EFFECTS ON NURSING AND THE NURSING PROFESSION OF THE INTRODUCTION OF MODERN MANAGEMENT TECHNOLOGIES INTO HOSPITALS

by

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Title: EFFECTS ON NURSING AND THE NURSING PROFESSION OF THE INTRODUCTION OF MODERN MANAGEMENT TECHNOLOGIES INTO HOSPITALS

Articles from Canadian nursing and hospital administration journals were used to provide a picture of current developments in the management of hospitals, and in particular, of the management of nursing work. Using documentary data (from The Canadian Nurse, Dimensions in Health Services, and Hospital Administration in Canada, 1974-1977), the argument is made that the use of modern management technologies to control hospital work is inappropriate and likely to reduce the quality of care provided. Specifically, it is argued that as the work of nurses is subjected to management control and their discretion over their practice is lost, nurses' autonomy to exercise their professional judgment is destroyed. This deprofessionalization of nursing is consequential not only for nurses but for the quality of care they give patients, as well. Nurses' occupational position will be harmed as their skills become obsolete, replaced as the result of management practices designed to produce efficient hospital operation. These management practices will segment the nursing labour force into two groups, a managerial elite and a larger group of increasingly less-skilled, cheaper workers. The two segments will develop divergent interests and understandings as their experiences and conditions of work are separated.
The argument is based on the work of Braverman (1974) who analysed the effects of industrial management on craft skills in modern capitalist industry. Braverman identified the objectives of management as monopolization of the knowledge required to make a product, in order to control that work process and thus to increase productivity, and profits. Some additional management problems must be confronted in transplanting modern management technologies from industry into hospitals. These are the result of two important differences between organizations run for profit and organizations run to provide service to humans. Management practices designed for the former do not necessarily, not probably provide adequate direction for the latter. When the organizational goal is not determinate, as is the case in health care, it cannot be determinately related to management practices. Similarly, when the work processes are not determinately related to the organizational goal, as nursing work is not, they cannot be determinately related to management practices. The use of modern management technologies in hospitals has yet another negative effect besides those described by Braverman as deskillling the worker and degrading the product: they harness the work process to economic ends which are not those the organization was set up to provide. In spite of this, an established trend towards the use of modern management technologies in hospitals is seen in Canada in the 1970's due to the dominance of administrators in hospital management (Perrow, 1961).
Modern management technologies are applied to nursing to increase productivity, that is, to get more work done at lower cost. They have similar effects on the nursing labour force to those described by Braverman. In addition, the inappropriateness of these methods for the control of human service organizations means that the more "successfully" they control hospital activity, the more risk of misapplication of hospital resources. Examples from the professional journals of management practices described or recommended for the control of nursing include: decentralized administration, (Unit Management); patient classification and objective staffing; work analysis and performance evaluation; nursing audit. Each provides a contribution to management objectives to control the work process and cheapen nursing labour.

This increased management control of nursing work is a radical departure from the traditional situation of nursing in a hospital. In the past, however subordinate their position, nurses have been protected from interference in their practice by their strategic position at the "front-line" of the organization (Smith, 1966). This functional autonomy over their day-to-day interaction with patients has been the ground of nurses' professional practice, which management control destroys. In a health care system which relies on nurses to supply the individualization and humanization of increasingly impersonal care, the loss of autonomy to exercise professional discretion
is a severe blow to quality care. The substitution of carefully managed nursing, detailed accounting procedures for provision of information on which management decisions about nursing can be made, and objective evaluation of nurses who increasingly will have neither the training nor the freedom to act with professional autonomy is not seen as an adequate trade-off for cost-cutting.

The production of a segmented nursing labour force by the implementation of modern management technologies into hospitals is identified, tentatively, as a class division in nursing. The implications for the nursing profession of this class division are as follows: the concept of "professionalism" among nurses is called into question, and the conflicting interests between the classes reduce the potential of nurses for any collective action. In this way, the effect of modern management technologies is to change greatly the character of what has been known as "the nursing profession."
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SOCIOLOGICAL REFERENCES CITED

HOSPITAL ADMINISTRATION AND NURSING REFERENCES CITED
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This thesis is concerned with the effects upon nursing of introducing modern management technologies into hospitals. Projected changes in management practices (as described, discussed and recommended in the professional journals of hospital administration and nursing) are designed to control the work organization of nursing in the interests of efficiency. It will be argued here that this control destroys the measure of autonomy over their work through which nurses in the past manifested their professional commitment to the care and needs of the individual patient. This loss of autonomy spells the end of the possibility of a fully professional nursing practice.

The basis of the argument is derived from Braverman's analysis of the development of management practices under monopoly capitalism (Braverman, 1974). He shows how modern methods of management have been subjected to technological development reducing the work process to one not requiring the skills and initiative of the worker, and transferring effective control of the work process to management. The result is a division of labour within the managerial process into a relatively small, highly trained managerial elite and a large group of relatively low skilled workers functioning in routine and quasi-mechanical tasks, with minimal discretion or opportunity for initiative.
A similar segmentation of the work process and division of labour is being developed in another sector of the present-day economy, the public sector. This thesis takes up and examines, in terms of current developments in hospital management, the segmentation of the work process in hospitals, focusing on nursing work. Hospital administration journals are used as a source of information about these new management methods, and nursing journals provide information about recent developments in nursing practice. The problems and issues discussed in the journals can be seen in direct relation to aspects of the organizational context in which these management methods are being employed. This work describes some of these relationships and draws implications about nursing from them.

In *Labour and Monopoly Capital* (1974), Braverman shows why and how in capitalist society management practices have been developed to control industrial processes. Following Marx,
Braverman shows that in capitalism the economic survival of an enterprise depends on inducing workers to work more than is necessary to produce their subsistence. The methods developed provide management with control over the work process which changes the nature of the worker's relationship to his or her work. What eventually develops is a work situation in which managerial control seems "natural" and is demonstrably necessary to keep workers at their jobs.

Management theory has its origins in the thinking of Adam Smith and the classical economists who saw that the division of labour was the key to cheaper labour. Scientific management further developed the division of labour, until as Braverman argues, management of business and industry becomes a differentiated form of work, a technology by which methods of management and methods of work organization reduce the work process to one in which the skills and initiative of the worker are not required. Instead, the initiative and control of the work process are transferred to management which exploits its control for greater profitability. The result of this division of labour in industry is segmentation of the labour force into two parts: managers who plan and control work, and operatives who follow instructions, having lost their craft skills.

(Chapter One)

In order to shift the analysis of management practices in
industry to human service organizations, several new problems must be considered. First, the relationship between managerial practices and organizational goals differs. In industry, it is direct and determinate, but in human service organizations, it is indeterminate. In industry, management supplies the control element whereby a specific end result is achieved by carefully ordered work processes, precisely co-ordinated with supplies and markets. The concepts "organizational rationality" and "organizational goals" refer to the co-ordination process and the end result which managerial control effects. They are part of a theory of organizations which has been developed by social scientists (cf. Selznick, 1948; Simon, 1964; Thompson, 1967) aimed at understanding organizational activity so that it can be controlled more effectively for profit-making. Thompson (1967) describes an assembly line plant as approaching "perfect technical rationality" when knowledge of cause/effect relations allows control over all the relevant variables. In a hospital, no such perfection of organizational rationality is possible.

Because "health" is an indeterminate concept and its relationship to specific techniques supplied by hospital workers indefinite, hospital goals may be conceptualized and expressed variously, and hospital technique applied variously. Whereas industrial management practices are designed to display economic relationships because they are the factors which inform deci-
sions affecting organizational goals in industry, hospital goals encompass more than the cost element. What constitutes acceptable hospital goals is open to different interpretation by different people.

To explicate "hospital organizational goals" in this thesis, the particular organizational practices which shape outcomes will be examined. Attention must be paid to the question of who has the power and right to determine a hospital's policy and day-to-day functioning since how it gets organized will determine (and limit) what will be done. (Perrow, 1961)

Currently administrators hold this power, due to their expertise to meet current conditions of uncertainty (Crozier, 1964) in the health care field. They implement in hospitals the methods of management which have been developed in industry for efficient business practice, regardless of the inappropriateness of applying methods based on cost relations to an organization where service to humans, not profitability is paramount. Management accounting procedures cannot produce the right information for decisions about organizational activity related to the production of "health." On the other hand, if organizational goals are determined according to how well management methods can be articulated to them, hospital activity will be deflected from "service" to "cost" ends.
Related closely to this problem of indeterminacy of hospital goals, and their definition as the result of a competition for dominance in the organization, is the added problem in human service organizations of indeterminacy of work processes. How the production of "health" or "improved health" is related to what workers do is not always clear nor predictable. This is determinately related to outcome, and its monopolization by management is accomplished by observation, analysis and categorization of what workers do.

In hospitals, nursing work is subjected to various accounting procedures which "capture" aspects of it. To the extent to which it can be objectified, it can be managed -- split off from the individual skilled worker and assigned to less skilled, cheaper workers. The indeterminate character of the work means that the objectification process is largely unsuccessful. What can be precisely described and routinely found in nursing activities tends to be an incomplete description of the nursing work process. Objectified task descriptions of the work process are deprived of crucial nursing ingredients which individualize patient care. When organizational activity is directed by management practices of this objective nature, the work process may not respond to individual human needs.

A third problem confronting management in its attempts to
transfer industrial methods to the specific control of nursing work processes in hospitals lies in the "front-line organization" found in hospitals and other treatment organizations. (Smith, 1966)

Smith describes this feature of mental hospitals which situates control of the work process at the periphery of the organization; it has allowed nurses to maintain high levels of individual work autonomy even from the professionally subordinate position they occupy in the hierarchical structure of the hospital. This situation is contrasted to an industrial enterprise where line workers exercise virtually no control over any aspect of their productive process, their initiative being limited to resistance. To the degree which nurses' work escapes precise categorization, the discretion nurses exercise by virtue of a hospital's front-line organization must be harnessed by management in alternative ways. Decentralized organization and exploitation of nurses' "professional" ideology are the management methods utilized. (Chapter Two)

To support the argument that hospital management is increasingly influenced by industrial management ideology, and increasingly implements industrial management technologies to control hospital work processes, data from hospital administration journals are presented. Conditions affecting health care services in Canada in the mid-1970's are identified and current
developments in hospital management practices described. Industrial management methods are seen to provide administrators with the tools to handle the uncertainty prevalent in health care at this time. Administrative dominance in organizations is enhanced thereby, and organizational policy increasingly is shaped by administrators. Some specific examples of the application of industrial management technologies to hospital work are presented to show how organizational activity is controlled by these practices. (Chapter Three)

With increased productivity and efficiency the goals of administrators, the organization of nursing work is being altered by techniques from an armamentarium supplied by systems analysts, management engineers and human relations experts. In nursing, as in other work organization, modern management procedures attempt to establish cost relationships between services given and results. The aim is to lower costs and increase the desired outcome. The indeterminacy of the relationship between what nurses do and the "desired outcome" presents a difficulty for the rationalization of nursing work. To overcome that difficulty, steps are taken at both ends of the work/outcome equation.

Work is carefully analysed and categorized and outcome criteria, when unavailable, are replaced by process criteria developed by
expert professional judgment. This provides the situation Braverman describes in which "deskilling" occurs: skilled work is replaced by operations carried out by unskilled workers following instructions, or using a set of specified routines. Treating nursing care as a determinate work process which can be analysed and specified is an undertaking with consequences for patients as well as nurses. Health care planning and nursing budgets come to depend upon artificial relationships concocted by computers, correlating fragments of nursing work with whatever can be documented and quantified in patients' reactions (outcome criteria) or with a program designed by an "expert" who has no contact with the actual patient (process criteria).

Data from nursing and hospital administration journals are used to support this argument and to show how the nursing profession is responding to these changes in nursing practice. The official nursing position regarding the scientific management of health care is equivocal; reasons for this are suggested. Some specific applications of modern management technologies to nursing work processes are described and implications of having nursing organized for efficiency are pointed out. (Chapter Four)

The overall implications for nursing of the transfer of managerial methods from industry to hospitals will be segmentation
of their ranks into two groups. One segment will be a small, highly-educated, technologically-sophisticated group aligned with management, and the other, an increasingly controlled segment of workers who require little training and who will be able to command correspondingly small salaries. Evidence of this de-professionalization of nursing is already being seen. The implications for the nursing component of health care -- a significant part of the total health care system, are to be found in the increasingly technical approach to nursing required by the new accounting procedures. These managerial practices provide the basis for controlling the less skilled, less motivated and less professional workers to whom the direct nursing of patients is being given.

Professionalism, as it applies to nursing, depends upon a practitioner's autonomy and competence to respond in a work situation from an internalized knowledge/skill/judgment base gained in specialized training and practice. When nurses are deprived of this discretionary power over their work, they are also deprived of the ground upon which their professionalism rests. Nursing care will be cheaper, but it will also be degraded. As the lower stratum of the segmented nursing labour force absorbs all those middle-range nurses who do not fit into

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1 Throughout this thesis the term "professional" is applied to registered nurses, rather than the more sociologically correct "semi-professional" (Etzioni, 1969). The common usage, as defined above, is preferred because that is how nurses identify themselves and how they are generally regarded by the public.
management positions, a large competitive pool of workers will be created to fill the undifferentiated nursing jobs for which little judgment or initiative is required. The modern evolution of nursing which comes out of the organizational changes in hospitals raises questions about the class position of nurses which go beyond the scope of this thesis. They are questions which are fundamental to the understanding of nurses' relationship to their work, to the organizations in which they are situated, and to the society of which they are a part.

(Conclusion)

The Data

Evidence which supports the argument being made in this thesis is found in Canadian nursing and hospital administration journals. In addition, the experience of the author as a practising nurse and participant in nursing organizations has informed the choice of data presented. The method by which the data was collected and analysed was as follows: First, a wide reading of the American, British and Canadian professional literature of nursing and hospital administration revealed the nature and scope of the debates being undertaken there about the provision of health care in the 1960's. With this background, the Canadian literature was examined for evidence of similar developments in Canada in the 1970's. The framework within which these developments were analysed and are under-
stood has been provided by the writings of Braverman (1974), Smith (1966), and Perrow (1961).

The journals chosen to convey current issues in hospital management are the two English language journals about hospitals and hospital administration which are published and distributed in Canada. Each has staff coverage of "news" pertinent to the health care field, and publishes advertisements of vacant positions, new appointments in hospital administration, and regular features on aspects of management. A representative issue of either journal would include papers from professional conferences, and unsolicited articles from a range of contributors including administrators, academics, business management consultants, nurses, psychologists, pharmacists, etc.

Dimensions in Health Services (Dimensions) is the official publication of the Canadian Hospital Association and is the only Canadian hospital journal indexed in the Index Medicus, the comprehensive index of medical periodicals. The C.H.A. is a federation of hospital associations in Canada, The American Hospital Association, The Canadian Medical Association, in co-operation with federal and provincial governments and voluntary non-profit organizations in the health field.

Hospital Administration in Canada (HAC) is a business publication of the Southam group, whose policy it is to accept subscriptions only from qualified members of the health care
field. Frequently, the same writers contribute to both Dimensions and HAC and there is considerable editorial agreement on issues. Articles explore current concerns in the health care field including organization of hospital services, roles and relationships among health professionals, governments and consumers, theoretical considerations of work motivation, medical ethics, hospitals and the law, etc., and reports of research or practical applications of new concepts in management.

Data from nursing and hospital administration journals show how these effects of modern management of nursing are being felt in Canada in the 1970's. Most of the data is taken from The Canadian Nurse (CN), the official journal of the Canadian Nurses' Association. The Canadian Nurse is printed in both French and English and is distributed monthly to all registered nurses in Canada. It regularly reports news of interest to nurses, particularly concerning professional association meetings and policy statements, current affairs in the health care field such as research undertaken, employment negotiations, government action, new educational programs, etc. Articles are contributed mainly by nurses or "experts" from other fields writing about some aspect of nursing care.

The "Nursing" sections of hospital administration journals Hospital Administration in Canada and Dimensions in Health
Services provide articles directly concerned with management of nursing, topics not dealt with in nursing journals. However, what can be found in the nursing journals are reports of the innovations in nursing practice which follow and are an integral part of management practices. A climate receptive to such innovations is also being produced; some indications of how that is done can be derived from articles in both the administration and nursing journals. In addition, some references are made to American nursing journals -- The American Journal of Nursing and Nursing Research, both of which are published by The American Journal of Nursing Company and sponsored by "official" nursing associations.
CHAPTER ONE: MANAGEMENT

I  TASKS OF MANAGEMENT

Relations Between Worker and Management

Braverman (1974) provides a framework within which the relations between workers and management can be understood; the tasks of management can be seen to arise from these relations.

In the capitalist organization of industrial production, workers are required to sell their labour power to others who own the means of production. Although they are free to work for whomever they wish, workers must enter into employment contracts because social conditions leave them little or no other means of earning a livelihood. The purpose of the employment of the worker becomes "the expansion of a unit of capital" (p. 52) or in other words, the production of value for the capitalist. A worker's labour adds value to what the employer already owns by transforming materials into saleable commodities by various work processes. What the employer buys and what the workers have to sell is not labour, but labour power, the ability to labour over a specified period of time. Therefore, what the employer gets from his worker is a variable quantity and quality of work, with the potential of producing

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2 This chapter is based on Labor and Monopoly Capital, Chapters 1-10, by Harry Braverman. Unless otherwise noted, page references are to this work.
an indefinite amount of surplus (profit). It is in getting more labour out of the worker's labour power, purchased at a determinate price, that the employer makes his profit. How to accomplish this is the task of management.

The Problem of Management

Workers do not need to work hard enough to produce a surplus on which their employers make profits; in an equal exchange of work and pay, the worker would stop work having produced enough to exchange for the means to subsist at the level of his or her peers. But the relationship between employer and worker is "decidedly not a free and voluntary exchange between equals" (Stolzman and Gamberg, 1973-4).

If the employer makes a profit, he must have induced his workers to continue working past the time they had earned their subsistence. This constitutes an exploitative relationship. Situated in an economy which forces workers to sell their labour power, employers then use it to reinforce their control over workers. Employers take the surplus created by workers' labour power, sell it and reinvest the profit to increase their profit-making potential. The capital they accumulate allows employers to expand their own enterprise and acquire new ones, gaining a monopoly over the supplies, the manufacture, and markets for the commodities they produce. Thus their control over the community is extended as the possibilities for alter-
native employment or for independently produced commodities is obliterated.

Management cannot rely on workers' interest in their work to keep them attending to it consistently during their employment period. Labour, according to Marx, allows people to construct their world collectively (Stolzman and Gamberg, 1973-4). People who have sold their labour power have lost their ability to modify or shape their world. This is the alienating aspect of wage-labour under the capitalist system. It accounts for the worker's apathy or outright hostility toward the production he or she is involved in.

It is the problem of management to organize and implement the exploitative relationship in the capitalist workplace and to maximize the usefulness of the labour power purchased in the absence of workers' personal involvement in the process of work. To do this it is essential that the control of the labour process pass from the hands of the worker into the hands of management.

II  HISTORY OF THE DEVELOPMENT OF MANAGERIAL CONTROL

Division of Labour

Braverman describes how the worker's knowledge of his or her work (which constitutes the basis for control over that work)
can pass into the hands of management whose members lack such craft skills. The key in this shift in control is the subdivision of the work each specially trained worker does. Braverman makes a distinction between the division of labour in society whereby different occupations are formed "each adequate to a branch of production" (p. 72) and the breakdown of occupations "which renders the worker inadequate to carry through any complete production process" (p. 73). The advantage of the latter, seen already by political economists of the period of the Industrial Revolution as crucial to advancements in capitalist production, is expressed by Charles Babbage, writing in 1832:

The master manufacturer, by dividing the work to be executed into different processes, each requiring different degrees of skill or of force, can purchase exactly the precise quantity of both which is necessary for each process; whereas, if the whole work were executed by one workman, that person must possess sufficient skill to perform the most difficult, and sufficient strength to execute the most laborious of the operations into which the art is divided.

( pp. 79-81)

Braverman adds that "translated into market terms, this means that the labour power capable of performing the process may be purchased more cheaply as dissociated elements than as a capacity integrated in a single worker" (p. 81). The work of Frederick Winslow Taylor, called Scientific Management,
operationalizes this philosophy.

Scientific Management

Its Aims -- Taylor's work, which formed the basis for the scientific management movement, was directed toward establishing management control over every aspect of the labour process. Taylor's claim to being scientific rests on his detailed examination of work; he studied what workers did "with an eye to systematizing and classifying it" (p. 110). On the basis of this knowledge he devised methods for dictating to the worker the precise manner in which each aspect of the work was to be performed. This allowed unskilled workers to be shown how to carry out segments of a craft, the totality of which had formed the expertise of the skilled worker. After his study, the manager knew the precise method of performing the work segments, as well as the pattern of execution (the process). When unskilled workers were hired to replace skilled, the managers became the only ones who knew how the segments fitted together. The craftsman no longer controlled an essential piece of knowledge nor possessed unique skills; such skills had become obsolete.

Principles -- Braverman cites three principles of scientific management which Taylor articulated:

1. Collect in the hands of management at least as much information about the work process as the worker has; specifi-
cally, how to do it, and how much time it takes;

2. Remove all possible brainwork from the workplace.

"Conception and execution must be rendered separate spheres of work, and for this purpose the study of the work processes must be reserved to management, and kept from the workers" (p. 118). Workers must follow simple instructions "unthinkingly and without comprehension of the underlying technical reasoning or data" (p. 118);

3. Control each step in the labour process and its mode of execution by gaining a monopoly over the knowledge of the work. This allows each worker's daily tasks to be preplanned by a special management staff.

**Application to Industry** -- Taylor himself tied his management methods to economic incentives, convinced that what workers want is more money. He saw his methods as a way of ensuring consistent worker effort to reach and maintain increased productivity. He thought that differences between workers and capitalists could be erased by relating wages to managerial estimates of a "fair day's work" calculated by time studies (later time and motion, and more sophisticated physiological studies). Increases in wages would be earned by directly observable productivity increases.

Workers and their unions understandably protested the implementation of scientific management methods and many managers and
academics were critical of some aspects of Taylor's efficiency methods. However, none of the critics failed to see the advantages to management these methods could achieve. The principles became embedded in the developing discipline of business administration and have become, Braverman says, "the bedrock of all work design" (p. 87). This assertion is supported by Peter Drucker whose writings on business administration are authoritative in that field:

Personnel Administration and Human Relations are the things talked about and written about whenever the management of worker and work is being discussed...But they are not the concepts that underlie the actual management of worker and work in American industry. This concept is Scientific Management...Altogether it may well be the most powerful as well as the most lasting contribution America has made to Western thought since the Federalist Papers.

(p. 88; quoted from Drucker, 1954)

Studies of the Worker Which Contribute to Management Theory and Practices

During the time that industry was implementing the efficiency methods of Taylor and his successors in the Scientific Management movement, a separate line of research about work was developing. Its focus was the problem of worker resistance to management control. It began with psychological studies -- aptitude tests (how to choose the right man for the right job), and progressed to sociological studies of group behaviour (how to predict and modify it). Implicit in both the scientific management studies and the investigation of the "human element"
in work was the capitalist assumption that the optimal conditions of work are those which produce the greatest profit. The contradiction which arose was that the practices instituted to increase productivity also increased alienation of the workers. The schools of Industrial Psychology and Sociology which developed to study workers' subjective responses to these taken for granted (alienating) conditions were not able to develop effective means for eliminating worker resistance. Their findings have been integrated into management courses in Human Relations and Personnel Administration, and corporations have added departments with experts in these field to advise on certain problems with their workers. The actual influence of the ideas generated by the "human element" researchers in shaping conditions in an industry is somewhat limited. Braverman suggests that their contribution may be largely that of providing a smokescreen of propaganda about alienating company practices. He refers to a study which shows that the job design in some companies systematically deprives workers of the opportunity to make individual contributions, while Personnel representatives emphasize the importance of the individual to the organization:

Job design represents reality while personnel administration represents only mythology...the latter represents a manipulation to habituate the worker to the former.

(pp. 145-6)
III MANAGEMENT AND TECHNOLOGY

A distinction which Braverman makes and which is important to the development of this present work is between the role of management and the role of scientific/technological innovation in industry. Management's role as "organizer of labour" is to supply a particular formal structure for the production process; the content of the labour process is supplied by the technique used to modify the materials. Techniques used in industry have been "assuming an increasingly scientific character as knowledge of natural laws grows and displaces the scrappy knowledge and fixed tradition of craftsmanship" (p. 155). The labour process changes as its components change; its content or technique is being influenced by scientific and engineering advances. Its form is being dictated by imperatives of capitalist management.

The importance of clarifying the distinction between what science and technology contribute to the labour process and what management methods contribute is to be able to see how they are harnessed together in capitalistic endeavour. It is not the case that machines control workers of their own free will; specific choices are made by people to use machines in particular ways. Management practices harness workers to machines in the manner which is conducive to the greatest productivity. Science is deployed by industry to serve capitalist ends; the use of scientific knowledge to serve
humanity is an alternative which is overlooked because it would not be profitable.

Management practices transferred from industry to human service organizations carry with them their fealty to "productivity" over "service to humanity." In the next chapter, the role of management in providing direction for an organization's activity is discussed. It is pointed out that a hospital's service goals can be deflected by the form in which its work processes are cast by industrial management methods.
CHAPTER TWO: MANAGEMENT OF HOSPITALS

I RELATIONSHIP OF MANAGEMENT PRACTICES TO ORGANIZATIONAL GOALS

In Industry

How well an organization can achieve its goals depends, as Thompson (1967) says, on how well the cause/effect relationship between the organizational technology and goals is understood, and the relevant variables controlled for. In industry, where the relationship between the work processes and the product is clearly discernable and quantifiable, and supply and demand factors calculable, the organizational goal of maximum return on investment is determinately related to its "cause" in organizational activity. Management practices provide monitoring and feedback of the relevant variables upon which decisions affecting the success of the organization depend. The deterministic relationship between goals and work processes and supply and demand factors of the organizational technology means that management accounting practices can provide information to facilitate achievement of organizational goals. This is possible because organizational goals in business and industry are conceptualized and calculable in economic terms, the same dimension of organizational activity as the accounting procedures are reporting. The success of management practices in industry can be seen to depend upon their deterministic relationship to organizational goals.
In Human Service Organizations

In non-profit service organizations such as a hospital, organizational goals neither have the unifying characteristic of necessary capital accumulation nor are they likely to be deterministically related to management methods based on accounting procedures. If the organizational goal cannot be defined in such a way as to specify precisely and in quantitative terms, how the work process is related to it, the figures produced by management accounting procedures are likewise not determinately related to the organizational goal. It follows that such figures are not an adequate basis for informing organizational policy. A more detailed analysis of how organizational policy is formulated and hospital activity is directed must be undertaken to provide an understanding of how management practices are related to organizational goals in hospitals. Perrow's (1961) work on the analysis of goals in complex organizations is instructive.

II THE DEFINITION OF ORGANIZATIONAL GOALS IN HOSPITALS

Competition For Dominance by Elite Groups in the Organization (Perrow)

The process of goals determination in hospitals is a dynamic one with organizational goals reflecting changes in funding arrangements, the state of the healing arts, public demands for services, etc. The identification of what actual goals underlie
managerial decisions requires careful analysis since the statement of official goals in the organization's charter or annual report may not correctly indicate what ends are actively being pursued by the organization. Operative goals, those which influence policy, may be a portion of the officially stated goals although less prominence is given to them in public relations efforts, or they may be quite unrelated to official goals. The latter may begin as unofficial goals (special interests of a particular member or group) and gain such prominence in the organization that they influence policy. For example, a hospital whose official goals are "to promote the health of the community through curing the ill, teaching and conducting research" may actually be operating on policy which neglects aspects of the official goals or contravenes them entirely. Expenditure on teaching, requiring reduction of nursing staff, may create conditions resulting in lower quality of patient care; funding may be diverted from the operating budget to a research program, the primary purpose of which is to advance individual careers of powerful members, etc.

In the absence of a clear cut and unquestionable goal definition for a hospital, how the organization's activities are directed and resources allocated is a matter of who commands the most powerful position in the organization. Perrow sees this as a competition for dominance among the elite skill groups
in the organization. Operative goal choice will be made by the elite group which achieves the dominant position because of being able to successfully accomplish the most problematic tasks of the organization. The major tasks of a viable organization outlined by Perrow are:

1. to secure inputs of capital sufficient to establish, operate and expand as the need arises;
2. to secure acceptance in the form of basic legitimation of activity;
3. to marshall necessary skills; and
4. to co-ordinate the activities of its members and the relations of the organization with other organizations and consumers. (Perrow, 1961) About these tasks he says:

All four are not likely to be equally important at any one time. Each of these task areas provides a presumptive basis for control or domination by the group equipped to meet the problem involved...The operative goals will be shaped by the dominant group, reflecting the imperatives of the particular area that is most critical, their own background characteristics (distinctive perspectives based on their training, career lines, and areas of competence) and the unofficial uses to which they put the organization for their own ends.

(Perrow, 1961)

In the historical period before the prevalence of scientific medicine, trustees dominated the policy-making in voluntary hospitals, giving way to doctors when that group's expertise was increasingly required to make decisions about technological
and scientific advances. The current phase, Perrow says, is characterized by administrative dominance. As Crozier (1964) has shown, the group with the expertise to handle situations of uncertainty in an organization will wield considerable influence. The uncertainties produced for health care organizations in the 1970's by government alarm over costs of public-financed medical and hospital services, and by the down-turn of the economy provide a context for management, as efficiency-experts, to expand their control.

Administrative Dominance Over Organizational Goals

The increasing complexity of health care requires more skill and attention towards co-ordination of efforts of different workers than doctors are able to handle. In addition, the new financing arrangements -- government sponsored hospitalization and medical services insurance -- make public accountability mandatory and put new emphasis and new strain on efficient use of resources. The required skills are taught in Schools of Business Administration, and their mastery allows this group to achieve new prominence in hospital organization. Administrators can consolidate their strength by interfering with doctors' traditional relationships with other workers by which doctors' demands for deference and time-saving conveniences were met. "By maintaining close supervision over employees or promoting their own independent basis for competence, and by supporting them in conflicts with doctors, the administrator
can, to some degree, overcome the high functional authority that doctors command" (Perrow, 1961). Administrators' control of communication in the organization enhances their strategic position. Access to information, particularly about crucial financial and legal matters affords administrators power over other groups.

Perrow describes two tendencies in administrative dominance: to support operative goals concerned with financial solvency, or operative goals reflecting increasing "professionalization" of hospital administrators. In the first, there is attention to careful accounting procedures and efficiency and in the second, concern about "broader medical-social role of hospitals involving organizational and financial innovations in the form of care" (Perrow, 1961). These two tendencies would seem to have been reintegrated by the proliferation of use of systems analysis and computer technology in hospital administration. Its methods offer the most advanced means of rationalized decision-making and give the hospital administrator new prestige as both an efficiency-expert within the hospital and a planner of health care in the wider field of social services -- both on the basis of computerized data-processing and efficient business practice. This is the point at which the danger of goal displacement (Scott, 1967) appears. Scott describes a situation in which staff of a social service agency actually changed their beliefs about the clients their agency
had been set up to aid, when the clients became a burden on its successful business operation. As the practices which constitute "organizational goals" change from social relations to financial relations, human concerns can be overlooked. This is the concern Hoos (1972) expresses regarding systems analysis in health care.

She finds unconvincing the now widely held belief that systems analysis applied to social problems can produce better solutions. Her research corroborates

> a technological conception of a problem limits the focus to those aspects which can be expressed quantitatively and which fit certain models. The technological solution which results may be satisfactory from an engineering point of view but, because it has encompassed only selected facets, vital dimensions may have been neglected. Such violation of the essence of problems may, in the long run, exacerbate rather than ameliorate the troublesome condition.

(Hoos, 1972)

Hoos documents the progression in the U.S.A. of the use of systems theory and technology from the Space Program to the Defense Department and thence throughout government offices and agencies to its now unquestioned application to management decision-making in any organization. The success of the Space Program encouraged optimism in the unlimited capabilities of automatic data-processing to allow computerized selection of the best option for any undertaking. The management practices
built on this basis are those of scientific management-separation of conception and execution, carried to their technical extreme. Planning-Programming-Budgeting, and Cost-Benefit Analysis are organizational forms in which the decisions are made on the basis of information from work-areas correlated to criteria which management has formulated out of a "technological conception" of the organizational goals.

In Canada, following institution of tax-supported hospital insurance and pre-paid subsidized medical plans, rising costs have induced government funders to support economy-minded methods. Modern management methods using systems analysis and electronic data-processing are advanced here, as in the U.S.A., for efficiency in a health care system which is costing too much to operate. While the problem of authentic indicators of health has continued to baffle researchers, conversion of hospital record systems, clinical as well as those concerned with organizational process, has gone on. The indicators by which decisions are made continue to reflect, as in industry, economic considerations, skewing an organization's policy away from human considerations which cannot be quantitatively expressed or assigned a monetary value.

Operative Goal Choice By A Subordinate Group

While Perrow's argument that a dominant elite group determines organizational goals in a hospital has considerable empirical
validity in light of the present situation in Canadian hospitals, it does not account for important modifications to hospital policy and activity made by members of a subordinate group. The potential for independent goal choice by nurses can be estimated by recent and increasing attention by management to tightening control of nursing work. Implications of this new control over what nurses do may rebound on patients whose nursing care has always been the product of considerable nursing discretion due to the hospital's "front-line organization" (Smith, 1966).

Front-line Organization (Smith)
When the work structure creates a situation in which the task is carried out relatively independently at the locus of work, the members of such isolated work groups are in a position to influence each others' behaviour -- to rival the influence of organizational goals set elsewhere.

Control over behaviour of nurses tends to be exercised by peer pressure due to the closed work groups whose locus is the ward. Working individually with patients or in small work groups, they have little contact in the course of a day's work with nurses from other wards. Their contact with other technical and service workers is mediated by traditional understandings about occupational role behaviour which reduce the influence of such persons over the observed behaviour of nurses in their professional relationships with patients. For example,
cleaning and food-service staff are largely constituted by nurses as "non-persons" (Goffman, 1959), and contact with technical workers as fleeting tradesperson relationships (Davis, 1959). So although general hospital wards are not "closed" in the sense that mental hospital wards may be, the "professional" atmosphere which prevails insulates the ward staff from outsiders to the extent that the "insiders'" version of operative goals may dominate.

Barriers to direct supervision of nurses on the ward allows nurses some leeway to exercise individual control over operative goals. To control nurses' behaviour, supervisors need information, either gathered directly by observation or indirectly in reports. The process of reporting allows the person on the scene discretion over "the facts" reported; these "facts" are the basis on which organizational action is taken. A nurse's judgment must be relied on by people in management who translate reports into centralized organizational action.

In these ways nurses, although not an elite group overtly competing for dominance in the organization, are taking organizational initiatives, influencing their peers to act according to group standards rather than organizational ones, and are exercising their own influence over operative goals by providing or withholding key information. Nursing work processes
have largely escaped direct organizational control up until the present time. The "doctor-nurse game" has served as an adequate method for preventing interference by doctors in nursing objectives (Stein, 1968). Front-line organization of hospitals has prevented successful managerial control.

III INADEQUACY OF INDUSTRIAL MANAGEMENT TECHNOLOGIES FOR DIRECTING HOSPITAL WORK

Elusive in definition, changeable over time and with ascendancy of different elite groups in hospitals or with pressure from interested groups within or outside the organization, goals directed towards "health," once defined, exhibit a characteristic which defies successful application of industrial management methods. How the goal of "production of better health" or "provision of adequate health services to an individual or community" is to be related to a determinate set of work processes which can then be monitored and related to specific costs is an insoluble problem. This link between work processes and goals is necessary for managerial practices based on accounting procedures which build in the assumption that financial considerations have a priority in decision-making.

Health care, however, depends upon a co-operative effort between the individual and the health care worker. What the worker does may vary from person to person, with similar results, depending upon such intangible ingredients as the patient's motivation to get well, and a multitude of other intrapersonal
factors. Healing and growth are mysterious processes, still not under complete control of science and technology.

Industrial management methods are currently being focused on nursing work. Administrators see nurses as the work group to be managed more efficiently in an effort to reduce health care costs. "Management" means control of the work process and its closer articulation to goals which management prescribes -- goals which are technologically conceived and quantitatively expressed for accounting purposes. As work processes are stream-lined and cost-analysed for efficiency, nursing activities which are now taken for granted may be excluded as too costly from preplanned, timed schedules. The significance of nurses' discretion over their work, overlooked by analysts like Perrow, has been to provide essential human elements to hospital care; at a time when technological features of health care are replacing human contact, modern management methods in hospitals are beginning to organize nurses' work to restrict their traditional discretion. This is a dangerous trend for health care as well as for nurses and nursing.

The use of industrial management methods in hospitals is suspect in terms of adequacy of care. It must be kept in mind that if management accounting procedures are "successfully" providing a basis for organizational decision-making, they are not necessarily informing the best decisions about health or
health care. Goals for human service organizations are of a different order than those determined by "return on investment" analysis. Decision-making about what is good for people is unlikely to serendipitously accompany efficient business practice. Braverman's work specifically describes the opposite effect.

In Chapter Three, management responses to current issues in the provision of health care in Canada are examined. What is being pointed to is the reinforcement of administrative dominance in hospitals by current economic difficulties. In turn, this dominance allows implementation of managerial technologies which, directed towards handling the economic problems, skew health goals.
I  UNCERTAIN CONDITIONS IN HEALTH CARE

During 1974-1976, the important issues for health care administrators arising from external conditions were, first: pending or actual budget cuts by governments responsible for health care funding; second: government initiatives towards new health care policy, indicated by publication of *New Perspectives on the Health of Canadians* (Ministry of Health and Welfare, Canada, 1974) which outlined need for a change in emphasis from illness care to preventive health care; and third: general rising costs were accelerated by new wage demands backed by increased collective action by hospital workers.

This created a climate of uncertainty in which hospital administrators attempted to regain the upper hand by advancing solutions based on the efficiency methods of modern management. Their responses to the initiatives of government and workers had the effect of more clearly defining health care as a business enterprise, and its administration properly requiring management methods borrowed from business and industry.
II HOSPITAL ADMINISTRATION RESPONSES TO UNCERTAIN CONDITIONS

The responses of administrators to the new conditions indicate how they react to threats to their hegemony in the health care management enterprise. They see government eroding their authority (HAC 18:9,4) and suggest that hospital administrators and trustees must prevent further government intrusion into what is rightfully their own concern -- decisions about how health care money will be spent. Examples from the journals are presented to suggest how hospital management incorporates industrial ideology and how it takes form in response to new issues of fiscal control, preventive health policy and union activism.

Ideological Underpinnings of Management Positions on Current Health Care Issues

The speaker chosen to give the 1976 Canadian Hospital Association keynote address articulated hospital management's concern about too much government control in hospital affairs. Maxwell Henderson, former auditor-general of Canada, called for a return to hospital boards and managements of the right to conduct their own affairs in order to "keep alive the competition, initiative, and self-reliance that are among our best Canadian characteristics" (HAC 18:8,6). This speech was given prominence in both HAC and Dimensions; both carried pictures of Henderson, one on the cover.
In contrast was the response to T.C. Douglas, parliamentarian, speaker at the Canadian College of Health Service Executives meeting the evening prior to the CHA convention, and in the same city. Douglas' talk called for governments to respond to their "inescapable responsibility to ensure that those who are sick and crippled receive all the treatment and care which modern science has made possible without money and without price" (HAC 18:8,6). The HAC editorial commenting on the two speeches noted the contrast, calling it "Two Opposing Tendencies." An unnamed administrator is quoted in the editorial, expressing a perspective apparently supported by HAC: "Should we look at needs and humanity or costs and reality?" (HAC 18:8,6).

The management position in labour disputes was the subject of an address by Charles Perrault, President of the Quebec Employers Council, to the joint meeting of the Canadian College of Health Service Executives and the American Hospital Administrators, November, 1975. This talk by a business leader put the question of government expenditures on social services into capitalist perspective: to have money to meet people's demands for social services, the government must support industry in making profits; to make profits, industry requires a low paid labour force. Perrault pointed out that industry has made certain concessions to keep workers satisfied, such as job enlargement, and certain personnel techniques, but it
won't pay higher wages. Instead, industry will move its production to more receptive countries rather than pay big wages. Unions which won't co-operate with this philosophy should not be allowed to operate, Perrault suggested. In his talk, he represented government as misguided, naive, pandering to political activists and workers, without the strength to make appropriate decisions to benefit management. Industry's position is characterized as representing "the common good" against which organized groups of workers defend their selfish wishes (Dimensions 53:3,44-46).

This speech was given the highest rating of approval by administrators attending the conference, suggestive of agreement with the views being expressed. The beliefs manifest in these speeches, in the right of management to control health care in a business-like fashion, putting money matters before human need can be seen the ideological underpinnings of modern management in hospitals. It influences management positions in three particular areas of current concern which are discussed below.

**Struggle for Fiscal Control**

Hospital administrators see themselves in a struggle with government over the fiscal control of health care, and feel that they can benefit from the participation of other health professionals in the contest. In an editorial (HAC 18:12,6) editor John Boyd suggests it is time for more "plain speaking" by professionals,
and notes that fellow editor, Brousseau, of *Dimensions* has made a beginning by criticizing the government in the October, 1976 issue of his journal. Two effects might be felt: while medical and nursing support for the administration position against government cutbacks would strengthen opposition to such funding cuts, opposing claims by doctors and nurses for larger shares of hospital budgets could be used by administration to their own advantage. Administrative techniques for objectively measuring effectiveness of medical and nursing performance are being offered as the answer to conflicting allocation claims (*HAC* 18:1,4). As in industry, managers using economic criteria claim preeminence in planning and decision-making as representatives of the common good.

Fiscal problems, then, strengthen the administration claim to control health care resource allocation; administrators can point to their expertise in business management when efficiency methods are called for. John Boyd, in an editorial in *HAC* (Vol. 17:8,4) says

> we ought to take a long-range view and...develop, slowly and deliberately, step by step, a system that will eventually be more cost efficient.

Research on such systems is reported in *Dimensions* 51:1,34-36 and applications of management methods focusing on work analysis, and accounting procedures for objectively establishing
remuneration rates, or otherwise getting "more work per hour of employee labour" are frequently discussed in articles (HAC 16:6,6). The approach to management which poses problems in economic terms alone is now being applied to all aspects of health care decision-making; examples of its use in hospital management, contract disputes, government allocation of funds, medical and nursing practice will be discussed in more detail in later sections of the paper.

Prevention -- A New Priority in Health Care Policy

The newest threat to Hospital Administrators' dominance is the policy announced by the federal Health Department indicating its intention to emphasize prevention (1974), and to do so by taking money out of hospital allocation (Dimensions, Aug. 76, 42-43). These initiatives were followed by statements in administration journals of the priority of hospitals and the hospital's role in the community.

John Boyd, in an editorial "Broadening Health Care Horizons" (HAC, Aug. 75,4) responds to the federal policy statement about prevention:

Hospitals are here to stay and will continue to be the core of our health care system for a long time to come.

and goes on to recommend that more economic ways of operating them be found.
When it became apparent that the government intended to provide for any new preventive programs out of money already budgeted to hospitals, hospital administrators began to emphasize the central position hospitals play in the community and to suggest that hospitals are the logical place for preventive programs to be located (Dimensions 52:10, 8). In a guest editorial in HAC, an administrator of a Toronto hospital suggests that Hospital Administrators and Trustees should control the "internal and external" health care budgets, pointing out that administrators have the necessary expertise (HAC 18:9, 4).

Community Health Care Centres represent a new development not under the control of hospital budgets and they are criticized in a Dimensions editorial. The conclusion reached is that these experimental health centres were fundamentally not acceptable to the health workers, in particular, the medical profession, and that hospitals could better take on the role of community health centres (Dimensions 51:6, 4). Other groups interested in maintenance of hospital functioning at its present state are heard from as well. For example, a hospital trustee, and a University of Toronto researcher from the Institute of Policy Analysis employed on a "Physician's Survey," co-authored an article in HAC (Vol. 18:10, 9). It examined the hospital's need to take more "social responsibility" or suffer alienation from the public. This is a theme which administration journals echo (Dimensions 52:10, 8) representing a position taken by the new breed of "professional" administrators,
Union Activism

Hospital administration supports government efforts to arrive at "objective standards" by which salary levels can be calculated rather than being left to "the exercise of raw power" -- as collective action by nurses and other hospital employees in Ontario has been described (Dimensions 51:3,14). This article refers to a Hospital Inquiry Commission established by the Ontario government to review and report on comparable categories of work to which hospital workers' demands can be related. The Commission, made up of a political economist and two steel company executives is weighted in favour of the business ideology previously discussed which views "the common good" arising from paying workers the lowest wages possible.

In their own organizations, hospital administrators are introducing objective standards for performance evaluation which can be used as the basis for comparison to external standards from industry when these are arrived at. Methods for measuring the productivity of hospital personnel "with a view to improving staff utilization and controlling costs" have been the focus of studies undertaken in Saskatoon since 1974 by the Hospital Systems Study Group, funded by the W.K. Kellogg Foundation. This project undertook implementation and evaluation of management tools for gauging and monitoring staff performance. Its
findings have been made available to hospitals throughout Canada (Dimensions 51:1,34-36) and references to this work are now appearing in reports of modern management implementation in other hospitals (HAC 18:2,22-25).

In the past, hospitals have relied on job security and workers' idealism to make work there attractive. Now that hospital workers are using collective action to support demands for higher wages, governments are co-operating with industry to keep the lid on rising labour costs.

Critical Self-Appraisal by Management of Their Own Methods
Another response noted in hospital administration journals is the discussion of management's preparedness to cope successfully with the new conditions in the climate of health care. Significantly, articles comparing hospital management to industrial management appear in this time period (HAC 17:2, 31-34; Dimensions 51:8,57-61). Obsolescence in both organizational structures and of managers themselves is noted (HAC 17: 11,20-25; HAC 17:9,17-20). What is being suggested in these articles is that new conditions require new methods; the methods of choice are those based on systems analysis -- program budgeting, cost-benefit analysis and new organizational forms and personal management behaviours to capacitate these methods.
The need to accentuate the division between management and labour in an organization in the interest of increased control is the focus of several articles. Department heads should not be unionized (Dimensions 52:10,46-47), and nurses in management positions should be educated to the proper perspective regarding their function (HAC 18:12,26-28; HAC 17:6,49-53). The emphasis on re-education of nurses for management positions is attributable to the importance of middle management positions in establishing managerial control over work processes still controlled by skilled workers. Re-education includes winning management nurses over to the view that organizational goals of productivity and efficiency are prior to humanitarian concerns. Symbolic of the new relationship of these nurses to the organization they will have learned to see as superordinate, nurse graduates of the management course at Hamilton Civic Hospitals are given a desk set pen holder; management is to be seen as an office job, and these nurses are to identify with administration, not with other nurses who do technical work.

Methods for maintaining managerial control are discussed at Health Service Executives meetings, and articles extolling the value of new methods appear frequently in the journals. Such techniques as "consensus management" into which "skills of co-ordination and persuasion are built" extend managerial power their proponents say, because of the tendency of other hospital groups to turn to management for help using the tool
(HAC 18:6,4). "Management by objectives" is seen as the preferential management method because of its built-in focus on quantifiable results (Dimensions 51:6,17-18).

III APPLICATION OF INDUSTRIAL MANAGEMENT METHODS TO HOSPITAL WORK

Decentralized Organization

Reference has already been made to some of the specific methods transplanted from business and industry to the hospital. One innovation in hospital management is re-organization of the formal structure of administration into the form developed in large corporations (Sloan, 1972). This method decentralizes the operations of the organization and combines tight control by the central administration over policy and finance while allowing maximum discretion in the decentralized units. Policy decisions arise in the administrative centre and are implemented by unit heads who are accountable to the centre for the functioning of their units. What discretion actually occurs in the units is within the parameters of the policy decisions and budget allocations made in the administrative centre. This system of management and its variants which have been described by Stevenson and Paterson (Dimensions 53:3,11-13) and Carruthers (Dimensions 51:8,57-61) uses forecasting of resource needs, monitoring of actual use, and accountability by designated personnel to control costs. Carruthers points out that
strategic planning allows "unprofitable products" to be trimmed off.

Systems Analysis in Hospital Planning and Operations

The techniques for planning and decision-making are based on system analysis, as are monitoring and accounting procedures. Planning, Programming, Budgeting Systems (PPBS) requires the translation into quantitative terms of information about problems to be solved, after which it can be processed automatically and alternative courses of action suggested by the computer. Confidence in the computer selection of the best course of action using its ability to scan all the combinations of alternatives presented to it is very high due to the pervasive residual effects of the American space program (Hoos, 1972). These alternatives are "cost" alternatives, and depend upon the validity and completeness of information about the "problem" for their reliability or appropriateness.

Cost-Benefit Analysis is a planning technique which attempts to assess how effective a particular program or treatment has been. It relates the amount of health care intervention to the outcome in an effort to ascertain for future programs what treatments, etc., provide maximum return in improved health on capital invested in personnel, equipment and other resources. The problems in attempting to conceptualize these relationships and to gather reliable information to describe
the phenomena which are being cost-compared, remain monumental. However, great amounts of money are being expended to develop information systems in Canadian hospitals by which all kinds of health care decisions can be made.

Information about treatment outcomes and other data about clinical problems are gathered from patient records. To be used in data-processing equipment, standard nomenclature has to be agreed upon and records kept in a standard form. Such a system has been in operation in Ontario hospitals since 1974, providing information on patient identification, admissions, discharges, diagnosis, doctors and services involved, procedures and treatments carried out, medical and laboratory findings, etc. The quality of this information depends, according to a statistician who works with the information system, upon

scrupulous care in the collection, programming and analysis of data...Only highly qualified and properly trained personnel can use the medical information from the medical sheets and record it on the abstract sheets for computer input.

(Dimensions 51:7,59)

Even if the data from records are reliable, and many possibilities for inaccuracies and omissions occur along the information production line, what is done with this information must
be questioned. Physicians express concern about confidentiality and medical ethics; the statistician previously quoted worries about the cost of gathering and processing vast amounts of data which will never be used. Attempts to find "indicators," by which planning decisions can be made, in what can be quantified for automatic processing equipment, is risky. Only certain aspects of either the costs or benefits of health services can ever be translated into quantifiable terms. Basing health care decisions on numbers of patients discharged with "improved" written on their medical record, or some other such fragment of the whole interaction, is not an improvement in planning even if neat graphs and correlations can be made.

At present only organizational processes can be reliably converted to computerized decision-making. Clinical decision-making by computer is still in the experimental or demonstration-project phase. An example of organizational process which has been "rationalized" by systems analysis and computer processing of data is staffing of hospital wards. Patient classification systems codify the nursing needs of specific patients and these codes are matched by computer to predetermined staff complements. This "objective" demonstration of staff requirements for hospital wards is examined critically in the next chapter when effects of modern management techniques on nurses is discussed.
Work Design

A separate undertaking which is vital to the use of automatic data-processing in hospitals is management control of the organization of work. The following advertisement in HAC illustrates the focus of attention of a "management engineer" in a general hospital.

Management Engineer required for a general hospital. Must be capable of accepting responsibility for the analysis, design and implementation of improved procedures in any hospital department. Accomplishment of this ultimate aim would require the successful applicant to be knowledgeable in communication skills, methods study, work simplification, work measurement, forms design and control, staffing patterns and creating the proper environment for successful implementation...

(HAC 18:12,39)

Two crucial aspects of work design are:

1. (The Braverman Principle) Work is broken into the smallest possible segments; the mental work is relegated to management control and the segments are performed by relatively unskilled workers.

2. The tasks in each segment are specified so that the job may be precisely described, evaluated objectively, pay grades determined and correlations made with similar categories of work in other fields (in industry, for example) to objectively determine comparable scales for collective
Detailed knowledge of precise work tasks affords management control which can be used to increase pressure on workers in various ways. A step-by-step report of this procedure, applied in a hospital office, is reported in an article called "Get More Out Of Your Typist," written by a systems analyst at a Toronto hospital (Dimensions 52:11,11-12). Work measurement and simplication procedures in this department increased its output of typing by 66% while unit costs of the work decreased by 13%. Changes included monitoring individual typists' daily productivity, reorganizing the work process to remove any sorting or planning of work by the typists, and reduce the time spent in setting up different reports and correcting errors. The work area was renovated to remove the possibility of distraction from outside stimuli. Management, in gaining control of the work process had been able to reorganize and routinize it so that the activity of fewer staff could be tightly controlled and their output vastly increased.

This same kind of procedure is applied to all categories of hospital work, to the extent to which work processes can be made determinate. A News item in The Canadian Nurse (72:7,11) reports research on optimum staffing being done by a study team at the University of Saskatoon. One of the ways nursing
work is being streamlined is by having pharmacists prepackage single doses of medications for hospital inpatients, to reduce time spent by nurses in this activity. Studies of pharmacists' work reveals that this increase in their duties would increase the total cost of this aspect of health care unless a corresponding reduction in nursing time occurred. The next chapter discusses applications of modern management technologies to nursing work processes.
Science Council Recommends Systems Analysis to Integrate Health Care

On October 16, 1974, the Science Council of Canada presented its Report No. 22: "Science for Health Services" in which new scientific directions in health care policy and management were recommended to the federal government. The Canadian Nurses' Association was one of the groups asked to respond to the report. Besides the official position of nurses to the solutions being proposed for health care problems, the nursing statement provides some indications of underlying conditions which affect nurses' thinking about their involvement in health care.

The first recommendation of the Science Council's report is that Canada's health care be "reorganized into an integrated system... using a systems approach" (CN 70:12,9). It recognizes the need for "satisfactory health indicators" and calls for work on them to be intensified; it calls for development of a computer-based health information system which would allow "monitoring the effectiveness of the health care system in greater detail."
Another recommendation is for "further redefinition of the roles of health personnel...which would reduce the formal restrictions of the services that can be performed by various personnel."

CNA Response to the Science Council Report

The CNA response supported the general principles in the Science Council Report but added that its solutions "do not address the fundamental problems," which nursing sees as "the problems of accessibility and use of resources, which are treated only at the level of general principles; mental health, which receives only prefunctory attention; and the clients' point of view, which is lacking" (CN 70:12,9). But after specifically rejecting the Science Council's proposed solutions for health care, the Nurses' Association ratifies the method outlined in the Report:

The Association recognizes the usefulness of the application of science and technology to the health care system, along the lines suggested by the Report.

It qualifies its endorsement of the approach by adding:

However, CNA hesitates to endorse the use of a single approach to solve all the problems of the health care system.

This equivocal response must be seen in the context of the
relationship between nurses and the scientific and intellectual community represented at this conference. Two features stand out: the vulnerability of the nurses as a member of that group, and the strategic usefulness to nurses of supporting the systems approach.

In an era when science and technology are preeminent, to be unsupportive of the systems approach suggested by Report No. 22 of the prestigious Science Council of Canada would be seen as anti-intellectual and regressive. Nursing is currently struggling to be recognized as a profession. It bases its claim on establishing its own scientific knowledge foundation, and wants to be seen as rightfully a member of the intellectual community (U.B.C. School of Nursing "Model for Nursing," unpublished manuscript). On the other hand, nurses are sceptical of mechanistic approaches to solving human problems. Discussion of humanitarian concerns which have motivated nurses historically is not easy in scientific circles, nor is nurses' traditional way of knowing likely to be seen as authoritative (Campbell, 1976). In the final outcome, as nurses are beginning to realize and resent, what they say or do makes little impact on policy decisions anyway (CN 72:4,8). For the shorter term goals, both official and unofficial in nature, nurses are likely to see the new methods being introduced by hospital management as a positive step. For example, systems approaches which require new administrative methods such as decentralization (unit management) seem
to offer nurses more autonomy (Morgan. *Dimensions* 51:8,55-61). Perrow observed that administrators will support nurses' claims for more autonomy over their practice in order to break doctors' traditional ties with nurses, and to reinforce their own (administrators') power (Perrow, 1961).

The new approach to health care offers nurses in management opportunities for advancement in their careers. It is the stated aim of management training programs such as the Hamilton Civic Hospitals one (*HAC* 17:6,49-53) to provide management nurses with the experiences and privileges of belonging to an elite group. As the use of these management methods proliferate, more nurses are being required to fill these roles. These nurses are recruited from nursing supervisory or administrative ranks whose members, along with nurse educators, form the policy-making committees of nursing associations. Products of the same educational processes as other university-educated professionals, nurses are increasingly being taught to approach their work with the tools supplied by systems analysis. The first work on nursing translations of systems theory was done by an engineer and published in the early 1960's (*Nursing Research* 12:3,172-4; *NR* 12:4,232-6; *NR* 13:1,4-7). Since that time, many nursing theories and "models" of nursing (e.g. *CN* 71:9,40-1) have been developed, based rather loosely on general systems theory. However epistemologically unsound (see Hoos, 1972:26-7 on this point) this work has provided an ideological
connection for nurses with the elite whose "ruling" is based on these concepts (Smith, 1973).

In practice, however, modern management methods, which have incorporated the systems approach, split nursing into two parts: those who manage and those whose work is managed, and they also focus attention on the cost relations in nursing care at the expense of the social relations. The next section provide some details of how this happens.

II MANAGEMENT METHODS APPLIED TO NURSING WORK

The methods which management imposes on nursing work are adapted from industry and have the same aims. There is an attempt to monopolize the knowledge of the work process, to specify (preplanned) tasks, and to control the performance of those tasks. These procedures supply "objective" information about nursing skill levels and nursing time needed which forms the basis for "objective" work assignment; they reduce the need for nurses to exercise discretion in the performance of their work, thereby lowering skill requirements; and they provide, through detailed performance evaluation and retrospective document checks, for worker compliance to task specifications. This control over the work process at the locus of activity in nurse/patient contact reduces the need for central administrative control -- which was never effective in controlling nursing
initiatives anyway.

The economies effected by objective staffing: fewer total staff, more technical (vs professional) workers, and fewer nursing supervisors are augmented by policies informed by cost data related to specific nursing tasks. It is here that the indeterminate relationship between health care goals and managerial practices becomes problematic. What is economical may not be good enough when it is human beings, not inanimate material, being worked on. The specific tasks described as a "process" towards improved health may be inadequate, describing a particular job, rather than what is in a patient's best interests. The following examples discovered in accounts of nursing from nursing or administration periodicals illustrate how nursing work is organized by management practices to accomplish these ends.

Unit Management
Decentralized organization of administration in hospital units has already been described in the section on industrial management methods being used in hospitals (Chapter Three). This method originated in the General Motors Corporation during the 1920's; its prime purpose and what it achieved for that organization was tighter administrative control. Organizational decisions were made on the basis of statistics worked up in the units and fed into the central decision-making core. Choices
among alternatives were based on economic considerations since profit-making was the goal of this organization. In the interests of efficient management, this industrial method is being implemented in hospitals in spite of difficulties, already described, with decision-making about health matters due to lack of authentic indicators of healthy outcomes of health care services. Nurses see the new management methods as offering them more independence of action. Monaghan suggests that greater programming and specialization will make it possible for hospitals to dispense with nurses at the supervisory level, and the clustering of several units will eliminate many head nurses; this will satisfy the "healthy drive for greater responsibility by general staff nurses" (CN 71:9,22). Another nurse, writing in *Dimensions* describes the effects of management methods which remove direct supervision from nursing units as a way to "arrange the release of as much nurse power as possible (Dimensions 52:8,14), and reminds her readers that in the north (of Canada) nurses have more responsibility than they are allowed in southern hospitals. What these nurses are not attending to is the increase of control which will be based on information systems, the production and processing of which will require nursing time and change nursing activities. In General Motors, discretion over any matters of major concern was removed from the units.

Carruthers, writing about the changing role of the chief
executive officer of the hospital (HAC 16:8,57-61) says that the best way to allow the management more freedom to manage is to change the structure of the organization. He points out that over-centralization prevents the development of the concept of holding line-executives responsible for individual operations. This strategy is one which tightens control over workgroups by making their immediate superior accountable for activities in that area. It also provides the basis for a demand by supervisory staff for performance evaluation tools. If they are being required to produce objective evidence of their area's performance, they will need to evaluate their staff in a manner which produces this kind of data.

Patient Classification and Staffing Control
The raison d'être of patient classification is to lower staffing costs, by reducing the number of nurses doing the work (Dimensions 52:8,13). The director of nursing services at a hospital which recently instituted the method puts it this way:

The nursing administrator who is armed with facts and figures to support demands for staff will be in a more favorable position to achieve goals than the colleague who is still relying on experience and good judgment however real needs may be. Although experience and judgment for the most part are reliable, demands must nevertheless be supported by statistical proof. The question could always be asked "How do
you know you need more staff? Prove it."
...It was decided that scientific proof was needed to substantiate demands for more nursing staff. It was also agreed that one of the answers might be more efficient utilization of available staff.

(Dimensions 53:5,36)

An "objective" method of categorizing patients according to their "nursing needs," which have been predetermined according to categories of acuteness, replaces nurses' judgment. Since the objective method results in fewer nurses being allocated to nursing units than nurses' judgment called for -- a nurse's judgment is biased not only by concern for patients, but by not wanting to work too hard herself -- fewer nurses can be hired, and savings effected.

The system implemented in one Ontario hospital is described in detail in Dimensions (53:3,39-44). Its origin was in research conducted by the U.S. Department of Health, Education and Welfare. Similar work carried out by Canadian researchers in Saskatoon provided the basis for implementation of systems of patient classification in other Canadian hospitals.

This is how the Ontario system mentioned above works. Each day the head nurse on a ward checks an itemized list of specific nursing needs for all patients on her ward. A pre-formulated accounting procedure provides a "patient classification" figure from this data. The figure indicates the acuity of the patient's
condition and ranges from 1 to 4 (ambulatory to intensive care). Each patient classification figure carries a "work load coefficient" by which the ward's total work load is determined; this is done by multiplying the numbers of patients in that classification by the work load coefficient and adding the results. Another mathematical computation provides the "work load index" -- with Type 2 being the standard patient, the total work load figure is transformed into a statistic representing the equivalent number of Type 2 patients on the ward. The work load index is then divided by the ward census to generate a figure describing the average difficulty of a group of patients -- the "mix index," which is used to determine recommended number of staff and the professional to auxiliary staff ratio.

It is pointed out by the manager who described this procedure that the recommended staff is not always available for reasons of shortage of personnel or funds. The advantage of the classification and allocation system is in ridding the staffing office of emotion and rancor when shortages are felt on the wards. He stressed that all wards are treated alike and that documented evidence is provided by the system to demonstrate that an individual head nurse seeking additional staff cannot influence the allocation of staff by being persuasive. Another advantage is seen in using professional staff "appropriately," i.e. the staff mix allocates professional workers to the sickest
patients. Most advantageous is the reduction of permanent staff made possible by maintaining minimum staff coverage of the wards and supplementing an over-burdened staff with nurses pulled from other less busy wards, or with part-time workers.

These new management methods are accompanied by propagandistic explanations of how it will correct some problem of long-standing concern to nurses. Patient classification, although clearly a method for increasing a nurse's workload, is no exception. The nursing services director quoted above describes this process at her hospital:

Preparation of the nursing staff was the vital link to success. Long before (the system was implemented) the staff was made aware...that they would have an opportunity to participate in deciding staffing needs through classification of patients, as well as having an opportunity to provide input for staff scheduling in an effort to accommodate their individual life styles.

This account glosses over the devaluing of nursing judgment involved and misrepresents the actual intended outcome. When "preferential scheduling" in this hospital was unsatisfactory to twenty percent of the staff, the explanation is given that negotiated changes in the employment contract created problems
to which the system could not adapt. The actual changes in staffing which accounted for nurses having more preference in shifts and days off must be seen in yet another (negative) light: the new staffing system relies on a supplementary work force of part-time nurses who are presumably forfeiting full-time employee benefits. This staffing system depends upon the availability of a competitive pool of under-employed nurses. Reductions in staff mean less time available per patient for nursing care. Reductions in professional staff mean that these nurses will be spending their time with patients in their most acute phase of illness and their contact with convalescing patients or those less acutely ill will be replaced by care provided by nurses' aids or practical nurses. The care given by less highly trained workers will reflect their training and this poses a problem of quality control. Hospital and nursing literature is filled with examples of "objective" quality control measures and discussion of their application to nursing practice. This is a relatively new concern for nurses who have previously relied on individually internalized professional standards. There are two threads of objective quality control, both derived from industrial scientific management: Work Analysis and Performance Evaluation. Work Analysis attempts to transfer to management the control over the knowledge of the work process. Performance Evaluation uses that knowledge to control workers.
Work Analysis and Performance Evaluation

The analysis of nursing work is deterred by the indeterminacy of technique employed by professional nurses. References to nursing job descriptions do appear in both the hospital administration and nursing journals, however. It is important in assessing the effects of industrial management technologies on nursing to note how they are adapted to work areas for which they seem so unsuited, and what claims are made for their use.

An article published in HAC (18:12,26-28) describes a management development program in an Ontario hospital in which job descriptions and performance evaluations were part of the performance appraisal which supplied supervisors with information on which to take initiatives towards productivity, efficiency and cost-containment. The objective of the program was to educate supervisors regarding these management methods and to elicit their active participation in implementing them. First, the hospital sponsored a ten week management course for its supervisors at a local community college; this course included human relations, behavioural sciences, management by objectives, and performance evaluation topics. Then workshops were held at the hospital on the use of job descriptions, after which the supervisors were instructed how to work with their staff to collect detailed descriptions of their work activities. In Phase II of the hospital program, workshops were arranged for supervisors to study performance evaluation and
productivity, and be trained in the use of the performance evaluation tool which had been worked up by management. Supervisors were then expected to have regular interviews with their staff about their job, its content and management's expectations of the worker. When problems were identified with individual workers, interviews would be more frequent. To keep the worker's attention on the performance expectations for her job, her personnel file with job description and current performance appraisal was made available to both her and her supervisor at all times.

This use of work analysis to produce information by which a nurse's actual performance is "appraised" is a method for applying psychological pressure to step up activity rates or to encourage conformity to procedures. This is still rather loose control, relying as it does on observations made sporadically or even on self-reports of employees. The human relations techniques, counselling interviews, etc., can be used to reinforce the "professional ideology" which nurses frequently have internalized -- that they should manage somehow to take care of all the patients' needs, whatever the practical conditions in which they work. These management techniques largely rely on persuasion buttressed by the authority of the organization.

More sophisticated use of work analysis for designing work processes which themselves direct and control nursing activity
have been widely discussed in American and Canadian hospital and nursing literature. These range from attempts to measure output with time studies, to streamlining nursing activities by the use of disposable equipment, to reserving nurses for specifically nursing tasks, e.g. new job categories have been created to do clerical aspects of nursing work; pre-prepared medication dosages reduce nursing time spent in giving medications. Many previously time-consuming and essential nursing functions have been incorporated into machine capability.

These machines for treatment, measurement and monitoring patients' physiological functioning require tending, which structures nursing time and activities.

Computer programs to "assist the nursing process" by prompting nurses to gather the correct data (NR 24:4,299-305) are being researched. An approach to nursing care called "problem-oriented" is articulated to a structured method of data-collection and recording. The method, designed by a doctor, facilitates monitoring the care provided and is seen as a way of overcoming "reliance on spoken communication and memory" of health care workers (AJN 73:1169). All workers involved with the patient do so on the basis of the information compiled in a composite "data-base;" the patient's chart is organized on the basis of the patient's problems rather than the source of data about them, such as the radiologist's, pathologist's or nurse's comments. This system has been criticized by nurses.
who fear that "important areas of patient care will be neglected unless nursing maintains its own contribution in the form of health objectives developed with the person and his family and based on nursing assessment and priorities" (AJN 76:585).

The "problem-oriented" approach to medical and nursing practice has many concealed drawbacks for nurses. Not the least of these is that any method which attempts to logically structure and systematize the conceptualization of how nursing care should be done falls into the trap of treating as determinate work processes which are not. Careful performance evaluation and accounting procedures based on documentation of these predetermined activities do not therefore provide information about quality of care, as is claimed for the problem-oriented record system.

All control technologies implemented in nursing work process depend for their success upon management control of the knowledge of what constitutes successful nursing care. Much of the research on nursing care which is directed towards "quality of care" consists of observation and attempts at categorization of successful nursing care. One such study is briefly outlined in a News item in *The Canadian Nurse* which reports a "bright future for nursing research" (CN 72:1,6). Vivien Jenkinessen, a nursing systems analyst, developed a twenty-two item, single page evaluation sheet by which the nursing care given by one nurse to
one patient could be evaluated by an observer. What is being evaluated is the quantity of specific behaviours which are observed. What is taken for granted in this kind of behaviourally-anchored rating procedures is that what cannot be seen cannot be evaluated, and therefore is not important (HAC 17:2,28). To the extent it can be precisely defined, behaviourally, the nursing work process can be controlled, and (given administrative dominance in hospitals) is in danger of being degraded. This kind of nursing research is providing management with the kind of information needed for establishing nursing work designs where work is broken down into components which can be performed by the cheapest labour and monitored by management. Non-professional nurses are not prepared, technically or socially, to criticize and modify programs of nursing activities which they are given as guides to their practice; this is how nursing care to patients can suffer. The relationship between evaluation procedures and efficiency measures is more clearly drawn in an article by Barbara Redman in The Canadian Nurse (71:2,19-21). In order to control policy decisions, nursing work is subjected to cost-benefit analysis. Nursing practice must adapt to facilitate these management practices. Cost-benefit analysis requires documentation of quantities of nursing interventions made and they must be able to be added up to a final goal representing improvement. The problem of healthy outcomes of nursing care presents great difficulties for measurement, so Redman has defined "process
criteria" for a specific area of nursing practice -- patient education, to be used as indicators of good nursing care. These are the specific nursing tasks she outlined:

1. document the need for teaching,
2. develop priority system for meeting needs,
3. teach the patient or relatives about medications or treatment; give enough information to ensure safety,
4. teach self-care procedures sufficient to ensure safety,
5. demonstrate teaching skills, knowledge of teaching methods, evaluation techniques.

Using this model, nurses would learn precise steps laid out by nursing planners, and how to apply them in specific situations. Evaluation of their individual performance and of the program of which they were part would be on the basis of documentation -- how well it related to the optimal criteria; i.e. how many such tasks done, and how much expenditure made.

The question still remains: are the technologies implemented to show cost relationships also going to demonstrate "quality of care?" Frequently, the distinction between evaluation of good care and evaluation of economical care is not made. The following excerpt from a News item (CN 72:7,9) shows the blurring which occurs in conceptualizing what is being measured. The item is entitled, "Quality Assurance Program to Get Underway in B.C.":
a system intended to evaluate nursing performance (process), results of care (outcome), and agency resources (structure) simultaneously uses written, ratified standards (of care), [and] it also initiates action to maintain or improve desirable standards of care...It will offer numerous advantages including: clarification of job descriptions, direction of nursing practice, increased job satisfaction...

This kind of objective evaluation of nursing care relies on a new category of nurse expert to provide an essential consultative function -- quality control agent in the task specification function and trouble-shooter in clinical practice. These nurse experts add the professional judgment ingredient which is being excluded from the work process by industrial management technologies. If work is specified, "standards ratified" by experts, and tight performance evaluations carried out, nursing care can be purchased much more cheaply from workers who have less training.

Nursing Audit
As long as professional judgment remains subjective and the exclusive property of special groups of workers, the health care system is dependent upon these people for the knowledge they control. Doctors are the group who most clearly belong in this powerful position. Nurses' knowledge is less specialized and therefore nurses are more vulnerable to managerial control, as has been shown. Both doctors and nurses claim the capability and the right to determine what is adequate
service for them to provide. Administrators must involve themselves in that determination if they are to successfully rationalize and centralize the control of decision-making in hospitals. Both medical and nursing practice is being scrutinized by management accounting procedures aimed at greater administrative control (*HAC* 17:2,36-38).

Hospital record-keeping is being converted to a standardized format, and a standardized medical nomenclature has been developed. The "problem-oriented" record system (*AJN* 73: 1168-1171) offers a method for conceptualizing the patient/nurse contact as a series of problems to be identified, attended to and charted in a precise and standardized way. The method facilitates computer-processing of data from medical records.

Nursing audit is a management practice by which retrospective scrutiny of nursing care is carried out. Using predetermined "indicators," patients' records are searched for evidence of the correct nursing interventions which have been documented in the normal course of nursing practice. Just as Redman (previous section, this chapter) outlined "process criteria" for patient education, objective criteria can be specified for any category of patient care. The same criticisms apply: it is evident that a convincing nursing regimen could be worked up and implemented which would have little to do with the patient's subjective condition, understandings, or expecta-
tions. A system which emphasizes documentation would therefore reinforce a tendency toward goal displacement in nursing care.

Objective criteria are at present determined by "experts" who identify by various means what is proper and required treatment for a particular health problem. Then manually or by computer, the records are searched to see how closely the care provided (or at least, documented) adheres to the criteria for that category of problem. As the translation of nursing practices into task lists based on objective criteria is completed, health professionals will not be needed in the jobs which mediate between management and nurses. New additions or modifications to the existing programs will be able to be made in one central location and fed out to units automatically. This projection into the future assumes that the Scientific Management concept -- monopoly over the knowledge of the work, affording management control over the work process, can be used on the indeterminate technique of health care. This is the assumption upon which the application of systems theory to health care rests.

III REPERCUSSIONS OF NEW MANAGEMENT METHODS IN NURSING EDUCATION

Obsolescence and Continuing Education

Concern about obsolescence of nursing practitioners is linked
with intensified discussion and planning of programs of continuing nursing education. What educators do not attend to in their discussions of the need for continuing education for nurses is the origin of that need in the organization of work which is being imposed on nurses. Monaghan, a nurse with training in Hospital Administration, makes this connection explicit.

The health service is...rapidly changing in the content of jobs and in the working methods that it demands. This raises for nursing personnel the spectre of technological obsolescence, formerly a concern of industrial workers only.

(CN 71:9,21)

Educators are being called on to prepare nurses to perform new roles and to support nurses while they make moves which require major psychological wrenches. Previously discussed was the move of nurses to managerial roles where they need to develop new "mental" skills, and replace traditional beliefs with new management ideology (Hamilton Civic Hospitals program). A larger group of nurses have to adopt work methods and attitudes just as foreign to traditionally trained nurses -- and not so materially rewarding. These nurses are being moved from a professional level of functioning to a technical employee level. Flaherty addresses this issue but does not clarify it. She relates obsolescence in nursing roles to nurses' poor preparation for and lack of commitment to "professionalism." She
suggests continuing education as a way of getting more control over their own practice:

As long as nurses remain unprepared to use their own professional expertise in the evaluation of nursing practice through peer review they will not be masters of their own destinies, and nursing will not be a profession.

(CN 71:7,21)

What Flaherty does not recognize is that evaluation of nursing performance by nurses using the management methods described here does not constitute "professional peer review," and is specifically related to reducing nursing autonomy. The new levels of technical functioning require nurses to follow prescribed work methods rather than make independent choices from their appraisal of patients and situations. Harrison has observed that these new requirements create difficulties for nurses who do not understand or appreciate a new system which will make them work harder as staffs are reduced (CN 71:7,15).

Basic Nursing Education

The vulnerability of nurses to changes in management practices and policy has been demonstrated recently by the loss of jobs for nurses which resulted from economic restraints in health care spending, especially in Ontario in 1976. Retrospectively, it is seen as poor planning, with too many nurses being produced. An editorial in The Canadian Nurse points out the complexity of the problem of attempting to match supply and
demand of professional and skilled manpower (CN 73:1,2). Certainly nurses have concerns about their educational programs which conflict with interests of other members of the health care delivery system, and programs which are developed to prepare nurses will reflect the dominant ideas. Presented below is one example of a nursing education program which would seem to be responding to requirements for a less highly skilled and cheaper labour force to replace traditionally trained registered nurses.

Nursing educators have been concerned about the "dead-end" character of nursing jobs and education for those jobs. Attention has been paid to developing new programs which permit vertical mobility by allowing a worker to build on her initial education. This is the "ladder concept" in nursing education. A program at Humber College of Applied Arts and Technology in Toronto has integrated core courses for nursing assistants and diploma nursing students (CN 71:1,20-22). The first semester is taken together; then separation into the two streams is made. It was recognized that most of the students in both the programs wanted to become R.N.'s although only the diploma stream would be qualified for this status. The diploma program's entrance requirements were initially restrictive, but students in the nursing assistant program had aspirations to move up the ladder on the basis of good work. However, more diploma students were transferred down than nursing
assistant students moved up.

Another interesting aspect of this program is seen in the production of ideas about the respective roles appropriate for graduates of the courses. It is noted that

by the end of the second semester, most students perceived the registered nurse as the person responsible for the administrative side of nursing and for medications...

and as the

team-leader (who)...supervises the R.N.A.'s. Most (of the students) perceived the nursing assistant as the bedside nurse (p. 21).

What is being seen is the adjustment of educational programs to fit the requirements of the mental/manual split in worker functions. Just where that split will occur in the nursing hierarchy is not readily apparent in Canada, although policies about this issue are being defined now in the U.S.A. By 1885, all registered nurses (professional level) in New York State are required to have baccalaureate preparation (American Journal of Nursing 75:12,2141). Alberta's professional association has followed this lead by announcing support for a policy to be effective in 1990, requiring university education of all Alberta nursing students seeking registration (CN 72:
A letter to the editor of *The Canadian Nurse* suggests that the official voice of the Canadian Nurses' Association is already identifying the concerns of the upper echelon group as its concerns. "More and more your magazine is filled with articles that cater to B.N.'s and instructors in every level of education in nursing. You are missing most of your readers. What about hospital-trained nurses who are slogging away in miserable routines?" (CN 71:3,7).

IV NURSING ADMINISTRATION/MANAGEMENT ADJUSTMENT TO THE NEW MANAGEMENT METHODS

The shift in philosophy at the highest levels in health care, and the operational decisions arising from the new policy create real problems for nurse-administrators who are accountable for the operation of a ward or department. Fernande Harrison, a Canadian Nurses' Association member-at-large for nursing administration articulated the problem:

> The nursing service administrator is conscious of the immediate need for the hospital to become part of an integrated, rational, regional system of health care...This system will require more effective use of hospital staff, especially nurses.

(CN 71:7,15)
She sets the problem within the context of current nursing practice and points out the contradiction between the nursing administrator's position and a generation of nurses who have come to understand the scientific and philosophical basis for nursing action...(and) have been taught to recognize their worth as individuals and professionals, and (who) want to use this knowledge to fill the gap they see in the existing health care system.

(CN 71:7,15)

Harrison discusses the problem she sees as if it were one of mutually exclusive aims: of nurses -- to provide better individual care, and of the nursing administrator who must uphold the "more effective" use of nurses in the rational system.

A few months later, Harrison provides a solution to the "challenge" of getting nurses to rethink the philosophy and objectives of resource allocation which is threatening their jobs. By now she is convinced that using a systems approach is the only way for hospitals to survive and that the rationality of the approach is self-evident and convincing. She says:

Given that fair decisions can only be made on the basis of up-to-date and reliable data, activities will be geared to upgrade the information base... The introduction of
An article called "A Psychological Contract of Service" by John Runyan, a systems analyst and management analyst (CN 70: 9,19-23) addresses the problem of the middle manager, caught between executive decisions and worker reactions. The editor of The Canadian Nurse draws the parallel between head-nurses and middle-managers in her editorial introduction to the article. Runyan acknowledges that being in the middle is difficult; the aim of the article is to help middle managers cope "and not rebel." His suggestions are of the type Braverman called myths -- used to habituate workers to bad work conditions. Runyan calls for "openness" from management about their aims, and for the creation of an environment in which workers can be creative. At the same time he is acknowledging the dilemma for workers of technological change. His platitudes about freedom from fear and managing change and coping with stress are in direct opposition to his frank appraisal of executive indifference to what happens to workers as a result of their policies.

Harrison's dilemma of pacifying underling nurses who do not understand management decisions must be seen in this context. The "psychological" approach which Runyan recommends to "stave
off revolution" (p. 23) is one to which nurses are especially vulnerable. Their commitment of service to others has been used to justify their exploitation frequently, in the past. Now the segmentation of nursing work is creating new conditions of exploitation to which one group of nurses must learn to habituate the other group.

V EFFECTS ON THE NURSING LABOUR FORCE

Occupational Changes
Occupational changes are specifically described by Monaghan, and alluded to frequently by other writers in less explicit ways. Stinson suggests that the "knowledge-skill base of nursing" has changed (CN 71:8,17). Others refer vaguely to the need for continuing education, as discussed in a previous section. The implication is that the nurse's basic preparation was somehow fundamentally inadequate to prepare her for the complexities of modern-day nursing practice. What seems more accurate is that nurses with traditional skills are no longer required because less highly trained, cheaper workers are taking over traditional nursing jobs. Monaghan (CN 72: 12,40-1) shows that the number of R.N.A.'s registered in Ontario has increased from 8,103 in 1963 to 30,544 in 1975, and suggests that all jobs not required by law to be filled by R.N.'s are being filled by R.N.A.'s.
An editorial in CN shows the direction of the change in nurses' work.

As budgets become tighter it seems inevitable that the status nurses have worked so hard to achieve will be increasingly threatened by inadequate staffing patterns and that pressure will be exerted on R.N.'s to delegate some of the responsibilities their experience and education have prepared them to accept...The notion that R.N.'s no longer have the time to provide the direct patient care involved in "bedside nursing" has become increasingly common among members of the general public. (CN 72:5,4)

It seems clear that the budgetary cutbacks in the 1970's accelerated a trend already in progress by then. Fiscal problems are now used as justification for intensifying efficiency methods.

Unemployment

Concern about nursing unemployment mounted in 1976 and surveys of employment prospects in different regions were reported in The Canadian Nurse (72:5,10-11 and 73:1,10-11). Ontario was hardest hit with an estimated 10,000 nurses unemployed according to Ontario College of Nursing (CN 72:12,39). An employment service set up by the Registered Nurses' Association of Ontario counselled nurses to seek employment in the U.S.A.

Other solutions for unemployed and unemployable registered nurses have been suggested by different writers in CN.
Monaghan feels that nurses must move to other occupations, and specifically mentions that "capable and interested" nurses can better their positions by training for new jobs in data-processing and planning of health care (CN 72:12,41). It is apparent that such training is not available to many, nor is this sector of health care likely to absorb many nurses. Rather, what can be anticipated for superfluous registered nurses is continued narrowing of the skilled job market which will force them into less skilled categories where they will have to compete with a larger group of workers. This will have a depressing effect on wages and eventually on qualifications for such work.
CONCLUSION

The development of modern management in capitalist industry has been described in preparation for consideration of the problems peculiar to managing hospitals. The outcomes of industrial management are indicative of what can be expected when these methods are applied elsewhere, as well.

Modern management methods are being applied in hospitals to increase productivity of workers. In addition, these methods increase the power of the administration to run hospitals according to managerial philosophy, further consolidating administrative dominance.

Braverman has shown that increased productivity in industry has occurred at the expense of workers and the product; the implications of such expenses in the health care industry are less tolerable due to the nature of the "product" of a human service organization. Evidence of difficulties pending in a rationalized health care system are already available and have been presented in this paper.

The skills and knowledge of health care workers must be diverted to management control in order to rationalize the work processes for efficiency. Management methods for accomplishing this transfer are industrial technologies based on accounting
procedures which relate production outcomes to costs. Quantitative information collected about patients and treatment is not an adequate base for decision-making about health care because it does not adequately describe the phenomena involved. Nor does a pre-programmed work design, based on explicit criteria related to objective evaluation and computation of costs, represent adequate (nursing) care. Missing are the elements, not related to cost analysis, which cannot be quantified, and which differentiate a human relationship from a relationship between things.

Nursing is following a pattern described by Braverman in which work is split into mental and manual components; a small managerial elite is being created to control the knowledge which all nurses once shared. The work of management -- gaining control of the knowledge of the work processes, planning co-ordination of the work segments, monitoring the execution of preplanned tasks, motivating workers to co-operate in a work process which has been removed from their control -- requires a labour force of specially trained workers. Currently, female nurses are being trained for these jobs in management. One wonders if nursing will follow the trend toward managerial positions being reserved for men, with women being relegated to the lower status, lower paid, lower responsibility human contact jobs, for which their sex makes them seem appropriate.
In industry, shoddy workmanship of deskillled, alienated workers can be concealed by programs of planned obsolescence of the product, and actually capitalized on for increased market revenue. This alternative is not open in the health care industry. The public will continue to demand and expect high quality care which professional workers now have the expertise and commitment to provide. Management practices have been described which transfer that knowledge, however inadequately, into "objective forms" which can be controlled by management. The pay off is in economies produced by replacement of professional nurses by cheaper workers.

Braverman argues in Labor and Monopoly Capital "that the 'mode of production'..., the manner in which labor processes are organized and carried out, is the product of the social relations we know as capitalism" (Braverman, p. 21); it is always in flux, changing the relationship of workers to their work and to each other, and altering society as it has been known previously. This thesis has examined the organization of nursing work in hospitals as it is being transformed by modern capitalist forms, and it points to how these transformations are consequential. Nurses are seen to be standing in differing relationships to the means of their production. The question which is raised, in concluding, but not able to be dealt with in the scope of this work, concerns the implications of the segregation of the nursing labour force by modern management in hospitals.
The practices which segregate the nursing labour force can be seen as creating a class division in nursing. Braverman points out that the complexity of the class structure of modern monopoly capitalism arises from occupational shifts by which almost all the population has been transformed into employees of capital (Braverman, p. 404). He recommends that evidence of a worker's class position -- in industry or in non-profit organizations, is now more correctly sought in careful examination of the social organization of his or her work which will reveal the worker's "true place in the relations of production" (Braverman, p. 407). Braverman suggests that mass occupations such as nursing are changing in their class position, taking on characteristics of both the capitalist and the working class. The research on which this thesis is based begins to accumulate evidence of what these changes are. It has been shown that the social organization of the hospital results in two segments in the nursing labour force who work in entirely different ways. They are educated differently and develop different relations with other members of the organization. They begin to understand the priorities of the hospital differently and develop different interests which must be protected. What must be asked is "what does professionalism among nurses mean when the nurses who constitute the profession are divided in this way?" Such a division dissipates nurses' potential for collective action both for making improvements in their working conditions and for agreeing on and pursuing professional goals. The direct relationship between modern management practices and the segre-
gation of the nursing labour force shows how the introduction of modern management technologies into hospitals has changed the character of what has been known as the nursing profession. An incrementally negative effect on individual nurses, nursing practice and inevitably on patients is foreseen.
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