers in an organization that is automating with all its bad publicity for replacing prople and its mere newness. Recent studies of small to medium-sized banks that were beginning to automate some or all of their facilities indicates that this is true. Even where technological displacement was not a problem, many officials and lower employees in

such banks express a good deal of concern about their role in their changing organization. They were unsure about how automation was to occur and seemed quite insecure about its effects on them (Vaughan, Porat, & Haas, 1968).

A rising area of conflict in organizations of the next few decades is coordination and communication among scientists and technicians serving as systems analysts, information technologists, research and development scientists, and others such as the top management generalist. Increasing role differentiation or specialization will be a characteristic of the total organization in the 1970's and 1980's (Davis, 1963). With increasing differentiation into highly technical specialties, the problem of interpersonal and inter-unit coordination becomes increasingly important and increasingly difficult to solve. Moreover, organizations of the future are likely to be larger including more sub-units and very possibly more decentralized structures. With this increasing size and decentralization, again coordination becomes more difficult, The project task force can be a partial solution, with its small size and forced interdependence.

The management of conflict. Although there are no prevailing styles of conflict management today, a goodly amount of laboratory research continues on the mediation process (Walton, 1968) and conflict resolution, in general. Whether this research on new models for mediating conflict will be implemented eventually, however, still remains to be seen for data based on laboratory studies are received somewhat skeptically in the larger community. For instance, one government department (State) which has responsibilities in the most vital of negotiations at the time of this writing practically supports no research on the subject other than the preparation of policy papers.

As more people become aware of the antecedents and consequences of intergroup and interpersonal conflict and how to manage them through exposure to sensitivity training and other social psychological educational programs of the future, more constructive outcomes from initially deep conflict situations will become common. For instance, recent developments have already shown techniques whereby confrontations in an educational climate can be structured so as to relieve interdepartment friction through the exchange of sterotyped perceptions and ways to alter them into more accurate and useful perceptions (Golembiewski & Blumberg, 1967).

Managing Decision Making

The computer's effects on decision making. Decision making in organizations of the future will be increasingly influenced by the presence of the computer. Computer analysis will replace human analysis and decision rules as we become more capable of specifying parameters and input data in ways the computer understands. Electronic data processing will give rise to new technologies affecting the manner of displaying and analyzing information.

New ways of optimizing the joint problem-solving efforts of human individuals and committees and computers are expected by 2000. Both speed and accuracy will be enhanced by the discovery and appreciation of new principles to such joint efforts of humans and computers. Under such conditions the best use will be made of the human's flexibility and the computer's storage capabilities, for instance. We can look forward to a generation of computers which will sense and interpret written and oral communications, then using "artificial intelligence", create a program of instructions to process the interpreted data. Many of the technical advances in computer technology of consequence to management have already been achieved. Probably the next 30 years will see primarily greater exploitation of the currently available technology, increased sophistication of software and greater utilization of currently

available storage, retrieval and display techniques in substitution for human effort. *The ability of the computer to make decisions is being* applied with increasing effectiveness. Functions such as inventory control, manpower scheduling and the like increasingly are performed by automated equipment.

Management Development

The importance of management development. Management development in organizations of the future is likely to take a more prominent place for a number of reasons. First of all, as computers take over routine decision making, tomorrow's managers will be able to and probably be asked to focus more often on unprogrammed activities such as the development of subordinates (Whisler & Schultz, 1966). In addition, there will be

a proliferation of new concepts and techniques that will have to be
part of the education of new managers or the re-education of incombent
managers. There will be required a greater knowledge of computer
capabilities in the computer's role in the organization (Haas, 1969).
Third, management development will likely take a greater role in
organizations of the future because of the probabilities of technological
displacement of many managers. In this case, it will not entail so much
an upgrading of skills or orientation of new managers as a retraining of
displaced managers into new positions. Thus, in the future, management
development will be more important if only because the need for retraining
and the avoidance of the managerial obsolescence will become more
important. Managers will need new skills in quantitative analysis, in
decision theory and behavioral science (Frederick, 1963). Additional
training will be required in computer-related areas (Davis, 1963).

The emerging importance of management development will most likely
lead to changes in the way it is carried out in organizations of the
future. For example, a number of authors stress the growing need for
self-development as a technique in management development (Koontz, 1968;
Jenkins, 1966). Thus, many of our currently accepted forms of management
development are likely to reflect this new emphasis on self-training.
The task forces we spoke of before will be a new breeding ground for such
self trained managers. Broad experience with tasks and people will help.
In addition, the supervisor in such new, more autonomous structures will
be different. He is likely for instance to push his own autonomy outward
to his team of specialists. He will thus change as a coach. In coaching,
the superior generally has encouraged those below him to bring their problems
to him rather than training them how to solve their problems. In the future of
the task force, the superior will instead be more likely to encourage sub-
ordinates to work out solutions themselves. Instead of forcing them to follow
a specific plan of work, he will guide them to develop their own (Jenkins, 1966).

Still another reason for the emerging importance of management
development is the likely shortage in the future of qualified pro-
fessionals and managers. It is the contention of some that we do not
turn out enough of these, mainly because we don't know how. Regardless
of whether or not we don't know how, organizations are growing in number
and size and this requires more managers. It is very likely that the problem
of the future will not only be to develop more managers to fill the growing
number of positions but also to concentrate on the conservation of highly
skilled managers that already occupy positions in an organization. If
the shortage of highly skilled managers does occur in organizations of
the future, then it is quite likely that the conservation will be promoted
by the use of management development perspectives which allow them to plan
and implement their own career growth plans. In such cases, self
development will become a core concept. The manager will be looked at
more for his value in whatever function he chooses than for his value in
a particular function. Thus, the organization will allow him to see his
self developed career plans as not inconsistent with the organization's
own goals.

Management training techniques in the future. One of the widely
accepted predictions about management development in the future is that
it will continue to depend heavily on the university (Whisler & Schulz,
1966; Barnett, 1968) for one-day courses to full MBA programs. Already
a single well-known university extension service offers as many as 250
such programs a year. University faculty also may run special in-company
programs. The universities will continue to be central resources for
helping managers avoid obsolescence and keep up in their field by providing
fundamentals of technical knowledge and new information relative to
managerial jobs, skills in decision making and human relations, and broader
perspectives concerning functions other than the manager's own.

With all the special tailored non-degree programs the distinction
will not be as great between university and non university educated
managers. Career growth programs will be as important as a degree.

The future emphasis in management is likely to be away from the concern with administration and control. These functions are likely to be taken over by electronic data processing. Instead, management will focus its attention on areas of strategic planning, model utilization, goal setting, and decision making (McCallum, 1967). The skills involved in these newer areas are usually better acquired at off the job locations such as the university than in the organization itself where there would be a tendency to focus on specifics rather than on general principles. The value of such training lies not only in the up-dating of manager skills but allows them to maintain more intelligent discourse with staff specialists who have already been trained (Vaughan & Porat,1968). It also allows them to develop skills in coaching and developing subordinates in these newer areas (Levinson,1962). Thus, universities may provide managers with opportunities to learn coaching and counseling skills in order that they may in turn be management developers; thus, economically multiplying the education function within the organization.

Much use can be expected in the future of new training techniques which are still in their infancy today such as computer assisted instruction, audio-visual tapes (and video-tape replay systems), simulators, and laboratory techniques using non-verbal as well as verbal group experiences. Efforts will also focus on shaping of specific behavior-- for instance--how to convert win-lose negotiations into problem-solving meetings. Totally new techniques--as yet unimagined--are also bound to appear in the coming years.

Perhaps the most pressing point that can be made about management
education in the future is that in a world where rapid change is
increasingly characteristic, one of the most critical aspects of
organizational performance will continue to be efforts to impart in its
managers a sense of importance concerning their looking ahead
(Koontz, 1968) and their need to remain immune from obsolescence.

* * * * * *

To sum up, in the year 2000 A.D., some of us will be working
harder than ever in more complex and challenging jobs than we face today.
But gratifications from creative success experiences at work will
be comparably greater. The boundaries between work and play for the
creative elite will be less distinct than they are today. At the
same time, for those who cannot find work satisfying, greater opportunities
will exist for leisure and play with minimally secure guaranteed incomes.
Greater polarization is likely between those who become more committed and
dedicated to work, science, art and business and those who opt to "drop
out". Many of the young "drop outs" of today will be the old "drop outs"
of 2000 A.D. Post-industrial society may come to have grudgingly accepted
the legitimacy of their position by 2000 A.D. but the political lines of
the 21st century may indeed be drawn between those whose life goals center
around challenging work and achievement and those whose life goals center
around inner experiences, play, leisure and social relations.

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Transnational studies of managerial behavior in standardized organizational simulations are being conducted by MRC in conjunction with the International Research Groups on Management (IRGOM).

MRC maintains a bank of data collected at training centers in over 35 countries, and provides cooperating agencies with assistance in experimental design, statistical analysis, and data collection.

MRC conducts other research at the interface of man and his organization. Currently, interest is focused on self-instructional methods for increasing interest and ability in self development, woman at work, motivation to work, human integration of information for decision-making, selection and training models, driver decision-making in emergency situations, and the accelerated manager.

MRC distributes its archival publications in a reprint series. It distributes its technical reports in a separate series to expedite the dissemination of its research findings.

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