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Evolution of a Hospital Labor System: Technology, Coercion, and Conflict

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EVOLUTION OF A HOSPITAL LABOR SYSTEM: TECHNOLOGY, COERCION, AND CONFLICT

A Dissertation Presented

by

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ABSTRACT

Evolution of a Hospital Labor System:
Technology, Coercion, and Conflict

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The paper investigates the labor process at a private, nonprofit hospital, Children's Charity Hospital of Hudson, between 1947 and 1978. The author explains changes in the labor system that hospital management made, such as adding to the number and variety of intermediate outputs, increasing mechanization, stratifying and specializing skills and authority, and replacing an informal, personalized organization by bureaucratic structures. The author contends that management's choice of labor process characteristics depended not only on market and technical constraints but also on management's desire to maintain and increase workers' pace and accuracy and to secure its authority over their production activities. Put another way, considerations of power and of the potential for conflict, not just of technically "optimal" input combinations, determined the characteristics of the hospital labor process.

Chapter 1 describes the hospital's market and the legal basis of management's authority.

Chapter 2 reviews conventional economic studies of nonprofit hospitals, and contrasts conventional production theory with labor systems theory.

Chapter 3 reviews economic writings that offer an alternative to conventional production theory, focusing on works by Harry Braverman and Richard Edwards.

Chapter 4 specifies the analytical framework for investigation, which is termed labor systems theory, and states the thesis in detail. The theory defines three groups in the labor process, top management, department heads, and frontline workers, and assumes top management pursued medical accumulation.

Chapters 5 outlines the evolution of Children's labor system and chapters 6 and 7 document the history, drawing from the hospital archives. Modifications are attributed to changes in market conditions, in management strategy, or in workers' response.

Chapter 8 chronicles labor process evolution in the housekeeping department, drawing from interviews with workers as well as from archival material.

Chapter 9 summarizes evidence from secondary sources about hospital labor systems. The author argues that her thesis generally holds for the private, short-term, nonprofit hospital industry.

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INTRODUCTION TO CHILDREN'S CHARITY HOSPITAL

The Thesis in Brief

Nurse Hattie Benson, the superintendent, and the 1946 board of directors ran Children's Charity Hospital of Hudson--"Children's," people usually called it--as a racist but benevolent family firm.* By 1978 all the trappings of corporate bureaucracy adorned Children's. This paper investigates the transformation in the hospital's organization of production between 1947 and 1978. More precisely, it explains the evolution of the labor system in hospital departments that produced hotel services, business services, primary services, and medical support services.[1]

Think of Children's labor system as a picture of the production organization as viewed by the producers--the people who worked there. Supplies, equipment, and labor power were parts of the labor system; so were rules, procedures, pay scales, and hierarchies: all the material and social "things" that allowed, facilitated, or forced the hospital's inputs to productively combine. Consequently, the features of Children's labor system largely determined the economic well-being of everyone who worked there.[2]

*The names of the hospital, the city, and the people have been changed to preserve confidentiality.

My main thesis is that the evolution of Children's labor system consisted of a series of power-laden decisions by hospital managers; managers considered technology and market conditions but they were just as concerned with labor speed and accuracy as with technical matters; because of this, their decisions arose amidst and recast the form of conflict among groups at the hospital.

Top management at Children's devised the labor system. Yet as it conceived and exercised options, its decisions were limited, shaped, and sometimes compelled by the non-physician workers in the hospital. Top management based production decisions on a self-interested perception of the best way to reduce unit costs of output while producing more and more "sophisticated" care.[3]

Top management's decisions occurred in the face of self-interested and chronically "troublesome" behavior by the two groups of workers under its authority: department heads and other middle-level managers, and frontline (or non-supervisory) workers. Department heads, who had some autonomy to apply top management's decisions, adapted the labor system to best meet their own economic goals; they too faced self-interested and chronically "troublesome" behavior from frontline workers. Frontline workers acted individually and sometimes as a self-coordinated collective to protect and advance their own economic positions. Most of their "troublesome" behavior can be regarded as a reasonable response to the labor system and to actions of their "superiors."

The secondary thesis of this paper concerns specific characteristics of the 1978 labor system. I contend that some bureaucratic

features were jointly shaped by technical, market, and social forces; some were chosen primarily because top management wanted more labor from hospital workers than they willingly would exert; and some resulted only because frontline workers confronted top management with demands for change, or top management feared they would. Although certain aspects of labor power were well-addressed--its costs, speed, accuracy, and tractibility--other aspects were largely forgotten--its ability to learn, progress, self-govern, and its multifaceted goals. The 1978 labor system minimally promoted the economic well-being of hospital workers.

The Legal and Market Context

Legalities

Children's Charity Hospital of Hudson was established as a nonprofit corporation in 1870 by sixty-one Hudson citizens. Its original certificate of incorporation, issued under an act of the United States Congress, granted the incorporators the right to organize "a charitable institution in said Hudson to be used as a hospital and dispensary for the treatment of the medical and surgical diseases of children."[4]

In order for Children's to operate as a pediatric hospital, certain activities needed to be accomplished, some continuously and others cyclically; I define the hospital's 'accumulation process' as the sum of these activities. The activities for accumulation in the form it took at Children's can be classified as follows: (a) investing funds in plant, equipment, supplies, and non-physician labor power;

(b) coordinating all inputs and motivating labor power in the production and delivery to patients of goods and services from hotel services, business, primary services, and medical support services departments, outputs which I term 'intermediate goods and services'; (c) pricing, accounting for, and obtaining reimbursement for output purchased by patients; (d) soliciting patients, physicians, and charitable contributions; and (e) negotiating affiliation agreements.

I define the 'production process' at Children's Charity Hospital as the subset of accumulation activities that involved combining inputs to produce the intermediate outputs of the hospital. Most production activities fell in category (b); some fell in (a) or (c). I define the 'organization of production' at Children's as the system set up to ensure the production process occurred consistently and reliably.

To create a decision-making apparatus for accumulation, the incorporators soon passed by-laws. The by-laws defined the 'members' of the corporation to be the original incorporators plus other elected members and the 'directors of the hospital', and provided for current members to elect future members, officers, and directors for five-year terms. Children's directors and officers constituted the 'board of directors.'

Children's by-laws vested authority over the accumulation process in the board of directors, the executive committee of the board (which was appointed by the president of the board), and the hired managers of the hospital (who were given various titles: superintendent, director, administrator, medical director). The by-laws designated the hired managers responsible to organize the production process, but

their work was supervised by the executive committee and subject to the approval of the board.[5]

Between 1947 and 1978, this basic apparatus still regulated decision-making at Children's Charity Hospital. By the mid-twentieth century the executive committee and managers, by common practice and explicit policy, had conferred some authority to organize the ever-expanding production process upon department heads. Yet from 1870 to the present, as the board of directors and other members of the corporation intended, organization of the accumulation process took the form of top-down coordination.

The Market and the Competition

Demographic trends. Children's sat square in the middle of Hudson. The city, its suburbs, and, as time went by, the entire region constituted Children's market. For example, 42 percent of the children admitted to the hospital in 1964 lived within the Hudson city limits; almost all of the remainder lived within the Hudson standard metropolitan statistical area (SMSA). Forty-one percent of the patients in 1978 lived in the city.[6]

The population of the Hudson SMSA grew 88 percent between 1950 and 1980, raising the city two ranks among United States SMSAs and into the top ten. More portentous for the hospital than the overall population increase was a distributional shift from the central city to the suburbs. As table 1 shows, 21 percent fewer people lived within the Hudson city limits in 1980 than 1950. The shift affected Children's

TABLE 1

CHANGES IN HUDSON AREA POPULATION

Years	Hudson SMSA[a]		Central City	
	Percent Change Total Population	Percent Change White	Percent Change Total Population	Percent Change White
1940-1950	51	52	21	9
1950-1960	37	35[b]	-5	-32[b]
1960-1970	39	37	-5	-38
1970-1980	-1	-7	-16	-13
1950-1980	88	62[c]	-21	-67[c]

SOURCES: Compiled from U.S. Department of Commerce, Bureau of the Census, County and City Data Book, 1949, 1956, 1967, 1977; U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population and Housing Advance Reports.

NOTE: For the years 1960 and 1970, figures for the white population were unavailable; calculations for the change in the white population 1960-1970 and 1970-1980 are based on population of white plus other non-blacks.

[a]These figures are for the Hudson SMSA as the Census Bureau defined it in 1960; presently it includes more territory.

[b]This overstates the increase in the SMSA and understates the decrease in the central city because the 1950 figure represents the white population and the 1960 figure includes all non-blacks (see preceeding note).

[c]Figures based on white population.

market because (other things being equal) parents preferred to hospitalize their children close to home and doctors preferred to hospitalize their patients near their homes and offices.[7]

Another factor magnified the impact of the shift: the city population of families earning relatively high incomes fell faster than total city population. Statistics for the white population in the Hudson SMSA closely tracked the movement of the high income population during most of the period.[8] As table 1 shows, the white population in the entire SMSA increased by 62 percent between 1950 and 1980, but in Hudson it fell by 67 percent.

The movement of high income families affected Children's because sick children were admitted regardless of their parents' ability to pay. Municipal and state health departments paid for the care of some poor patients but during the first half of the period hospital costs exceeded government reimbursements. Operating revenues did not cover operating expenses unless the hospital admitted a good number of patients with insurance coverage or with parents who could afford the charges. The establishment of Medicaid programs in the Hudson area after 1966 mitigated the hospital's concern with family income and race.

Pediatric beds. Hospitals in the Hudson SMSA set aside about 550 beds for children (or 'pediatric beds') in 1945. As table 2 shows, pediatric beds in the area increased to 690 between 1945 and 1970 and, after dropping in the mid-seventies, totaled 584 in 1978. As with population statistics, bed figures for the entire SMSA mask divergent trends in the central city and the suburbs. If Children's is excluded

TABLE 2

PEDIATRIC BEDS IN THE HUDSON METROPOLITAN AREA

Year	Total Pediatric Beds	Beds at Children's Charity Hospital	Other Central City Pediatric Beds	Pediatric Beds Outside Central City
1945	546	250	224	72
1963	667	215	254	198
1970	690	226	238	226
1978	584	240	173	205

SOURCES: Compiled from Council of Social Agencies of Hudson and Vicinity, "Health and Hospital Survey, Hudson, for the year 1929 (sic)," (Hudson, 1929), p. XIII-5.; Metropolitan Hudson Health Facilities Planning Council, Inc., "A Review of Short-Term General and Other Special Nonfederal Hospitals in the Metropolitan Area of Hudson," (April 1963); Hospital Council of the Hudson Area, Inc., "Hospital Utilization Report," (December 1970 and December 1978).

NOTE: Pediatric bed figures for 1945 were estimated from total beds in each hospital in 1945 and 1963 and pediatric beds in each hospital in 1963, based on the assumption that hospitals existing in 1945 maintained a constant proportion of pediatric to total beds during the next 18 years.

from the count, the nine suburban hospitals with pediatric beds added four times as many pediatric beds between 1945 and 1963 as did the eight central city hospitals with pediatric beds. Two new suburban hospitals opened; the others expanded their physical plants. A 1965 government-commissioned study reported that central city hospitals planned to open 110 more pediatric beds by 1970, and suburban hospitals, 80 more.[9]

Most of the beds never materialized. Within the central city (and again excluding beds at Children's) there were only two-thirds as many pediatric beds in 1978 as in 1963. The number of pediatric beds at suburban hospitals, which had tripled between 1945 and 1963, peaked and dropped during the next fifteen years and was almost the same in 1978 as in 1963.

Competition in Children's market stiffened in the first half of the period and threatened to intensify as hospitals planned still more pediatric beds. The number of beds at Children's Charity Hospital did not change greatly during the period. Beds at Children's accounted for almost half the total pediatric beds in the area in 1945; less than a third in 1963 and 1970; and about 40 percent in 1978.

All area hospitals that had pediatric beds competed with Children's to some extent but suburban hospitals had a geographical advantage in attracting children who lived near them. The 1965 study mentioned above stated:

> Children's Charity Hospital is suffering severely from the competition presented by new pediatric facilities in the Hudson metropolitan area, particularly in neighboring [suburbs]. This applies especially to white children who would be likely to be paying private patients.

Total pediatric beds in suburban hospitals rose from about one-third the beds at Children's in 1945 to an almost equal number in 1963, and remained close to the number at Children's during the rest of the period.[11]

A day of care at Children's. What was it that Children's sold in its market? The children who purchased hospital care--who stayed overnight at the hospital ('in-patients') and who visited the emergency room and clinics ('outpatients')--received intermediate goods and services produced by the hospital departments as specified (or 'ordered') by physicians. Care at Children's Charity Hospital changed dramatically during the period; hospital days and visits involved both a larger quantity and a larger assortment of intermediate outputs, and the volume of outpatient care increased relative to inpatient.

Table 3 shows the magnitude of the increase per adjusted patient day of intermediate outputs from three departments: the operating room, the laboratory, and the radiology department. It also indicates the increase in the inflation-adjusted costs of an average day of care at the hospital. Appendix A lists new hospital departments and facilities that opened during the period, producing an ever-expanding assortment of intermediate goods and services.[12]

Purpose and Approach of the Study

I have been employed at Children's Charity Hospital of Hudson since June 1978, first as an emergency room registration coordinator and then as a float unit clerk. I am a union shop steward and I helped negotiate the union's second contract with the hospital.

TABLE 3

THE CHANGING HOSPITAL DAY

	1946	1950	1962	1978
Total Inpatient Days	68,602	49,831	58,406	67,289
Total Outpatient Days	56,210	87,628	67,879	139,145
Total Adjusted Patient Days[a]	79,844	67,357	71,982	95,118
Surgical Procedures, X-Rays, and Lab Tests per Adjusted Patient Day	1.3	1.7	3.6	8.9
Adjusted Operating Expenses per Adjusted Patient Day[b] ($)	NA	$19	$47	$261

SOURCES: Children's Charity Hospital, Annual Report, 1946, 1950, 1962, 1979.

[a] For the definition of an adjusted patient day see text footnote 12.

[b] Operating expenses were adjusted for inflation by dividing them by the producer price index for total finished goods, 1967 = 100, for the appropriate year.

Working at Children's sometimes improved the skills, sometimes advanced the medical and technical knowledge, and sometimes enhanced the economic security of the people I knew. For most of them, such outcomes occurred incidentally and, in my opinion, deplorably seldom compared to what is possible. Why?

To solve the puzzle, I investigated the production process at Children's between 1947 and 1978. The human aspects of production concerned me most. I wanted to explain changes in work activities and work environments. I wanted to know: Was the organization of production dictated by "efficiency" and the undesirable outcome in a sense inevitable, as conventional microeconomists might argue? If not, what other factors influenced management decisions? Did the desires and actions of workers at Children's play a part?

Background readings suggested that the evolution of Children's production organization was typical of nonprofit hospitals in the United States. I hoped to generalize the conclusions of the case study and identify forces shaping production in the nonprofit hospital sector.

To interpret the written and oral evidence, I develop a micro-economic model of production, which I call the labor systems model. The model conceptualizes management's and workers' activities in production differently from the conventional microeconomic model of the firm, which depicts the organization of production as a technically-determined, constrained maximum. This paper portrays the hospital labor system (and thus the organization of production of which it was a central component) as an historical outcome within a legal structure of top-down economic coordination. Technical and market factors are not

deemed unimportant, but the model allows the possibility that the labor system was simultaneously shaped by the interests of groups in the hospital and, when their interests collided, by the groups' relative power.

Chapter 2 reviews the conventional academic literature on the economics of nonprofit hospitals. Chapter 3 reviews recent analyses of production in capitalist firms--analyses that lay the foundation for my production model. Chapter 4 presents my analytical framework, including the labor systems model, and chapter 5 restates my theses in terms of the model.

Three historical chapters present the supporting evidence: the complex evolution of Children's labor system. The concluding chapter argues that my findings are applicable to the nonprofit hospital industry.

C H A P T E R I I

CONVENTIONAL ANALYSIS OF NONPROFIT HOSPITALS

Introduction to the Literature

This chapter reviews the conventional academic literature on the economics of nonprofit hospitals. The first section states common assumptions about hospital output, demand, and decision makers. The second section describes applications of the microeconomic production model to nonprofit hospitals and shows that all the economists postulated a conventional production function. The third section argues that the conventional approach is inadequate for modeling the labor process at Children's.

Economists began analyzing nonprofit hospitals only recently. Costs of hospital care soared in the 1950s, 1960s, and 1970s, attracting the public's and economists' attention. According to Karen Davis, "Paul Feldstein was the first economist to apply statistical techniques to estimation of the long-run cost curves of hospitals"; his study appeared in 1961. Seventy people attended the May 1962 conference on the economics of health and medical care at the University of Michigan; the seventy included "virtually all the economists who were attempting at that time to apply economics concepts and analytic methods to problems in the field of health and medical care."[1]

Early studies mainly tried to explain the alarming cost increases. Economists soon realized they lacked a general theory of nonprofit hospital behavior. Studies proliferated in the late 1960s and 1970s as

economists built models to capture the internal structure and markets of nonprofit hospitals, reformulated the models (often borrowing concepts from other social sciences and law), improved statistical techniques, and found better data. Yet studies remained rooted in the conventional perception of production.[2]

The Product Market and the Economic Problem

This section reviews conventional treatments of the economizing problem that nonprofit hospitals confront. Each study defined hospital output, identified factors that determined the level of demand, and postulated a relationship between price and quantity demanded. Each identified the decision-makers of the hospital and made assumptions about their objectives and pricing practices. A few studies presented evidence to back up the assumptions.

No consensus on definitions or assumptions emerged in the literature although for each question two or three views gained favor. However, almost all the economists claimed that nonprofit hospitals minimized short-run production costs. I review the definitions and assumptions that predominated and relate them to the assumptions of this paper, which I specify in chapter 4 below.

Product Market

Definition of output. The parents of a jaundiced, premature infant purchase different care than does the fifty-year-old heart attack victim. The asthmatic who stays overnight to clear a nagging wheeze and the one admitted to the intensive care unit do not buy the same

intermediate goods and services. Economists routinely remarked on the multiproduct nature of hospital output, but most defined the unit of output to be a patient day or a treated case--that is, an amorphous aggregate of intermediate outputs.[3]

If a hospital treated patients who had a different mix of illnesses than patients at another hospital, or similar illnesses but of greater severity, it would produce (on average) a different kind of patient day. For empirical work, economists adjusted the quantity of patient days to reflect a varying mix and severity of cases among hospitals, or at one hospital in different time periods, but did not redefine a unit of output.

Economists also observed that two hospitals might treat the same case-mix and case-severity differently; one might use more x-rays, lab tests, and other procedures on each patient. They also observed that over time most hospitals used more intermediate outputs (in my terms) per patient day every year. Several economists, including Newhouse, Martin Feldstein, Pauly and Redisch, and Bays handled this by specifying that output be characterized by "quality" in addition to quantity.[4]

When it came to defining "quality," economists hedged. Their discussions of what the term meant equated higher quality with a greater variety and number of intermediate outputs per patient day, and thus with greater labor and capital inputs. Bays commented in 1980:

> The definition and measurement of quality levels in hospitals are nebulous tasks. The precise definition of the unit of output is difficult and most attempts at quality measurement in hospitals have focused on the extent and quality of inputs rather than attempting to measure quality as an objective dimension of output.

> . . . This convention is followed here: hospital quality is greater as the factor intensity of its diagnostic and treatment capabilities are increased. While this tautological manner of measuring quality may not be useful in defining its socially optimal level, it does seem to be an accurate abstraction from the standpoint of administrator.[5]

A few economists devised ways to explicitly state the mix of intermediate goods and services from the hospital departments. Elnicki defined 'service intensity' of a department as "a measure of the quantities or volumes of outputs" from the department per patient day and depicted one unit of hospital output as a list of service intensities of all the departments. Baron defined a unit of output as "a function [he used the geometric mean] of a vector of treatment inputs whose components include laboratory tests, radiology procedures, operating room visits, pounds of laundry processed, etc." He called the treatment inputs 'intermediate outputs.'[6]

The approach of Elnicki and Baron gives precision and substance to the value-laden term "quality." It avoids prejudging the effect on people's health of more intermediate outputs per day, that is, of higher service intensity care. (That question, all agreed, is one of utmost importance and one we do not have the tools or information to answer.) The approach also helps distinguish medical decisions and management decisions: decisions about the intermediate outputs necessary to treat patients and decisions about organizing the production of intermediate outputs. My definition of output follows this approach.

Hospital facilities and demand. Reder, Davis, and Lee assumed that demand in a production period (the distance from the origin of a hospital's demand curve) depended on the number of doctors affiliated

with the hospital, which in turn depended on its medical facilities, equipment, and personnel. Reder explained, "A patient must be hospitalized where his doctor is affiliated. . . . Because doctors can admit patients into only one or two hospitals, they have an incentive to become affiliated with hospitals which are as fully equipped as possible, so that they may treat hospitalized patients for as wide a range of ailments as their competence (as they judge it) permits." Davis wrote, "Increasing the number of doctors affiliated with the hospital is likely to shift the demand curve for any given period to the right. The main way in which a hospital can attract more doctors is by increasing the specialized equipment which it has available."[7]

Newhouse assumed demand to be a function of output "quality" because "physicians probably prefer higher quality hospitals and so are more inclined to seek staff privileges there." Since Newhouse equated service intensity (as I define the term) with "quality," high "quality" output depended on the number and complexity of hospital departments (which set a ceiling on service intensity) and on the actual average service intensity that the medical staff ordered. If doctors are assumed to always use new departments, equipment, and personnel, Newhouse's formulation also allows hospital decision-makers to boost "quality" and thus demand through medical accumulation.[8]

No economist argued that demand was independent of the number of affiliated doctors or hospital facilities although some did not discuss demand.

Kaitz and Davis presented evidence on the relationship among a hospital's facilities, doctors, and demand. Kaitz interviewed six

administrators of nonprofit hospitals in rural, suburban, and urban Massachusetts locations. According to Kaitz,

> . . . all of the hospitals, irrespective of their size or location, stated that they were dependent upon a very small number of physicians for an extremely high percentage of their total patient load. . . . The demand for a specific hospital is thus heavily dependent upon the supply of patients created by an easily identifiable group of physicians. In order to maintain the good will of this small but powerful group, the hospital must be prepared to respond to at least some of their demands for facilities or services. In the urban hospital, these demands normally center about research and teaching activities, with emphasis on those activities pinpointed by the specialized practice of the high patient-input physicians.[9]

Kaitz found a competing urban-suburban pair of hospitals:

> The suburban hospital has begun . . . rebuilding its facilities, increasing the range of ancillary services, and, in an even more significant trend, building medical offices on its grounds in order to induce the physician to concentrate his in-hospital practice in one institution. The urban hospital, with an assistance from the Federal Government, has apparently countered this trend with a growing stress on in-hospital and teaching programs.[10]

Davis found a correlation between the relative number of specialized facilities at a hospital and its market share although the results were weak.[11]

This paper assumes that with other factors constant, Children's demand shifted out if the rise in the service intensity ceiling at Children's outpaced the average rise at Hudson hospitals. The conventional literature supports the assumption.

Demographic trends and demand. None of the academic studies considered the effects of population shifts on a hospital's market. I assume that demand at Children's tended to fall as the metropolitan population shifted from the city to the suburbs. This is supported by articles in hospital and health care journals as well as by my evidence. The

president of an inner-city Maryland hospital knew of many hospital administrators in similar straits:

> As the affluent flee the cities, the economic bases of hospitals shift. Banks become unwilling to arrange long-term financing, since many inner-city areas are viewed as unrelieved areas of blight--as high risk areas. . . .
>
> Moreover, the decline in economic support is intensified by the attendant exodus of physicians as well as patients. Some of the reasons for such a move are obvious: more attractive housing, better schools and safer neighborhoods. Furthermore, the suburban hospitals, built to accomodate this population flight, offer the additional inducement of new facilitis in pleasant locations. . . .
>
> The flight to the suburbs in the early 1960s intensified the problem of uncompensated care. The population most likely needing medical attention, the aged and the poor, became the majority within the patient mix in the outpatient clinics and emergency rooms of inner-city hospitals. Unfortunately, the poor and a significant portion of the aged did not have the financial resources to pay for that care. Nor, at this point, could they look to Medicare or Medicaid for any financial assistance. These programs would only pay for the services provided for eligible patients and would not give the urban hospitals an allowance for uncompensated care.[12]

Other determinants of demand. The conventional literature also mentioned patient income, insurance coverage, and competition from health maintenance organizations and ambulatory surgical facilities as determinants of a hospital's demand. However, the capability to produce a hospital day of a higher service intensity was perceived as the primary cause of shifts in demand.

Price and quantity demanded. Hospitals generally set one charge for a day of routine inpatient care and separate charges for non-routine intermediate outputs. A patient's bill increased with her or his length of stay and with the non-routine intermediate outputs that doctors ordered. All the academic studies (except the one by Kaitz, which

investigated differential markups) simplified billing practices by assuming a single price for a unit of output, whether output was defined as an average patient day, treated case, or vector of intermediate outputs.

Economists debated two issues that related to the slope of a hospital's demand curve: Is hospital care a necessity? Is there price competition in hospital markets?

Reder, Kaitz, Lave and Lave, Lee, and Baron thought demand responded little, if at all, to price changes. Reder argued in 1965:

> Hospitals cannot be selected on the basis of cost by either patient or doctor; a patient must be hospitalized where his doctor is affiliated. While the elasticity of derived demand may have some effect in leading doctors to affiliate with the optimal hospital (from the point of view of their prospective patients), I doubt that it would be seriously contended that this possibility has had much effect on hospital costs. As a first approximation, I venture the guess that demand for beds in a given hospital is independent of their prices relative to those of other hospitals in the same area.

Reder qualified the guess by stating that demand was perfectly inelastic only if the hospital set prices "within conventional limits."[13]

Lave and Lave attributed inelastic demand partly to widespread coverage by private insurance and governmental health programs. They noted that after Medicare and Medicaid passed, third-party payments accounted for 90 percent of hospital costs. A study of the hospital market by Salkever, which did not address production or pricing, also hypothesized that quantity demanded did not respond to price. Salkever argued that barriers to entry limited price competition, and mentioned barriers of licensure laws, industry accreditation standards, large initial capital outlays, and recently, lobbying by hospitals to deny certificates-of-need to newcomers.[14]

Davis, Newhouse, Martin Feldstein, and Pauly and Redisch, on the other hand, assumed quantity demanded varies significantly with price. Feldstein reasoned:

> Hospital care is often described as a necessity and considered to be very insensitive to price. However, the substantial variation among areas in the rates of hospitalization and in mean duration of stay for different diagnoses and procedures shows that most treatments cannot be regarded as a technically determined necessity. Although an admission to a hospital for some diagnoses may be completely price inelastic, admission for other conditions and the mean stays for most case types are likely to be more price elastic.[15]

Among writers who assumed inelastic demand, only Lee cited empirical evidence that directly examined the relationship between price and quantity demanded. Salkever presented rough measures that showed high concentration (that is, few competitors) in local hospital markets. Davis cited two studies showing quantity demanded responds to price, but did not indicate whether they found elastic demand, that is, found a greater than proportional change in quantity than price. She criticized the methodology of both studies. Using American Hospital Association annual data from 1958 to 1967, Martin Feldstein regressed average costs per patient day against the number of patient days in short-term general hospitals (both aggregated by state), and found "a substantial price elasticity of demand for hospital bed days."[16]

I assume that in any production period, the quantity demanded of hospital days at Children's would fall if price rose. However, the ceiling on price was more significant to Children's top management than the responsiveness of quantity demanded.

Price ceiling. Reder, Lave and Lave, and Davis speculated that a ceiling might limit price even if a hospital faced inelastic demand. Davis said,

> Upper constraints on prices may be posed by various social or political factors, such as public outcry at excessive charges, repercussions from powerful organizations such as Blue Cross or Congressional committees from prices that are "too far out of line," or aggressive price competition from other hospitals.

Most economists did not think prices were subject to ceilings. Salkever's view that "third parties have made only limited efforts to control prices paid by their enrollees" argues against ceilings from that quarter.[18]

Several non-theoretical studies found price ceilings in local markets, which indicates that assumptions about price ceilings should be geographically specific. This is partly because Blue Cross plans and laws differ by state or region. Somers and Somers found in 1960 that most Blue Cross plans reimbursed hospitals based on the costs of care, but that the hands-off attitude was beginning to change: Blue Cross plans in Philadelphia, New York City, Maryland, and Michigan had experimented with various methods of keeping down hospital costs.[18]

In 1975 Bauer said:

> Hospital rate setting is a new type of regulatory activity rapidly spreading in the United States. Between 1970 and 1975 the number of rate setting programs grew from two to twenty-seven. These programs, most of which are administered by Blue Cross plans or state governments, now control the hospital rates or charges to one or more major type of payer in twenty-three states, and affect to some degree more than twenty-five percent of the nations' acute care hospitals.[19]

I assume a ceiling limited the price of a hospital day at Children's in a production period, but that increased costs due to a higher service intensity from one period to the next could be mostly passed through.

The Economic Problem: Objectives, Pricing, and Market Constraints

Hospital decision makers. Most of the conventional studies assumed decisions about production organization, output level, price, and investment are made by a hospital administrator who is hired by and responsible to the trustees. Reder, Davis, Newhouse, Lee, and Bays discussed the influence of the medical staff in certain decisions, primarily concerning construction, equipping, and staffing of medical facilities.[20]

A few economists disagreed with this formulation. Evans, in a study of Canadian hospitals, claimed that doctors controlled them. Pauly and Redisch assumed medical staff control and modelled the nonprofit hospital as a physicians' cooperative.[21]

Baron assumed the medical staff determines the "levels of treatments . . . used to satisfy the demand for medical care," and the administrators and medical staff jointly choose factor inputs that departments use to produce the treatments.[22]

I identify decision makers similarly as did Baron. I assume the medical staff at Children's chose intermediate outputs for treating patients, and so determined the service intensity of a hospital day in every production period. I assume top management organized production in departments, and, with an ear to medical staff requests, determined

the rate of medical accumulation and, therefore, the service intensity ceiling.

Economists who identified the administrator as decision maker and differentiated hospital care by its "quality" did not justify their implicit assumption that the administrator set service intensity. Economists who assumed medical staff control abstracted from production of intermediate outputs; they implicitly claimed that by ordering treatments, doctors organized department production.

Objectives and solutions. According to Davis, the paramount goal of hospital decision makers is to add medical facilities. Davis seconded Reder's 1965 assessment:

> Hospitals that wish to attract men of outstanding qualifications to their staffs are therefore impelled to expand the inventory of their equipment and the range of services they are able to offer. This serves to reinforce the usual prestige motives for expansion and improvement inherent in any organization.

Since Davis assumed that demand depends on the number of affiliated doctors, continual expansion of facilities is necessary for survival.[23]

Davis reasoned that decision makers, constantly seeking to expand the capital stock without becoming dependent on gift income, government grants or loans, or commercial loans, aim to maximize short-run cash flow (that is, the difference between revenues and out-of-pocket expenses). To boost revenues, decision makers price output above average cost, but market conditions limit the markup. (Recall that Davis assumed a negatively-sloped demand curve and possibly a price ceiling. Hospital decision makers facing such constraints must minimize short-run production costs.[24]

Maximization of output quantity and "quality" was the short-run objective that Martin Feldstein, Newhouse, Bays, and (with a slight modification) Reder attributed to hospital decision makers. In another contrast to Davis, they all assumed output price is set at average cost, or slightly below cost if decision makers can count on contributions to cover an operating deficit.[25]

Although Feldstein, Newhouse, and Bays assumed different objectives and pricing behavior than Davis did, all three concluded that decision makers minimize short-run production costs of whatever quantity and "quality" they select. The assumptions of price-responsive demand generated the result; at a constant "quality" level, quantity-"quality" maximizers sell the most output when they reduce costs to a minimum and lower price to just break even. Reder on the other hand, assumed perfectly inelastic demand and saw no reason for decision makers to keep down costs. Addressing a convention of the American Economic Association, he said hospitals did not operate under competitive constraint.[26]

Pauly and Redisch, who named physicians as hospital decision makers, assumed physicians run a hospital to maximize their personal incomes. Pauly and Redisch assumed physicians receive the net revenues of the hospital and price the non-physician component of output equal to its costs. Since Pauly and Redisch also assumed the quantity demanded of output (which consists of physician and non-physician components) responds to price, they concluded that physicians choose quantity and price to maximize net revenues and produce the non-physician component at minimum costs.[27]

Lee assumed that administrators try to enhance hospital "status" through "conspicuous consumption," that is, through use of sophisticated, high-cost labor and non-labor inputs that aren't medically necessary. He concluded that the predilection for high-cost inputs prevents cost minimization.[28]

Lave and Lave and Evans did not specify the objectives or pricing rules of hospital decision makers. Evans claimed nonprofit hospitals could not be assumed to be cost minimizers but did not counter the arguments outlined above.[29]

Davis inspected the net income of U.S. nongovernment, nonprofit hospitals between 1961 and 1969 to check her assumption that decision makers desire positive cash flow. The hospitals' total revenues exceeded total expenses for every year during the period except 1962, and net income rose from 1.39 percent of plant assets in 1961 to 3.19 percent in 1969. Davis also presented data on inputs, plant assets, and specialized facilities of the hospitals that supported her assumptions about expansion.[30]

Ehrenberg tested the cost minimization hypothesis directly. He found evidence that employment of registered nurses and licensed practical nurses varies inversely with wages, but no significant indication that decision makers substitute between types of nurses in response to a change in relative wages.[31]

This paper assumes long-run and shorter-run objectives of Children's top management that agree with Davis's treatment. The process I term 'medical accumulation' is identical to expansion of medical facilties to which Davis refers. However, my price ceiling

assumption allows that Children's top management might be forced into an operating loss (if occupancy fell) even though the goal was a surplus.

Economists who assumed administrators maximize quantity and "quality" in the short-run implied administrators determine service intensity, which (I argued on page 24 above) is an invalid assumption. In my model, medical accumulation by top management may affect service intensity by raising the ceiling from one period to the next. If the economists had such an interaction in mind, their assumptions of breakeven pricing are inconsistent because, as Davis pointed out, they equated high "quality" with large amounts of inputs per patient day, particularly capital inputs.

> Hospitals desiring to maximize quantity, quantity-quality, or utility over the long run, however, may initially desire to accumulate surpluses which could be used in acquiring facilities which will allow an expansion of output and an upgrading of quality.[32]

The physicians' cooperative model of Pauly and Redisch may illuminate interactions among staff physicians but the assumptions poorly fit evidence about production decisions at Children's. Lee's discussion of conspicuous consumption is plausible but his model is vaguely specified.

Conventional Models of Production

Almost all economists who studied nonprofit hospitals regarded hospital decision makers as cost minimizers. Though economists reached this conclusion via different assumptions about demand and objectives, the consensus in the literature lends credence to my assumption that Children's top management minimized costs; it is consistent with my

assumption that management tried to cut costs from one production period to the next. But in conventional studies, cost-minimization takes on a precise, restricted meaning: it occurs with respect to a well-defined relationship between inputs and outputs that is mapped by a production function. The production function and input prices dictate to hospital decision makers both the output level that maximizes progress toward their goal and the lowest-cost input bundle that can technically produce the output. Decision makers simply install (here the theory is short on details) whatever organization of production the production function indicates.[33]

Economists' renditions of nonprofit hospitals fell into three categories: (a) theoretical models in which the production function took a general form, (b) empirical models in which the production function took an explicit functional form so that parameters of the function could be estimated, and (c) equations that had no grounding in a production function.

Equations in category (c), including the "cost functions" of Lave and Lave and Evans, did not model hospital production; the equations embodied no notion of a relationship between inputs and outputs. Studies based on such equations contained useful findings and techniques but no statement of the principles underlying hospital production, so they will not be further discussed.[34]

Economists developed models of the first and second kind in the course of investigating a variety of questions; an economist's purpose in undertaking a study shaped specific features of his or her model. Yet by creating a model all the economists answered the question

(explicitly or implicitly): What do hospital decision-makers consider in organizing the production process? All gave the conventional microeconomic answer.

This section makes two points about conventional models in categories a and b. First, the basic tool for analyzing production was a production function with the usual properties. Second, the economic solution consisted of the usual marginal principles for choosing the optimal output and inputs. For several representative models I outline (a) the purpose of the study in which the model appeared, (b) the production function, (c) the solution to the hospital's economic problem, and (d) other conclusions of the study.

Martin Feldstein modeled nonprofit hospital behavior in order to advise governments how to improve health and contain costs. In Feldstein's 1967 study of the British National Health Service and in later articles, "quality" of output (holding quantity constant) and quantity (holding "quality" constant) both were well-defined functions of inputs. For example, a 1971 article specified the "quality" function $QH_t = \phi_t(N_t, J_t)$. QH_t is the "quality" of inpatient services in time period t, N_t is employees per patient day, and J_t is an index of materials and supplies per patient day; ϕ had all the necessary properties for constrained optimum. Feldstein constructed a comparable quantity function.[35]

Hospital decision makers (who are, recall, quantity-"quality" maximizers) face an array of quantity-"quality" tradeoffs at every level of total expenditures. They assess their quantity and "quality" preferences and the constraints in factor and output markets, then find

points on the quantity and "quality" production surface that register the optimal output and the least-cost bundle of inputs to produce it.

In the 1967 study, Feldstein estimated parameters of an industry production function for hospital cases, experimenting with several functional forms. He compared the input ratios he observed in British hospitals with "optimum ratios" he calculated from the estimated coefficients and concluded that resources in the British health system were greatly misallocated.

How does a quantity-"quality" maximizer find the least-cost organization of production? Several economists derived the marginal conditions such a decision maker observes. Bays did so in a 1980 article that evaluated the new practice by health insurance companies of adding a "capital margin" to costs of production (including depreciation). The practice meant insurance reimbursements provided funds for ever-expanding capital expenditures.[36]

Bays assumed a quantity function of the form $Q = Q(K,L)$ and a "quality" function of the form $X = X(K,L)$, both functions concave and continuously differentiable. The hospital administrator seeks to maximize his utility, which is a function of "quality" and quantity. Bays showed that the administrator will employ labor and capital so that the ratio of their implicit prices equals the ratio of the utilities (according to the administrator's quantity-"quality" preferences) of their marginal revenue products.

If insurance reimbursement contains no capital margin, the model reduces to Feldstein's case: the implicit price ratio equals the actual price ratio of inputs and the administrator in fact chooses

output quantity and "quality" at the highest attainable utility level and the least-cost input bundle. However, if the capital margin is positive, the implicit price of capital to the administrator becomes the interest rate plus the capital margin. Bays showed that in this case the misled administrator chooses an input combination that yields less than maximum possible utility. However, the hospital still operates efficiently in a "purely technical sense."

Davis compared her cash-flow maximizing model with quantity-maximizing, quantity-"quality" maximizing, and profit-maximizing models. She postulated a short-run hospital production function of the general form $Q = F(K,L)$. She showed that hospital decision makers with identical market conditions and production functions but different objectives choose different output quantities, service intensities, capital expenditures, and non-capital input quantities and that they receive unequal incomes. Yet no matter what output level and service intensity are chosen in the short run, marginal productivity conditions determine the cost-minimizing input bundle. In the cash-flow maximizing hospital, "all non-capital factors will be hired up to the point where the marginal revenue product of the factor is equal to is cost."[37]

In the physicians' cooperative model, Pauly and Redisch postulated the production function $Q = F(K,L,M)$ where output is hospitalization services and inputs are capital, non-physician labor, and medical staff labor. Facing a negatively-sloped demand curve and pricing non-physician services at cost, the income-maximizing physicians choose a smaller scale and lower output level than are "socially

optimal." (In this respect, the physician-controlled hospital behaves as a theoretical Yugoslavian-type cooperative.)[38]

As long as the physicians cooperate, they are bound by all the usual microeconomic constraints. So they choose a non-physician labor and capital combination such that marginal factor cost of each input equals its respective marginal revenue product. Pauly and Redisch noted, "This problem is obviously identical to that facing an orthodox profit-making firm with one input held constant."

Several empirical studies estimated parameters of cost functions that had been derived from production functions. To investiate whether nonprofit hospitals obtained increasing returns to scale, Davis derived a cost function from the Cobb-Douglas production function, $Q = AL^{\alpha}K^{\beta}$. (That is, she expressed the average cost of hospital services as a function of output quantity and input prices.) Using observations on groups of comparable sized hospitals, she estimated short-run average cost functions. She judged that small hospitals showed constant returns.[39]

In contrast with "cost functions" in category c mentioned above, Davis based the cost function on a clearly-specified relationship between inputs and maximum output. The cost function suppressed the short-run problem of organizing production; Davis implicitly assumed that decision makers instantaneously choose the least-cost input bundle according to the usual marginal principles.

Recent studies embellished earlier models of nonprofit hospitals. For example, Bays tested several conflicting assumptions about decision makers' objectives in a 1975 study. He specified a Cobb-Douglas

production function with a more realistic technological change variable than in earlier models, and used sophisticated statistical techniques to adjust for differing case-mixes and case-severities. His analysis was ingenious but just as thoroughly grounded in conventional micro-economics as were the simpler models.[40]

Failure of the Conventional Models

Conventional studies offered insights into certain economic processes of nonprofit hospitals. Economists developed useful definitions and empirical techniques. Their analyses of market characteristics, decision makers, objectives, and pricing rules are invaluable, raising issues that any model of a hospital must address.

Analyses of hospital production in conventional studies do not merit similar praise. As the preceeding review indicates, they allow only two forces to shape a hospital's organization of production: markets and technology. Hospital decision makers are assumed to choose a new input bundle (and to reorganize the labor process in the technically-determined way that corresponds to the optimal point on the production function) only after a change in demand, relative prices of inputs, or the production function. Conventional analyses, by their very nature, failed to examine human aspects of production. Models that portray production as some variant of $Q = Q(K,L)$ obscure production as a labor process. They simply cannot address many phenomena that affect workers.

Is the deficiency a fatal flaw in the microeconomic models? "No," responds Oliver Williamson, an economist who has written much on the internal and market operations of for-profit firms. He argued that

the microeconomic model is valid, but its explanatory powers less encompassing than generally believed.[41]

I disagree. Conventional models of hospital production are too abstract for my purposes. But I contend the models are inadequate for another reason: they fundamentally misrepresent the evolution of the labor system at Children's Charity Hospital.

Williamson's Criticism of Conventional Treatment

Williamson said that people's activities in production deserve more attention than a production function permits:

> I furthermore regard organization form--by which I mean the hierarchical structure of the firm, the way in which internal economic activities are decomposed into operating parts subject to internal controls--to be distinctly interesting and warranting separate attention. Indeed, I anticipate that measures of internal organizational structure will eventually be joined with measures of market structure in attempting to explain conduct and performance in industrial markets and subdivisions thereof.

Williamson found conventional microeconomic theory unable to handle certain production activities that he called non-market transactions. He linked the theory's inadequacy with economists' failure to "acknowledge the importance played by human factors in attempting to grapple with problems of economic organizations."[42]

Williamson said that the way workers cooperate is an important human factor from which conventional theory abstracts, and he identified two kinds of cooperation. Workers cooperate 'perfunctorily' if they do the job in a minimally acceptable way. 'Consummate' cooperation, on the other hand,

> . . . involves working in a fully functional, undistorted mode. Efforts are not purposefully withheld; neither is behavior of a knowingly inapt kind undertaken.

The firm gains from consummate cooperation. Workers who shift to a "perfunctory performance mode" if given the chance are opportunistic shirkers.[43]

Williamson said worker cooperation becomes significant to microeconomic theory when labor markets fail; that is, he assumed cooperation is not problematic if labor markets are competitive because the easily-replaced workers feel powerless to hold back effort. He argued that labor markets of modern corporations frequently are not competitive because technical and social factors inherent in production often makes job tasks ideosyncratic. Performance of ideosyncratic tasks improves with training and practice, so workers who do the tasks are somewhat relieved of labor market competition from inexperienced job seekers. Modern corporations can cut costs by supplementing the labor market with organizational structures that promote consummate cooperation.

Translated into the terms that I use in this paper, Williamson noted that when workers have control over whether they labor at high speed and accuracy (or high 'intensity'), their behavior affects production costs. Firms must then consider more than technical possibilities and input prices; the least-cost organization of production must also incorporate features to induce high labor intensity.

Williamson did not think that omission of human factors means the microeconomic model of the firm is useless or inaccurate. He said his model complements the conventional one, which holds at a more aggregate level. He labelled cost reductions due to higher intensity

-efficiency gains."[44] I interpret his assessment as follows: when tasks are ideosyncratic, the concept of a production function must be redefined to include organizational features that induce the highest possible labor speed and accuracy because labor intensity affects the function's shape and distance from the origin. If the production functions in the conventional studies of hospitals can be so redefined, they can be considered valid aggregations of phenomena that this paper examines in detail.

Flaws in Williamson's Reconciliation

Williamson complained that the microeconomic model of production ignored human factors; Children's history shows the strength of his complaint. But Williamson's critique of the model is incomplete. Followed through, his logic compromises the microeconomic model of the firm--and the conventional models of hospital production.

To redefine the hospital production functions in conventional studies and deflect Williamson's criticism, the following assumptions are also needed: (a) for every job there exists a scientific measure of the labor speed and accuracy that constitutes consummate cooperation; (b) given that measure of labor intensity, there exists an organization of production known to evoke it; and (c) hospital decision makers and workers agree to exchange wages for labor of that intensity and agree to other working conditions.

If the three conditions hold, an input bundle yields "maximum" output when consummately-cooperative labor combines with other inputs

in the technically-optimum fashion. For each level of output, a set of technically-efficient input bundles (the production frontier) can be precisely determined; conversely, every point on the production function corresponds to a social-technical configuration that guarantees "maximum" output. After market, technical, and social constraints are specified, features of the labor system remain, in a sense, inevitable.

Production at Children's between 1947 and 1978 violated all three conditions. Top management and department heads did not expect maximum physical and mental exertion from workers. But management did not discuss labor intensity and many other features of the labor process with job seekers; management always maintained that workers could try harder; and, if financially strapped, management never hesitated to change the rules and press for greater speed and accuracy. In workers' experience, management sprang unreasonable work demands and behavior constraints on them and violated their idea of fair, evenhanded treatment. They reacted to management actions they perceived as opportunistic.

Workers and managers disagreed, but top management's rights in production dwarfed workers' meagre rights. Management had the upper hand, yet it knew no incantation to conjure up maximum output. If it wanted to produce a certain level of output, no formula told the least-cost input bundle. Rather, management continually worked the labor system to shake out a little more output, and modified it to boost labor intensity as well as to utilize innovations.

Another human factor at Children's is even more damaging to conventional models of hospital production: frontline workers forced several labor system changes that actually increased costs.

The production function of conventional models, even interpreted as Williamson wished, misrepresents the nature of the labor process at Children's Charity Hospital. If an arbitrary level of labor intensity is assumed, the technical possibilities of input bundles can be determined; with no objective or mutually agreeable standard for labor intensity, the "maximum" output of the bundles can not. No production function exists; to postulate one distorts the social dynamic of the labor process.

My work experiences strengthened my belief that it is, economically speaking, relevant and important to examine production at Children's Charity Hospital, to scrutinize social and technical details. Models of economic institutions are social science models only if they illuminate the relationship between institutions and people's economic welfare. To do this, a microeconomic model must focus attention on people's activities and interactions while they produce--not just on their exchange of commodities. The model need not consider all mechanical, chemical, and financial details, just the ones that significantly affect the producers. In the next chapter I review models of production that start from this supposition.

C H A P T E R I I I

THEORIES OF LABOR SYSTEMS

Introduction

A number of writers who investigated the labor process (as I define the term in chapter 4) in for-profit firms passed up the conventional microeconomic model; evidently they decided it was an unsuitable analytical tool. The writers used various models, and although all did not clearly state their assumptions, inspection revealed that models differed according to how each writer did the following:

1. divided people involved in the labor process into groups--whether she or he identified top management, department heads, and frontline workers (again, in my terms) or used a different division

2. selected and categorized the phenomena of the labor process subject to investigation--whether she or he investigated all four management functions or some subset

3. defined the possible attributes of each category of phenomena--whether she or he distinguished between traditional, standard, and codified management patterns or used some other schema

4. defined the possible causes of change in the phenomena of the labor system--whether she or he considered the six explanations for change that this paper assumes below or gave other explanations.

The writers' assumptions seldom agreed in any but the first area, and no one or two models stood out as most popular. However,

all writers found the relative power of the groups to be significant. The writers themselves can be divided into two camps: those who accepted property laws of U.S. capitalism (the rights of capital owners over the labor process of women and men they hire) and those who questioned whether the laws were sensible and moral. Non-critical writers were not intrinsically concerned with the effects of labor systems on workers, so their models do not contain concepts well-suited for investigating that question. I do not discuss such models in detail but mention only elements of them I found valuable for my study.[1]

Writers who examined the labor process in U.S. firms from a critical perspective can be termed political economists. Their work is of recent origin so political economy models are in developmental stages. Two political economists who specified assumptions in all four areas mentioned above were Harry Braverman in Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century and Richard C. Edwards in Contested Terrain: The Transformation of the Workplace in the Twentieth Century. Preliminary research indicated that a model based on theirs would suit my purposes. This chapter focuses on the work of Braverman and Edwards; useful concepts of other political economists are mentioned.[2]

Edwards and Braverman studied the entire U.S. economy during most of the capitalist period--from the early industrial years to monopoly capitalism. They analyzed the general evolution of the labor process, therefore they advanced propositions considerably broader than the theses of this study. Each writer did the following:

1. presented 'ideal' models of labor systems in U.S. capitalism, that is, distinctly different ways in which decision makers in typical or leading firms managed the labor process

2. explained, in relation to the general development of the U.S. economy, when and why the decision makers adopted a different ideal labor system (Edwards's explanation considered developments in the labor movement and the political sphere as well.)

3. described the effects of the transitions on the social relations of groups in production and the labor process of workers.[3]

I review the assumptions and propositions of Braverman and Edwards that relate to the labor systems model I present in chapter 4, and in doing so reveal my indebtedness to their work.

Labor and Monopoly Capital

Braverman identified two groups in the for-profit firm: the capitalists (or management) and the workers. He named coordination and control as functions management must perform. The necessity of coordination was "brought into being by the very practice of cooperative labor," while the necessity of control arose from "the problem of realising the 'usefulness' of the labor power [the capitalist] has bought [which] becomes exacerbated by the opposing interests of those for whose purposes the labor process is carried on, and those who, on the other side, carry it on." The interest of the employer is to enlarge his capital, to accumulate; the interest of the workers is to "gain a livelihood" but "having been forced to sell their labor power to another, the workers also surrender their interest in the labor

process." Thus, Braverman said, management faced a continual need "for adjusting the worker to work in its capitalist form, for overcoming natural resistance intensified by swiftly changing technology, antagonistic social relations, and the succession of the generations." He did not specify the labor process characteristics that workers did find desirable.[4]

Braverman's narrative revealed that his concepts of coordination and control involve directing, inspecting, evaluating, punishing, and some rewarding, although he devoted most space to the directing function. He explained changes in common ways of coordinating and controlling the labor process as attempts by management to assume greater control over labor (and correspondingly, to diminish workers' control) in order to achieve higher profits and more rapid accumulation.

Within an historical trend toward greater management control, Braverman distinguished two basic patterns of management (or ideal models): those of firms in atomistic, competitive markets and those of firms in monopoly capitalism. (The term 'labor system' does not appear in Labor and Monopoly Capital. But the management patterns that Braverman described are labor systems by my definition.) Braverman mainly discussed the evolution of the labor system of monopoly capitalism, but his ideas about the prior labor system can be discerned. Although he did not label the management patterns he described, I do so for ease of exposition. The labor system of firms in competitive capitalism I call 'artisan control'; labor systems characteristic of monopoly capitalism I call 'systematic control.' Braverman identified two types of systematic control. The first, "scientific management

and the whole 'movement' for the organization of production on its modern basis," I call simply 'scientific management.' The second, "the scientific-technical revolution, based on the systematic use of science for the more rapid transformation of labor power into capital," I call 'mechanical control.'[5]

Braverman's thesis, in my terms, is that management transformed the directing function as it systematically stratified and specialized jobs and mechanized the labor process in order to to reduce the average wage and increase labor intensity. Management backed up its demands for higher intensity with harsher punishments.

Artisan Control

Braverman implied that in capitalism's first years, skilled artisans autonomously coordinated and controlled the production of most goods. Subcontracting and putting-out represented early forms of artisan control that occurred in the "textile, clothing, metal goods (nailing and cutlery), watchmaking, hat, wood and leather industries . . . [and] even in industries where work could not be taken home, such as coal, tin and copper mines." Braverman cited Maurice Dobb's discovery that subcontracting and putting-out existed in British industries even after 1850.[6]

The market took care of coordination for the capitalist: he contracted with an artisan to supply raw materials and pay a certain price for output. The artisan, trained through years of helping seniors in his craft, planned the production process and managed the apprentices and unskilled helpers that he took on. Control presented a

problem for the capitalist: "the subcontracting and 'putting-out' systems were plagued by problems of irregularity of production, loss of materials in transit and through embezzlement, slowness of manufacture, lack of uniformity and uncertainty of the quality of the product."[7]

Capitalists, competing in cutthroat markets, brought artisans into workshops to tighten the lax self-discipline of the craft, "to enforce upon the worker regular hours of work, in contrast to the self-imposed pace which included many interruptions, short days and holidays, and in general prevented a prolongation of the working day for the purpose of producing a surplus under then-existing technical conditions." Such enforcement involved evaluating and punishing (in my terms), which Braverman said "assumed a variety of harsh and despotic forms." Once a capitalist employed artisans under one roof, he rather than they determined the division of labor. He generally assigned each production operation to a different worker and widely replaced artisans with low-skilled workers on simple operations. The changes cut costs through two mechanisms: (a) the average wage fell as the proportion of low-skilled workers increased (a phenomenon that Charles Babbage emphasized and that I term a 'type B constant-intensity innovation'), and (b) labor intensity rose because the capitalist could keep an eye on the workers and because as the need for all-around skill diminished, labor market competition increased the capitalist's power over artisans and low-skilled workers.[8]

Braverman noted that production of all goods did not originally rely on artisan skills. "New industries arose which had little prior

handicraft background: among them sugar refining, soap boiling and distilling." But he gave few clues about how capitalists coordinated and controlled the labor process in these industries.

As capitalism developed in the U.S., the typical firm grew, diversified its product line and expanded its marketing activities. Assets of the typical large enterprises were no longer owned by a single entrepreneur or family. Instead, the bulk of its assets belonged to a few stockholders, whether individuals or other firms, who owned substantial shares of even other large firms. Legal control of the firm transferred to directors who represented the large stockholders and their appointed managers; many of the directors sat on the boards of several firms. But concentration and centralization did not eliminate the pressure to compete, it merely changed the form of competition. Management of the modern corporation in monopoly capitalism, still bent on accumulation, faced complex problems of coordinating and controlling labor. Its solutions were the technical division of labor (or scientific management) and mechanical control. For clarity of exposition, Braverman treated the transitions to these labor systems as independent historical stages. He considered mechanical control the later stage although he noted it sometimes occurred simultaneously with the technical division of labor.[9]

Scientific Management

Braverman credited Frederick Winslow Taylor with the invention of scientific management. He acknowledged that techniques for systematically coordinating and controlling the labor process appeared in the

second half of the 1800s, but said Taylor brought the ideas together and carried them one step further:

> But Taylor raised the concept of control to an entirely new plane when he asserted as an absolute necessity for adequate management the dictation to the worker of the precise manner in which work is to be performed. That management has the right to "control" labor was generally assumed before Taylor but in practice this right usually meant only the general setting of tasks with little direct interference in the worker's mode of performing them.

Under scientific management, capitalists collected and analyzed information in order to group tasks into jobs and to specify every worker's job in detail (to codify job descriptions, in my terms).[10]

Braverman discussed the importance of inspecting and punishing to scientific management. Studies that management made so it could systematically direct labor also set job standards that became inspection criteria--that determined, at the end of the day, whether a worker had produced sufficient output. Braverman implied that punishing occurred in the same manner under scientific management as artisan control, only more harshly:

> It is essential, [Taylor] said of the gang bosses, to "nerve and brace them up to the point of insisting that the workmen shall carry out the orders exactly as specified on the instruction cards. This is a difficult task at first, as the workmen have been accustomed for years to do the details of the work to suit themselves, and many of them are intimate friends of the bosses and believe they know quite as much about their business as the latter."

And although Taylor called for large monetary incentives--a change in rewarding practices--Braverman said that managements soon cut the new piece rates.[11]

Braverman explained the change to scientific management as capitalists' attempt to control labor in the modern corporation. It seems the point of greater control was lower costs, for Braverman did not link the change to overt challenges to management authority. Management cut costs using familiar techniques, but applied them systematically and thoroughly. It reduced the average wage by systematically substituting low-paid for high-paid labor, that is, by stratifying the labor force. According to Braverman, "Taylor understood the Babbage principle better than anyone of his time, and it was always uppermost in his calculations." Management aimed to stop soldiering (that is, to increase labor intensity) by specifying a division of labor, job duties, and procedures that required intense effort and by assigning supervisors to harrass workers.

Present-day extensions of scientific management. Braverman said that even though all elements of Taylor's system were not widely installed, "it is impossible to overestimate the importance of the scientific management movement in the shaping of the modern corporation and indeed all institutions of capitalist society which carry on labor processes." Management refined scientific management, experimenting and perfecting its rudimentary mechanisms. Braverman discussed several extensions of scientific management beyond the factory floor. For example, as administrative activities took a larger portion of total labor time, management subject these indirect production tasks to scientific management; it grouped activities into departments such as research, legal, and payroll, and then stratified, standardized, codified, and sped up the labor processes.[12]

Braverman mentioned schools of thought after Taylor that claimed workers could be better motivated in part by evaluating, rewarding and punishing them differently. Such schools included "human relations" and industrial psychology and sociology. He concluded that all systems of worker manipulation based on these ideas failed; they had "little real impact upon the management of worker or work."[13]

Further considerations. Several histories of U.S. management practices documented additional changes around the turn of the century that contributed to more systematic management and that Taylor incorporated in scientific management. Braverman alluded to the changes but never made clear how they strengthened management's hand. Joseph Litterer and Daniel Nelson described refinement of procedures for coordinating and monitoring the flow of partially-finished goods (procedures that they called 'production control systems'), for monitoring inventories, and for calculating production costs in detail. Standard, written, production procedures helped reduce waste and confusion and maintain high labor intensity. Accurate records of costs and materials enabled management to determine whether the written directives were being followed, that is, to assess department labor processes.[14]

Litterer and Nelson emphasized an aspect of scientific management that Braverman glossed over: its role in resolving conflicts between the top and lower levels of management in favor of the top. For various reasons as a firm grew, the interests of different strata of management often diverged. Scientific management enabled top management to (a) tell subordinate managers precisely how to boss

frontline workers and (b) check subordinates' compliance. Scientific management thus reduced the authority of lower level managers; Litterer described how production control systems limited the decision-making prerogatives of foremen. Although Braverman mentioned foremen and supervisors, his theory conceptualized only two groups in the firm, precluding analysis of the dynamic between top and lower level managers and between the latter and frontline workers.[15]

Mechanical Control

Management of leading firms in monopoly capitalism soon supplemented scientific management with another systematic means to coordinate and control the labor process. Braverman defined the management pattern that I term mechanical control as the systematic incorporation of machines in the labor process to achieve "the progressive elimination of the control functions of the worker insofar as possible, and their transfer to a device which is controlled, again insofar as is possible, by management from outside the direct process." Substitution of machines for labor was not new to the monopoly stage of capitalism; indeed, it was the hallmark of the Industrial Revolution. Braverman thought of mechanization as a cumulative process; he showed that production processes could be classified into seventeen levels of mechanization according to the 'initiating control source' and the 'power source.' Braverman argued, however, that the forces underlying the evolution from competitive firm to modern corporation and from artisan control to scientific management also transformed the nature of mechanical innovation.[16]

Modern corporations with vast assets "incorporated science" into their accumulation processes by hiring scientists to do basic and applied research. Management focused much of the research on consumer attitudes and product design in order to expand product markets, but addressed some to production technologies in hopes of cutting costs. In addition to research within corporations, new outputs from the capital goods sector changed the technologies of consumer goods producers. Two kinds of innovation occurred: "refinements of control in separate machines" and "the process of adapting machines to one another." Management of the modern corporation systematically installed machines that to a greater and greater extent were initiated, paced, monitored, and corrected without intervention by workers.[17]

Braverman implied that mechanical control changed the inspecting function. The classification of mechanization levels and his many examples indicated that high-level mechanization used systematic inspections. In data processing, for example, management (first applying the principles of scientific management) separated data-entry tasks from more skilled tasks and hired keypunch operators to only enter data. Then (following principles of mechanical control) management installed hardware and software innovations in data processing operations. Key punching became simpler, more routine, and "the reduction of office information to standardized 'bits' and their processing by computer systems and other office equipment provide[d] management with an automatic accounting of the size of the work load and the amount done by each operator, section, or division."[18]

Increasing the level of mechanization, through refinement of separate machines and adaptation of machines to one another, increased management's ability to coordinate and control the labor process. As decisions to initiate, order, pace, and inspect production tasks moved from man to machine, the unvarying motion and speed of the latter, as planned in the interests of management, replaced the skill, judgement, and relatively erratic pace of the former. Management sought control in order to cut costs. Braverman gave numerous examples of machines that allowed management to install type B constant-intensity innovations and to force higher labor intensity. Machines that guided a tool in a predetermined path through one or a series of operations, a basic innovation, enabled management to substitute low-skilled machine tenders for skilled workers. Automation eliminated many workers altogether. Assembly lines and continuous flow processes demanded a constant, high speed. Machines that systematically inspected output quantity or quality pressured workers for high accuracy. And as under scientific management, many of the changes increased labor market competition, which strengthened management's hand in the workplace.[19]

Further considerations. Braverman gave the impression that both scientific management and mechanical control lessened the need for training. He lamented the loss of craft skills and workers' understanding of their labor process. But he did not describe training under systematic forms of management or analyze its function.[20]

Katherine Stone analyzed training under systematic management in "The Origins of Job Structures in the Steel Industry." Systematic

management in steel companies began in the 1890s as the capitalists broke local after local of the Amalgamated Association of Iron, Steel, and Tin Workers. Managements mechanized at an unprecedented rate and transformed job structures by eliminating traditional skilled jobs and many unskilled jobs and creating a group of semi-skilled workers. Then in the first decades of the 1900s, they created internal paths of promotion from semi-skilled to skilled to foreman jobs.[21]

Stone said that "the new technology diminished the skill requirements for virtually all the jobs involved in making steel, so that even the most difficult jobs could be learned quickly." She did not describe the brief on-the-job training that readied workers for semi-skilled jobs. Although the average skill level in the plants dropped, production required mechanics and specialists in unmechanized processes. Each of these workers needed only a narrow set of skills, not the general knowledge that traditional skilled workers had possessed. According to Stone, for a time no skilled workers were trained; traditional skilled workers had learned through apprenticeships controlled by the Amalgamated Association, but the destruction of the union ended the apprenticeship system. In the first two decades of the twentieth century, steel managements set up a new system for training skilled workers: middle level managers taught chosen workers specialized skills on the job in 'short courses' that lasted from a few weeks to a year. Managements also trained foremen; Stone said that "most of their training was designed to teach them how to maintain discipline--techniques for handling men, developing 'team work,' deciding who to discharge and who to promote." And managements

groomed college graduates for middle-management slots by rotating them through the mill departments where they learned the shopfloor facts of making steel.[22]

Stone argued, in my terms, that management trained skilled workers to insure adequate labor accuracy, and trained foremen to enhance their authority in order to raise frontline labor speed and accuracy.

Contested Terrain

Edwards classified people in the capitalist firm as either capitalists (management) or workers, but he also analyzed the role of workers who were foremen and supervisors. Giving reasons similar to Braverman's, Edwards postulated a necessity for management to coordinate and control the labor process. To do this, management in each firm established a 'system of control,' which consisted of the way three elements (that I term 'management functions') are coordinated:

1. Direction, or a mechanism or method by which the employer directs work tasks, specifying what needs to be done, in what order, with what degree of precision or accuracy, and in what period of time.
2. Evaluation, or a procedure whereby the employer supervises and evaluates to correct mistakes or other failures in production, to assess each worker's performance, and to identify individual workers or groups of workers who are not performing work tasks adequately.
3. Discipline, or an apparatus that the employer uses to discipline and reward workers, in order to elicit cooperation and enforce compliance with the capitalist's direction of the labor process.

A system of control is similar to the labor system concept used in this paper. Edwards said the system of control was the same as the social relations of production in the firm. Yet he included means of production (such as the assembly line) in the system of control when

they provided direction, evaluation, or discipline as he defined the terms. I include both means and social relations of production as elements of a labor system; my directing function encompasses choosing inputs and technologies as well as telling workers what to do. And I treat training as a separate management function.[23]

Management altered the system of control when it encountered a "crisis of control." The crises Edwards described became apparent as a squeeze on profits, a challenge mounted by an organized group of workers, or both. Edwards also discussed challenges to the capitalists as a class that centered on the legal rights of owners and the use of state power. As in Braverman's theory, management was assumed to alter the labor system to increase its control (and diminish workers' control), presumably either to cut costs or contain challenges. Edwards's narrative revealed the possibility that measures relieving one kind of crisis might generate the other. And he noted outcomes that were not unambiguously harmful to workers: changes that reduced the power of foremen sometime improved conditions for workers.[24]

As did Braverman, Edwards found one type of labor system typical in atomistic, competitive markets and a second that accompanied the emergence of monopoly capitalism in the U.S. Edwards called labor systems of the first type 'simple control' and classified them as 'entrepreneurial control' or 'hierarchical control.' He called those of the second type 'structural control' and classified them as 'technical control' or 'bureaucratic control.'[25]

Edwards argued, in my terms, that the transition from simple to structural forms of control occurred as management of core firms changed the four management functions primarily to increase labor intensity and contain challenges to its authority, and secondarily to install constant-intensity innovations.

Entrepreneurial Control

Edwards said that during most of the nineteenth century the typical firm's assets were owned by one or two capitalists (or members of their families). The firm competed in local or regional markets and employed up to several hundred workers. Single-handedly, or with a few assistants, the owner-entrepreneur managed all the firm's affairs. The small workforce and simple nature of production tasks made coordinating and controlling the labor process relatively easy. The owner-entrepreneur directed, evaluated, and disciplined informally; he gave and revised orders on the spot, inspected output continually, and punished and rewarded as he saw fit. He held total power to accept and reject and to hire and fire, so the necessity of pleasing him motivated workers. On the other hand, personal bonds often grew in the workplace, and workers felt committed to an employer who treated them "fairly."[26]

Edwards placed entrepreneurial control about the same time as Braverman's artisan control, but Edwards minimized the role of autonomous craftsmen. He said that most production processes were simple, especially in manufacturing. And even for complex processes, entrepreneurs usually knew as much about production as the skilled craftsmen, for many entrepreneurs began as craftsmen. Edwards

acknowledged that skilled workers in the iron and steel industry for a time blocked extensive mechanization and speedup, but he did not incorporate craft power in his model.[27]

Edwards traced the same dynamic of competition, concentration, and centralization in the U.S. economy during the late 1800s as did Braverman. Edwards too found that the typical firm produced more output and expanded product lines or integrated new stages of production into its operations, and increased its total employment and the complexity of its labor process. The owner-entrepreneur could no longer effectively coordinate and control the labor process. Labor intensity lagged, waste and pilferage increased, and profits fell. To correct the situation the entrepreneur appointed division heads or departments heads; they in turn appointed supervisors and foremen; and an authority hierarchy grew up.[28]

Hierarchical Control

In hierarchical control, the owner's authority to direct, evaluate, and discipline workers was delegated to middle-level managers. Edwards found that department heads, supervisors, and foremen managed the labor process in the same manner as had the owner of the small firm: each one assigned tasks to workers under him, motivated them, and accepted or rejected work. Each one had full rights to hire and fire.[29]

Edwards depicted hierarchical control as an unstable labor system. Supervisors and foremen exercised management's authority but they did not necessarily adopt management's goals, and the divergence of interests tended to widen as the firm grew. Thus capitalists had

> . . . increasing difficulty . . . in ensuring that foremen would use their power in the firm's interest rather than in their own. Foremen were notoriously unpredictable in this respect, as the complaints of the workers seem to bear out. Foremen's identification with management was never assured, for they had goals of their own quite different from those of the firm, and favoritism, idiosyncracises, prejudice, and grudges all seemed to flourish under this system. The result was arbitrary and personal punishment and undoubtedly widespread abuse of power.

The responses of frontline workers to intolerable relations of production generated two trends: shopfloor militancy appeared within firms and working class organizations gained strength across the economy. In the early twentieth century, management of core firms tried to contain the challenges to their authority through welfare schemes, Taylor's scientific management, and company unions. According to Edwards, all these efforts failed to solve the crisis of hierarchical control.[30]

Further considerations. Earlier writers called the problem of diverging interests between top and lower management 'organizational uncoupling.' Litterer and Nelson attributed the problem and the resulting high costs to confusion and duplicated effort caused by middle-level managers who bossed in their own intersts and protected their turfs. Litterer and Nelson described changes at the turn of the century that addressed these problems, such as production and inventory control systems and cost accounting. The changes cut costs through constant-intensity innovations and, most likely, through higher labor intensity, as middle-level managers pressured workers to stay within production schedules and allowable costs. Edwards agreed that organizational uncoupling to some extent increased costs through waste and confusion, but he implied that supervisors and foremen directed in

management's behalf to some extent because they pressed for high front-line intensity. He identified the main problem of organizational uncoupling as the challenge generated by abusive evaluating and punishing, which indirectly affected costs through disruptions and strikes.[31]

Technical Control

Where technology permitted, management regained the upper hand through technical control, which "involves designing machinery and planning the flow of work to minimize the problem of transforming labor power into labor as well as to maximize the purely physically based possibilities for achieving efficiencies." Edwards primarily considered the invention of entirely machine-paced or machine-performed production, highlighting this as the key to management power, in contrast to Braverman, who postulated that mechanization had continuously eroded workers' control.[32]

Under technical control, the speed and layout of the machines automatically ordered and paced work tasks, directing precisely as management intended. This marked the beginning of structural control because the function of directing labor was embedded in the physical arrangement or structure of the machinery. Technical control diminished foremen's and supervisors' responsibility and discretion to direct; to an extent, the machinery directed them too.[33]

Technical control also affected evaluation and discipline. In the case of auto assembly, Ford's installation of a moving line meant that "inspection and evaluation of each worker's performance was relatively simple; generally either the part had been added to the

product or it had not." Management, through the foremen, enforced a rapid pace and high precision through liberal use of punishments. Arbitrariness and favoritism still flourished, but management curbed foremen's and supervisors' power to punish as their directing responsibilities diminished. And because the line, not the foremen, set the pace,

> struggle between workers and bosses over the transformation of labor power into labor was no longer a simple and direct personal confrontation; now the conflict was mediated by the production technology itself. . . . [T]he line eliminated "obstrusive foremanship," that is, close supervision where the foreman simultaneously directed production, inspected and approved work, and disciplined workers.

Edwards mentioned that technical control often involved replacement of workers by machines and substitution of low-skilled for high-skilled workers, but he seemed to attach secondary importance to such means of cutting costs.[34]

Technical control merely displaced the conflict between workers and management, according to Edwards. The relentless pace of the machinery, backed by repressive punishments, eventually sparked a massive worker response. The most vivid challenges arose in auto assembly plants during the 1930s: workers threw the switches and sat down, openly defying management.[35]

Bureaucratic Control

Not until the post-1945 period did capitalists find a promising new way to manage the labor process, Edwards maintained. He defined the new labor system as follows:

> Bureaucratic control, like technical control, differs from the simple forms of control in that it grows out of the formal structure of the firm, rather than simply emanating from the personal relationships between workers and bosses. But while technical control is embedded in the physical and technological aspects of production and is built into the design of machines and the industrial architecture of the plant, bureaucratic control is embedded in the social and organizational structure of the firm and is built into job categories, work rules, promotion procedures, discipline, wage scales, definitions of responsibilities, and the like.

In bureaucratic control, written descriptions specified the duties of each job, including jobs of foremen, supervisors and managers. Work rules defined the limits of acceptable behavior. Middle-level managers bossed workers according to formal directives of top management, which limited their discretion. Direction under bureaucratic control ressembled direction under scientific management as Braverman described it.[36]

Bureaucratic control also formalized evaluation and discipline. Written procedures and the job descriptions for middle-level managers stated the manner and form in which these activities should be done. In general, supervisors were to judge how well workers fulfilled their job descriptions and followed the work rules. A wage scale determined the entry rate for each job. Supervisors could award pre-set wage increases and promotions to good workers. Supervisors should first warn and then dismiss workers for "misbehavior" and poor performance. Edwards emphasized that bureaucratic control did not rely solely on punishments to enforce labor speed, accuracy, and deportment. Management also institutionalized positive incentives: job security and possibilities for good evaluations, step increases, promotions.[37]

Edwards said managements of the first core corporations to adopt bureaucratic control wanted to contain challenges. In some cases management hoped to forestall unionization, in other cases "to regain some of its lost initiative" after a union gained representation rights. Formal procedures for evaluating, rewarding, and punishing checked the harsh, capricious actions of middle-level managers that caused the crisis of control. Formalization damped the worker-foreman conflict generated by hierarchical control and the workforce-top management conflict that arose in technical control. Bureaucratic control used relatively little coercion in transforming labor power into labor because it obtained voluntary compliance through two mechanisms. First, the clearly-specified division of labor and job descriptions and training in rules and procedures established a "presumption of what constitutes a 'fair day's work.'" Second, incentives that rewarded hard work and correct behavior induced voluntary increases in labor effort.[38]

At another point, Edwards identified a different crisis of control that developed in firms with large non-production staffs and prompted the transition to bureaucratic control. "Here the problem was not overt opposition from workers, but rather the need to reorganize once-elite workers into less costly but still devoted employees." But in most firms technical control only partly solved the problem. Therefore, managements of the firms must have intended bureaucratic control--or some aspects of it--to cut costs as well as contain challenges. Edwards's explanation of the mechanism by which bureaucratic control cut costs is problematic, however. If a firm's management simultaneously

formalized direction, evaluation, and discipline hoping to cut costs and contain challenges, then it must have desired to increase labor intensity no more than the amount that workers would voluntarily give. This is unlikely because, as Edwards said, "for the capitalist it is true without limit that the more work he can wring out of the labor power he has purchased, the more goods will be produced; and they will be produced without any increased wage costs."[39]

I sketch a modified explanation of the transition to bureaucratic control, which distinguishes changes to cut costs from changes to contain challenges, and which is consistent with Edwards statement that "in most firms [bureaucratic control] did not necessitate a sharp break with past practice. Rather, the new procedures were introduced piecemeal, more in response to actual problems than as part of a master plan."[40]

Management of the core firm formalized the directing function and the assessment of department labor processes around the turn of the century primarily to cut costs. It installed type B constant-intensity innovations in directing to reduce the average wage (as described by Braverman) and systematic assessment of department labor processes to increase labor intensity (as implied by Litterer and Nelson) as well as other constant-intensity innovations. It also codified the division of labor and job descriptions to establish the presumption of an adequate day's work (in line with Edwards's reasoning).[41]

Formalization of the directing function and the concurrent push for higher labor intensity caused frontline challenges because

middle-level managers, under pressure from top management, resorted to harsh and arbitrary inspecting, evaluation, and punishing.

Formalization of the evaluation and rewarding and punishing functions occurred to contain actual or potential challenges to top management's authority. The new structures incorporated positive incentives to motivate high voluntary intensity. But in many cases containing challenges required a reduction in expected labor intensity.

CHAPTER IV

THE MODEL AND THE THESIS

In this chapter I formally present the framework I use in the study. Then, after listing my sources of evidence, I restate the main and secondary theses in terms of the framework.

The Framework for Analysis

To create a framework for analyzing Children's labor process, I first state assumptions about the hospital's output and markets. The assumptions are based on evidence described in chapter 1, and as I showed in chapter 2, conventional economic studies of nonprofit hospitals support my assumptions.

Second, I specify the labor systems model of the production process. A central component of the model is a classification of production activities at Children's that borrows heavily from the models in chapter 3.

Other elements of the labor systems model include assumptions about (a) the location of authority to make and enforce production decisions, (b) the objectives of groups engaged in production, and (c) the ways they meet their objectives. My assumptions are based on evidence described in chapters 1, 6, 7, and 8. Many of the assumptions find support in the literature reviewed in chapters 2 and 3.

Assumptions about the Hospital's Output and Markets

Output. This paper analyzes production in departments of Children's Charity Hospital that (a) employed non-physician labor power and (b) came under the jurisdiction of the managers and executive committee as provided by law and in the hospital by-laws. These departments are grouped into four categories: hotel services departments, business departments, primary services departments, and medical support services departments. Table 4 lists the functional areas included in each category. A functional area on the list is defined to be a 'department' whether or not officially so titled.

The output of Children's Charity Hospital with which the paper is concerned will be called a 'hospital day' and will be designated 'H_t' for t = 1947, 1948, . . ., 1978. H_t is defined as a vector $(x_{1t}, x_{2t}, \ldots, x_{mt})$ such that the ith element, x_{it} for i = 1, . . ., m, measures the intermediate goods and services produced per adjusted patient day by the ith department (among the m hotel services, business, primary services, and medical support services departments) during time period t. The size of x_{it} will be termed the 'service intensity' of department i in time period t. Service intensity of a hospital day is said to increase if at least one element of H_{t+1} is greater than the corresponding element of H_t and none is smaller.[1]

I assume that the service intensity of H_t was an exogenous variable for the managers and executive committee at Children's and that it was determined by the medical staff, who raised it over time in the belief that the quality of care (and physicians' income and status)

TABLE 4

DEPARTMENTS THAT PRODUCED A HOSPITAL DAY AT CHILDREN'S

Department	Intermediate Output
Hotel Services	
Dietary	Meals served
Housekeeping (environmental health services)	Building square feet
Laundry and linen	Clean pounds
Maintenance and engineering	Building square feet
Business	
Administration	Total employment
Admitting	Number admissions
Personnel	Total employment
Financial offices	Admissions plus employment
Primary Services	
Anesthesiology	Man minutes
Operating and recovery rooms	Minor and major cases
Radiology	X-ray performed
Laboratories, blood bank, pathology	Test run
EKG	Exams done
EEG	Exams done
Physical therapy	Patient minutes
Respiratory therapy	Patient hours
Occupational therapy	Patient minutes
Outpatient clinics	Visits
Emergency room	Visits
Floor nursing and nursing education	Patient days
Medical Support Services	
Purchasing	Requisition costs
Pharmacy	Blue book cost
Medical records	Pages
Medical library	Books plus journals
Social services	Visits
Sterile processing and distribution (central supply)	Requisition cost
Biomedical engineering	Work orders

NOTE: Adapted from Richard A. Elnicki, "Effect of Phase II Price Controls on Hospital Service," Health Services Research 7 (Summer 1972): 108, 109; and "Hospital Productivity, Service Intensity, and Costs," Health Services Research 9 (Winter 1974):271, 278.

would rise with the number of preventive, diagnostic, treatment, and rehabilitative procedures per patient day.[2]

I assume the maximum possible service intensity of each department during time period t varied directly with the department's 'complexity,' which is defined as a department characteristic that increased with the amount and newness of equipment, the number and skill-levels of its workers, and the amount and variety of supplies used in a production period. The number and complexity of departments at Children's in time period t thus placed a ceiling on the service intensity of a hospital day, which will be designated $H_t^* = (x_{1t}^*, x_{2t}^*, \ldots, x_{mt}^*)$.

Demand for hospital days; price ceiling. The distance from the origin and the slope of the demand curve for hospital days at Children's depended on many factors including the average family income in the Hudson area, the population covered by private insurance or eligible for public health benefits, and the incidence of disease. I assume that during the period under study two variables caused significant changes in Children's demand: the service intensity ceiling on output and demographic trends in the Hudson metropolitan area. I also assume that the price of H_t affected the quantity demanded in any production period.

Service intensity ceiling and demand. Holding price of Children's output constant relative to the average price of output at all Hudson area hospitals and in the absence of population shifts, I assume that demand was positively related over time to the size of Children's

medical staff, its professional prestige, and the number of admissions per physician. I assume the last three factors varied directly with (a) the service intensity ceiling, H_t^*, and (b) the maximum service intensity of output from independent departments and facilities at the hospital.[3] (Recall that for every time period the service intensity ceiling of a hospital day depended on the number and complexity of the departments that produced hotel services, business services, primary services, and medical support services.) Because physicians desired to raise the service intensity of H_t over time, a higher limit on the number and assortment of intermediate outputs they could order attracted pediatricians and specialists to Children's. They in turn brought patients.

More precisely, I assume (holding other variables fixed) that if the service intensity ceiling on output from departments and independent facilities at Children's rose less than the average rise for all hospitals in the Hudson metropolitan area, demand at all prices decreased from t to t+1 for all t; if Children's service intensity ceiling increased more than the area average, demand shifted out over time.

Demographic trends and demand. Holding price and service intensity ceiling for Children's output constant relative to the average price and service intensity ceiling for output at all Hudson area hospitals, I assume that demand varied inversely over time with the ratio of the suburban Hudson population to the central city population. This relationship stemmed from the preferences of parents and doctors and the increase in suburban pediatric beds. In the absence of counter-

acting forces, Children's demand curve tended to shift back in response to demographic trends between 1947 and 1978.

I assume that to offset the effect of the demographic shift the service intensity ceiling at Children's had to increase from period t to t+1 by an amount d_t greater than the average increase in the service intensity ceiling at all Hudson area hospitals. The quantity d_t depended on the average increase in the service intensity ceiling for all short-term, general hospitals in the U.S. and the difference between the national and the Hudson area averages.

Price and quantity demanded. I define the price, P_t, of a hospital day as the sum of the quantities $(x_{it} \cdot p_{it})$ over all i for $i = 1, \ldots, m$, where p_{it} is the price of the intermediate output that measures service intensity in department i. (The price of an intermediate output in a hospital is usually called a 'charge.')

I assume that the quantity of H_t demanded in time period t varied inversely with the price of H_t. Hospitalization insurance did not cover all hospital charges; substitutes for care at Children's existed; physicians showed some sensitivity to parents' finances. Therefore, the quantity of hospital days demanded at Children's responded to changes in price even though the areawide demand for pediatric hospital days was probably much more inelastic.

Output price ceiling. Hospital days for children covered by welfare programs were reimbursed at rates the area governments legislated, no matter what price the hospital set. I assume that in addition to this effective price ceiling for government-subsidized care (which automatically adjusted to costs after the enactment of Medicaid),

public opinion imposed a ceiling on the price of a hospital day at Children's, which in any production period equaled the larger of (a) the average price of a comparable hospital day at other area hospitals, or (b) the cost of producing a hospital day when Children's occupancy rate was 80 percent plus a markup calculated so that net revenues from insured and self-paying patients would, at 80 percent occupancy, be expected to offset the loss from government-subsidized patients. The assumption of a price ceiling is further discussed in the section on gifts below.

Factor markets. I assume that Children's Charity Hospital was a price-taker in markets for all non-labor inputs.

The hospital exercised limited market power in area labor markets. Positions comparable to most of the jobs at Children's could be found in other area hospitals and in non-hospital institutions; supply and demand for labor power with the minimum necessary skills set area entry-level rates for the jobs.[4]

I consider the area entry-level wage for each job as a band of hourly rates. I assume Children's could pay any rate within the band and obtain an adequate supply of labor power, but at rates near the low edge of the band more workers quit in each period of production.

The hospital had more control over wage rates for jobs unique to Children's or jobs entered only through internal promotion, although the rates were affected by average area rates for jobs of similar skills.

Gift Income. Children's Charity Hospital relied on charitable contributions (or 'gifts') to cover free care to indigent patients and to fund new plant, renovations, and equipment purchases. I assume that gift income depended on Children's "public relations" effort, its medical and research facilities (that is, the service intensity ceiling on H_t and I_t), and its reputation as a humane institution. I assume the hospital's managers and board could manipulate the variables to increase gift income but, over the long run, less than in proportion with the rise in operating expenses. I assume the hospital could apply gifts towards operating or capital expenditures.

Criticisms of price hikes in the news media and government forums was an effective sanction against them because it marred Children's reputation. I assume that if Children's was operating at a surplus, a price increase would provoke strident criticism, discourage benefactors, reduce gift income, and actually worsen the financial picture.

Assumptions about the Actors in the Production Process

Three levels of authority. I classify the people (excluding physicians) who managed and worked in Children's hotel services, business, primary services, and medical support services departments into three groups according to their relative authority to organize production: top management, department heads, and frontline workers.

'Top management' at Children's is defined as the group that enjoyed final authority to organize production. Since the hospital bylaws at the time vested this power with the medical director, the

administrator, and the executive committee of the board, I assume they constituted top management.[5] Rules that gave power to Children's top management at the same time denied others the right to participate in organizing production--other people who worked at the hospital and other members of the Hudson community.

'Department heads' are defined as paid workers at the hospital who by top management delegation and subject to top management approval held substantial authority over production in a department. During the 1947 to 1978 period, Children's top management conferred on each of a group of workers, through rules and common practice, authority to organize production in one of the departments listed in table 4 (see page 67). I assume the people in charge of the departments were department heads, and include in this group assistant department heads and other middle-level managers who held substantial authority.

'Frontline workers' are defined as paid workers who held no rights, or trivial rights, to organize the production process. In taking work at Children's, frontline workers sold their capacity to labor; they relinquished to top management and its designees the right to organize their own labor.

Personal goals and production objectives. I assume managers and workers at Children's acted to fulfill personal economic goals, and all pursued similar goals. In general, each person placed his or her goals higher than others' goals and felt injustices to himself or herself more sharply than to others. I generalize the personal economic goals as follows: financial security and improvement; pay, benefits, and working

conditions equal to those for comparable positions in the Hudson metropolitan area; a manageable workload and pleasant work relationships; and a sense of worth or dignity.[6]

I assume that in their daily labor people sought objectives in line with their personal goals, that everyone in a group had similar production objectives, but that the objectives of the three groups differed. Similar personal goals translated into different production objectives because authority, or lack of it, constrained workplace opportunities. A person's options depended on whether he or she was authorized to formulate, modify, or simply obey production plans.[7]

Production objectives of top management.

Long-run objectives. I assume that during the 1947 to 1978 period, Children's top management pursued the long-run objective of medical accumulation. The hospital's accumulation process during an interval of time is defined as 'medical accumulation' if, for all t during the interval, H_t^* (the ceiling value on the service intensity of a hospital day) was greater than H_{t-1}^*, or if I_t^* (the ceiling value on the service intensity of output from independent departments and facilities) was greater than I_{t-1}^*, or if both conditions obtained.

Top managers, responsible for the hospital's success, viewed medical accumulation as a defensive and offensive marketing strategy, a means to protect and promote the hospital's and their own prestige and cash flows. They believed the size of the medical staff, its professional renown, and admissions per physician would all rise if the service intensity ceiling rose. They concluded, and the board

concurred, that medical accumulation would revive and invigorate lagging demand and stabilize finances.

In order to continually boost the service intensity ceiling, top management and the board organized the accumulation process ever intent to increase the number and complexity of hospital departments and facilities, that is, ever intent to house, equip, and staff new departments and facilities and re-equip and re-staff (perhaps through retraining) existing ones. Medical accumulation entailed incessant growth in the total value of Children's physical plant, moveable assets, operating funds, and fund balances--the hospital's capital. And when the market deteriorated or the national rate of medical accumulation rose, pressure intensified. A drive for medical accumulation motivated Children's top management and board, a drive essentially identical to that motivating owners of for-profit firms--the drive to accumulate capital.[8]

Shorter-run objectives of top management. I assume that one production objective of Children's top management in time period t, for all t = 1947, 1948, . . ., 1978, was minimizing the out-of-pocket operating loss--or, more optimistically, maximizing cash flow. Defensively, top management wanted to prevent bankruptcy and offensively, to generate funds for medical accumulation.

I assume top management attacked the operating loss during all production periods primarily by minimizing the cost of producing a hospital day, H_t, subject to the composition of H_t set by the medical staff. Top management organized production to minimize the unit costs of the intermediate outputs which composed H_t: goods and services

produced in the hotel services, business, primary services, and medical support services departments. Further, I assume cost-minimization revealed itself as a drive to reduce the unit costs of intermediate outputs from one production period to the next.[9]

The pressure for cost minimization derived from the market constraints--price-sensitive demand, a price ceiling, and a suburban population shift--as follows: I assume that top management set P_t, the price of H_t, at the price ceiling defined above (see page 70), but did not lower price if costs decreased. I assume the hospital produced the number of hospital days demanded, up to capacity. The ceiling prevented top management from increasing price if occupancy fell below 80 percent; it could, on the other hand, pass through cost increases caused by higher input prices or an increase in service intensity of H_t.[10]

If the cost of producing H_t at 80 percent occupancy equaled or exceeded the average area price of a comparable hospital day, total revenues equaled total costs when Children's reached 80 percent occupancy. The hospital showed an operating surplus for higher rates of occupancy and (unless costs could be reduced) a deficit for lower rates. Thus the pressure for cost cutting mounted as competition quickened.

Every incremental reduction in costs added to cash flow, improved short-run finances, and freed funds for medical accumulation. Top management's desire to cut costs had no intrinsic limits; it was constrained only by external factors--mechanical and chemical properties of inputs, legal restrictions, social custom, and limits set by the hospital workforce.

Children's cost-conscious management overhauled production techniques; sampled brands of medical, cleaning, and office supplies; and redrew lines of authority. With unilateral authority, top management could fashion all kinds of cost-cutting changes. It is useful to classify specific changes into four methods according to the variable that was key to reduction. I assume the changes aimed to accomplish one or more of the following: increase labor speed; increase labor accuracy; reduce constant-intensity costs through innovation; and reduce constant-intensity costs through price-induced input substitution. I define a 'constant-intensity' change as one that maintains the existing speed and accuracy of labor.

I define the methods to reduce (or contain) unit costs of intermediate output as follows:

1. Increase labor speed: increase the pace of work and accordingly the amount of labor that frontline workers or department heads or both expend during each paid hour they are at work (holding constant: (a) levels of labor skill and accuracy and (b) non-labor inputs per unit of output). As labor speed increases, quantity produced of an intermediate output increases per hour of labor power purchased, so unit costs decrease.

2. Increase labor accuracy: increase the degree to which frontline workers, and, when they are performing non-supervisory activities, department heads conform to the directives of top management (holding constant: (a) levels of labor skill and speed and (b) non-labor inputs per unit of output). As labor accuracy increases, usable quantity of an intermediate output increases per hour of labor-power purchased, so unit costs decrease.

3. Reduce constant-intensity costs through innovation: incorporate different machines, materials, procedures, divisions of labor, authority structures, or combinations of the above into the production process of an intermediate output such that output quantity increases at a constant expenditure for inputs (holding constant: labor intensity and input prices).[11]

4. Reduce constant-intensity costs through price-induced input substitution: substitute an input that has become relatively cheap for another input in response to a change in their relative prices (at constant levels of labor intensity).

Top management was most concerned with the speed and accuracy of frontline labor, but it took an interest in worker deportment that affected speed and accuracy. 'Deportment' is defined as the general character of behavior apart from labor intensity. It encompasses bearing towards co-workers and supervisors, punctuality and attendance, obediance of rules, and attitude towards authority.

Many different sorts of changes in the organization of production fall into the category of constant-intensity innovations. I define two types that were of special consequence to frontline workers at Children's. 'Type A' constant-intensity innovations were those that reduced the labor time workers needed to spend in producing a given amount of an intermediate output but that kept skill levels and, therefore, hourly labor costs constant. Machines that facilitated work without eliminating skills or plant lay-outs that improved transport were type A innovations. 'Type B' constant-intensity innovations were those that reduced the average skill level and thus the hourly labor

costs of workers who produced a constant amount of an intermediate output during a constant length of time. Type B innovations relied on cheapening the hospital workforce following the principle emphasized by Charles Babbage. Reassignment of duties such that workers, on average, performed tasks of a narrower range or simpler nature was a Type B innovation.[12]

Few constant-intensity innovations, of course, were purely type A or type B, and these two categories do not cover all forms that constant-intensity innovations took.

Cost-cutting through any of the methods entailed changing the organization of production. It follows from my assumptions that certain differences in the organization of production at Children's Charity Hospital between a particular production period and an earlier one can be explained as changes to reduce (or contain) unit costs of intermediate outputs, and that each such change can be classified according to the cost-cutting method or methods it involved.

The continual rise in the service intensity of a hospital day also led to production modifications. Therefore, I assume certain differences in Children's organization of production between a particular production period and an earlier one can be explained as changes to provide a hospital day with the required characteristics, which I will term changes to 'respond to product market conditions.' In responding to market conditions top management still minimized unit costs, but in the face of the new constraints.

Individual top managers could sometimes alter the labor process to achieve their personal economic goals if the change fulfilled, or

did not conflict with, the objectives of top management as a whole. I assume that this factor enters into the explanation of certain changes during the period.

The labor process and management objectives. The 'labor process' at Children's is defined as the hospital production process described in terms of those features that affected or caused the interaction of labor with other inputs in production or, stated differently, in terms of those features that figured in transforming labor power into labor. From the definitions of the labor process and of the three groups at Children's, it follows that authority for organizing the labor process of all groups resided with top management.

To discuss hospital production as a labor process isolates and emphasizes a particular aspect of management activities and the causes and effects of management decisions. The labor process was the most problematic aspect of production for Children's top management. There was the sheer amount of labor power: virtually all intermediate goods embodied labor and, by definition, all intermediate services did. Labor costs constituted a large share of total costs. In December 1958, for example, salaries and wages accounted for 68 percent of expenditures.[13]

As significant to top management as the amount of labor power was its behavior in production. All inputs required coordination and all aspects of production attention if Children's was to stay in business. But no other input was self-propelled: top management needed to motivate workers to follow its dictates about labor tasks, speed, and accuracy. All inputs could be manipulated to yield greater output (or different output), which reduced the costs (or changed the composition)

of a hospital day. But no other input had its own production objectives. No other could have its objectives thwarted. No other input (except, perhaps, the monkeys in the research center) could suffer, and only workers resisted management manipulation. As Children's top management organized production to meet its objectives, it inevitably focused on the labor process.

For frontline workers and department heads the labor process was also paramount. Its parameters cast their roles and set their work environment, their pay, and their chances to advance. Technical and social devices coordinated, motivated, and if necessary coerced them to combine their labor with other inputs. Devices of the labor process became, at the same time, devices workers used or maneuvered around to reach their economic goals.

Production objectives of frontline workers. Personal economic goals of frontline workers at Children's differed slightly from goals of top managers, but workers took an alternate, circuitous route to their destination. The question was never asked: How did frontline workers, the majority of people in the workplace, think the labor process should be organized to best meet their goals? In return for the meagre security of employment at Children's, frontline workers forfeited rights to organize their labor process. I assume they accepted management's rights in principle, but not all management decisions that undercut their goals. Frontline workers never abandoned the goals; these they took into the workplace to fulfill as best they could.

Changes in the production process that furthered management's objectives usually affected the pursuit of frontline goals. Innova-

tions in machines, supplies, and techniques altered physical conditions and the use of human skills; decisions concerning labor speed and accuracy affected frontline workloads; new authority lines transformed working relationships; decisions concerning pay, discipline, and promotions affected opportunities for security, dignity, and advancement.

Frontline workers were indifferent to some changes in the labor process and welcomed others. When management plans furthered frontline workers' goals, they could obey orders enthusiastically.

Changes that cut production costs could easily hamper frontline workers, since cost-cutting hinged on the speed, accuracy, and skills of frontline labor. When management decisions hurt them, frontline workers tried to modify or dampen the impact. They used whatever strategies they thought feasible and fruitful. Common approaches were to obey management only as necessary to keep the job, ask for changes, quit, or combine with other workers to demand or agitate for change. Perpetual cost-cutting at Children's occurred with little regard for workers and created a possibility--even a likelihood--of tension.[14]

Production objectives of department heads. Children's department heads manned an ambiguous station: they were workers yet held certain authority in production. I assume that department heads (perhaps even more strenuously than frontline workers) pursued personal goals at work by seizing the opportunities and avoiding the pitfalls of their office.

The production objectives of a department head to an extent mimicked top management's because his or her economic well-being was related to the department's size and complexity, and medical accumulation often boosted both. Department heads who hoped to join top

management's ranks were especially disposed to adopt management's objectives as their own.[15]

Still, the fortunes of department heads were tied up with frontline fortunes. Some changes that furthered top management's short-run objectives worsened the work situation or the status of department heads as well as frontline workers. Other changes put them in a bind because they enacted top management's decisions so they faced angry workers first.

Department heads used all the strategies that frontline workers used to modify adverse decisions by top management. In addition, they sometimes could alter the labor process in their departments to reach personal economic goals that furthered, or did not conflict with, top management objectives. From their perch of relatively high authority, both the rewards of compliance with top management and the risks of challenge loomed larger to them than to frontline workers.[16]

Conflict in the labor process. In the context of unequal authority, pressure for medical accumulation generated tensions in Children's labor process. Production objectives often clashed and conflict among groups erupted. Conflict showed many faces: resistance without confrontation, manipulation, coercion, challenge, and summary termination.

When frontline workers balked at changes in labor tasks, speed, or accuracy, steps to enforce the changes can be termed manipulation or coercion. And if frontline workers banded together and made demands, conflict can be termed 'challenge to top management authority.'

I assume that in response to structural antagonisms among the groups, top management tried to coordinate, motivate, and coerce

workers so as to (a) prevent them from challenging its decisions, weakening its authority, and disrupting production, and (b) resolve unavoidable challenges in its interests. I term changes made to accomplish this additional top management objective changes to 'contain challenges to top management's authority in production.' It follows that certain differences in the labor process between a particular production period and an earlier one can be explained as changes to contain worker challenges.

The Labor System at Children's Charity Hospital

The labor system and the four management functions. I define the 'labor system' at Children's as the system chosen to organize the labor process in a production period--that is, the totality of practices; rules; mechanical, biological, and chemical processes; and social and material structures by means of which the labor process occurred consistently and reliably. It is useful to divide top management's activities in setting up a labor system into four categories: directing the labor process; inspecting output and evaluating performance; rewarding and punishing workers; and training workers. I refer to the categories as 'management functions' because each was, in a sense, a required role top management played (or cast department heads to play) to reach its production objectives.

Top management performed the 'directing function' as it selected types and proportions of labor and non-labor inputs and the sequence, manner, speed, and accuracy for combining them (or 'planned'); delegated authority to plan; told workers how to follow its plans (or

'bossed' them); and delegated authority for inspecting outputs, and for bossing, evaluating, rewarding, and punishing workers.

Top management performed the 'inspecting and evaluating function' as it checked the quantity and quality of intermediate outputs; assessed department operations; and determined whether frontline workers and department heads followed directives.

Top management performed the 'rewarding and punishing function' as it gave compliments, payments, benefits, and promotions and meted out threats and demotions to better motivate, manipulate, or coerce workers to follow directives.

And top management performed the 'training function' as it taught frontline workers and department heads job-related technical skills and production procedures; taught department heads skills for performing management functions; and indoctrinated workers in both groups to the objectives and rules of top management.

Frontline workers and department heads at Children's engaged in four sorts of activities that corresponded to the four management functions. In addition to combining their labor with other labor and non-labor inputs, they participated (sometimes passively) in inspecting and evaluating, rewarding and punishing, and learning and teaching. Workers performed all the activities at top management's prerogative. Every change in the labor system was initiated by top management or subject to its approval, so every change in the labor process of frontline workers or department heads corresponded to a change in a management function.

This paper terms a change in the labor system a change in the corresponding management function. To structure the examination of Children's labor system I use the categories of management functions and analyze the following components: (a) top management's decisions and actions, (b) the resulting input combinations, procedures, rules, and structures of the labor system, and (c) the production activities of workers.[17]

Social relations and means of production in the labor system. The 'social relations of production' at Children's Charity Hospital are defined as the characteristic human relations at the hospital--relations of rank equality, affiliation, dominance, antagonism, and so forth--that derived from the practices, rules, and structures of the labor system.

United States property law pertaining to non-profit corporations gave the trustees of the hospital's capital rights over the labor process that were almost identical to the rights of owners of for-profit firms. Property law created the broad social relations of production between the two groups: owners of capital--wage laborers. Based on the rights inherent in this macroeconomic social relation, Children's top management initiated the practices, rules, and structures that created social relations of production at the hospital, which can be considered microeconomic social relations.[18]

The 'means of production' at Children's Charity Hospital are defined as the non-labor and labor inputs used in production and the mechanical, biological, and chemical processes that comprise their productive combination.[19] United States property law and the broad

capitalist social relations protected top management's rights to select the means of production.

To adapt to product and factor market conditions, to reduce costs of production through constant-intensity innovation or higher labor intensity, and to contain challenges to its authority, Children's top management synchronized these dual levels of control. Management shaped social relations to reinforce its decisions about the means of production. And in choosing means of production, it never neglected to consider the effect on social relations and the transformation of labor power into labor.

This paper makes the concepts of management functions the keystones of analysis. I have postulated that top management set up a labor system that accomplished the functions by making rules, setting up decision-making structures, and choosing means of production. In so doing, top management created Children's social relations of production. Although the terms 'social relations of production' and 'means of production' appear infrequently in the analysis, the concepts they name are central to it.

Explanations for changes in the labor system. I listed five objectives that might stimulate changes in the organization of production: increase labor speed, increase labor accuracy, reduce constant-intensity costs through innovation, reduce constant-intensity costs through price-induced input substitution, or respond to product market conditions. I assume the five serve as possible explanations for changes in the labor system--or what is the same thing, changes in the

management functions--because a change in the labor system by definition changed the organization of production.

I assumed a sixth possible explanation for changes in the labor system: to contain challenges to management's authority in production.

I assume the explanation for any change in Children's labor system between 1947 and 1978 is subsumed under one or more of the six. Stated differently: six factors determined the social relations of production and means of production through which the management functions at Children's occurred.

The explanations are not necessarily exclusive or non-conflicting. That is, the factors could "explain" a change in a management function (or complementary changes in more than one function) in a number of ways. For example:

1. a change might be explained by a single of top management's objectives;

2. a change top management initially made to attain a single of the objectives might open opportunities for subsequent changes to achieve other objectives;

3. a change might be explained by two or more objectives acting in concert; or

4. a change might conflict with one objective but aim to alleviate a crisis involving another.

The Evidence

The model identifies six explanations for change in Children's labor system. To assess the historical importance of the explanations,

I used the model to analyze two kinds of primary sources: hospital documents and oral work histories of hospital workers.

The documents from Children's archives included: minutes from board, executive committee, and department head meetings; annual reports; financial statements and special financial reports; reports to the board from the administrator and the director; and reports by outside consultants.

Work histories were obtained from six frontline workers and one department head in the housekeeping department and one frontline worker in the dietary department. Each structured, taped interview lasted from forty-five minutes to two hours. I asked for first-hand information about production activities, equipment, supplies, social relations, and the worker's reactions to the labor system.

Significance of the Six Explanations for Labor System Change

My main thesis is that changes between 1947 and 1978 in the four management functions in Children's hotel services, business, primary services, and medical support services departments are explained by--were caused and shaped by--six factors. The significance ascribed to each factor follows.[20]

The Product Market

Changes in demand for hospital days, or more realistically, medical staff orders that increased service intensity of a hospital day, dictated a number of changes in the directing function and corresponding changes in the inspecting and evaluating function. Some of

the changes in the directing function allowed subsequent constant-intensity innovations and changes that increased labor intensity.

More generally, competition in the product market underlay (but did not dictate the form of) most changes in the labor system: it generated the drive for medical accumulation, influenced the timing and extremity of cost-reducing measures, and, since certain cost-reducing changes raised workers' ire, presaged steps to contain challenges.

Constant-Intensity Innovations

A drive for constant-intensity innovation propelled changes in the directing function throughout the period and explained a few changes in the other functions. Many innovations cut production costs of intermediate outputs at least in part by reducing the average skill-levels and, correspondingly, the average hourly wages of frontline workers per unit of output.

Frontline workers' and department heads' reactions always influenced the specific form that innovations took because lower labor speed and accuracy or higher turnover and training requirements could offset the promised savings.

Relative Prices of Inputs

New products poured from the medical supply, hospital equipment, and other sectors in the post-war period, and prices of some potential inputs declined relative to wages and to prices of current hospital inputs. Children's top management used some new inputs in response to product market conditions, others to realize constant-intensity innovations, and others to help increase labor intensity.

However it is likely that some changes in input combinations and divisions of labor are partly explained as price-induced input substitutions. The evidence on this question, although sparse, indicates that changes in relative input prices were of minor importance in significant labor system change.

Labor Speed and Accuracy

An intent to multiply management gains from innovations by boosting labor speed and accuracy underlay several complementary changes in directing, inspecting, evaluating, rewarding, punishing, and training activities. Other major, coordinated changes in the management functions occurred solely to boost the intensity of frontline labor, primarily by enabling and pressuring department heads to push frontline workers.

Challenges to Top Management Authority

Frontline workers and department heads believed constraints existed on top management's authority, especially in matters concerning the intensity of their labor or the evaluating, rewarding, and punishing of themselves. At times, they challenged chronic disregard of a constraint, which they viewed as illegitimate use of authority.

A number of important changes in evaluating activities and in the rewarding and punishing function (and corresponding changes in directives) meant to prevent or contain frontline challenges to management authority. A few independent changes in the directing function are also explained by this factor.

From Technology, Coercion, and Conflict: The Labor System in 1978

Several features of Children's 1978 labor system are denounced or hailed by political economists and institutional labor economists who write about the capitalist workplace. The characteristics include: a stratified division of labor lacking job ladders; a stratified division of authority with short job ladders; standardized and written (or 'formal') authority lines, job descriptions, and procedures for production and personnel tasks; budgeting of expenditures; enforcement of disciplinary rules of due process; and payment of wage rates above the minimum level permitted by market forces.[21]

My secondary thesis is that certain of the features can be jointly attributed to technical and social factors; others primarily to an intent to boost labor intensity; and others primarily to challenges that frontline workers mounted. The secondary thesis also suggests the compatibility of the features with the personal economic goals of frontline workers.

Features Jointly Shaped by Technical and Social Forces

The 1978 division of labor at Children's (and the accompanying wage structure), which had been standardized earlier, was highly partitioned by skill type and highly stratified by skill level. Few internal paths to higher-skilled, non-supervisory jobs and, accordingly, few opportunities for on-the-job training existed. Standard procedures directed production and personnel tasks. In contrast to the petrified division of labor in the departments this paper examines stood the

division of labor among resident physicians, which had been fashioned to facilitate training and secondarily to minimize labor costs.

Top management based decisions to incorporate the features on (a) technical improvements in the means of production; (b) the relatively low wages at which workers with sufficient (or more than sufficient) skills could be induced to perform sets of tasks necessary to activate the means of production if type B innovations were made, and (c) the intensity of labor that could--with coercion--be extracted at those wages. In choosing the features top management manipulated technical, wage, and labor intensity possibilities to reduce production costs.

Although frontline workers expressed no serious objections, these features poorly served their personal economic goals compared to, say, alternatives that the labor system of resident physicians incorporated.

Features Designed to Increase Labor Intensity

The hospital's 1978 authority structure was highly stratified. Short job ladders supplemented by supervisory training allowed some upward movement. Organizational charts and written job descriptions and procedure directives codified the authority structure and the standard production and personnel orders that top management gave to frontline workers and department heads. Budget directives to department heads that utilized standard inventory and accounting procedures acted as another layer of formal directives.

Children's top management incorporated these characteristics into the labor system primarily to cut costs by inducing greater speed and higher accuracy from frontline labor power.

The relationship of these characteristics to labor intensity is difficult to determine and frontline workers made no serious objections to the characteristics per se. Frontline workers did object to the level of labor intensity that top management at times tried to achieve by means of the features and the characteristics created social relations inimical to frontline goals.

Features Shaped by Challenges to Management Authority

The 1978 practices for evaluating, rewarding, and punishing frontline workers (or 'personnel' practices) usually operated by standard rules and with due process. Wages and benefits approximated the average paid by other hospitals in the Hudson metropolitan area.

Top management incorporated these features even though they tended to raise production costs primarily because frontline workers insisted on them in collective bargaining. The union organizing campaign, which criticized specific features of the hospital labor system, clearly challenged management authority in these matters. Top management aimed to head off the challenge with minimum sacrifice of cost-cutting objectives. These features tended to be compatible with the personal economic goals of frontline workers.

C H A P T E R V

OVERVIEW OF THE TRANSFORMATION

This chapter summarizes the evolution of the hospital labor system between 1947 and 1978. After introducing important top managers, I identify trends and turning points in the management functions. I attribute each change in the labor system to certain of the six top management objectives postulated in chapter 4. My claims are, in fact, narrow hypotheses that I aggregate into the thesis of this paper. Evidence and arguments to support the claims appear in chapters 6 and 7.

Characters in Top Management's Cast

During all periods of production between 1947 and 1978, prominent Hudson businessmen, bankers, and lawyers, interspersed with a few doctors and wives of prominent men, filled the seats on Children's board of directors. They hired the medical director and the administrator. They directed the administrator to take charge of the labor system, but watched to see that her or his decisions advanced their goals.

The administrator was a key individual because she or he held authority and worked full time in the hospital; her or his attitudes and actions strongly influenced the formal structure of the labor system and the manner in which it actually functioned. Yet the administrator was an instrument of the board, especially of its executive committee.

the board employed a particular administrator only so long as her or his personal goals remained compatible with its objectives. An administrator could change the organization of production only with the acquiescence of the board; conversely, when the board decided changes should be made, the administrator who refused soon lost the job. Thus the administrator's attitudes and actions can be assumed representative of the board's.

Superintendent Hattie Benson, R.N., retired in 1947 and the board hired Elliott Tift, Jr., M.D., as director. In 1949 Tift took the new position of medical director and Ethyl Berkmeyer, R.N., was promoted to administrator, another new position. Throughout the rest of the period the administrator managed day-to-day production activities and, in a minor way, participated in long-range planning with the medical director and the board.

In 1956 the board hired Charles Gilchrist, M.D., as physician-in-chief to succeed Tift. Gilchrist remained in the position (with a title change to director in 1962) for the rest of the period and became the champion of medical accumulation at Children's.

Gilchrist and the executive committee decided that the entire production operation needed revamping, and in 1962 hired Ronald Jones as administrator. Jones brought a new philosophy of management, a belief in granting equal, respectful treatment to all. The changes Jones initiated, which constituted the beginnings of a transformation in the labor system, revealed the strengths and weaknesses of the philosophy.

Administrator Brandon Rankey was hired during the 1970 financial crunch; his priorities reflected and shaped the dominant objectives of top management in the seventies. The Rankey administration tested the cost-cutting mechanisms of the labor system, and in the process obliterated Jones's philosophy. Figure 1 shows the titles and tenure of hired top managers at Children's between 1947 and 1978.

Evolution of the Management Functions

The Directing Function

Changes in the function, 1947-1948. Directives ran from the "higher" to the "lower" of the three groups at Children's throughout the period, but as time passed, top management took up the slack in its reins for coordinating production. I summarize the changes under the following headings: the division of labor and authority; directives to frontline workers; directives to department heads; and attrition, budgets, and unionization.

The division of labor and authority. I define the 'division of labor' at Children's as the pattern of skill types and skill levels made by grouping work tasks into jobs (or 'positions') and setting a staff size for each position. I define the 'authority structure,' an aspect of the division of labor that deserves special attention, as the pattern of authority relationships erected by specifying authority lines. I define an 'authority line' as a set of hierarchically-ordered positions where hierarchy arises from the ability (or inability) of each position to perform management functions with respect to other positions.

1945

SUPERINTENDENT
Hattie Benson, R.N.

DIRECTOR
Elliott Tift, Jr., M.D.

1950

MEDICAL DIRECTOR
Elliott Tift, Jr., M.D.

1955

ADMINISTRATOR
Ethyl Berkmeyer, R.N.

PHYSICIAN-IN-CHIEF
Charles Gilchrist, M.D.

1960

1965

ADMINISTRATOR
Ronald Jones

DIRECTOR
Charles Gilchrist, M.D.

1970

ADMINISTRATOR
Brandon Rankey

1975

Figure 1. Hired top managers at Children's Charity Hospital of Hudson, 1944 - 1978.

Children's employed a workforce of 338 in 1947. The division of labor for the most part had evolved haphazardly and was vaguely defined. Employment in hotel services departments accounted for over 40 percent of the total. Most frontline jobs in hotel services departments other than maintenance and engineering required few skills, consisted of a limited number of tasks, and provided no progression to higher-skilled jobs.

Only a few primary services and medical support services departments existed. Workers counted under "administration" and "assistant treasurer's office" did the business transactions. These departments produced less-complex outputs and employed fewer workers in 1947 than in later years, but their diversity makes it impossible to generalize about their 1947 divisions of labor.

Top management reorganized production and re-planned the division of labor in many departments between 1947 and 1949. Department heads often adapted the plans. After 1954 top management and outside consultants reorganized departments periodically. Three trends emerged: the planners substituted machines and pre-apportioned, prepared, and disposable supplies for labor; they allocated different types of tasks to different jobs (or increased 'specialization'); and they picked out tasks that required little training and made new jobs comprised solely of these tasks (or increased 'stratification').

Between 1947 and 1978 employment quadrupled. Employment grew at different rates across departments, with primary services and medical support services adding staff most rapidly, and many new departments were formed.

Low-skilled positions predominated in hotel services departments throughout the period, the maintenance and engineering department excepted. In the 1960s and 1970s, the division of labor in business, primary services, and medical support services departments became highly specialized and stratified. The number of skilled workers increased with the service intensity of a hospital day, but at the same time, substitution of less-skilled for skilled labor power continued. Top management started a counteracting trend in the 1970s by raising the ratio of "professional" to "non-professional" workers in some departments.[1]

The 1947 division of authority was probably more vaguely defined than the division of labor. The new director specified precise authority lines. From then on, top management stressed the need for a clear division of authority.

During the 1940s and 1950s, each department head and one or two assistants did all directing, inspecting, evaluating, and rewarding activities. In the mid-sixties top management increased the number of assistant department heads and supervisors relative to nonsupervisory workers. During the remainder of the period, the authority structure was further stratified.[2]

Directives to frontline workers. In 1947 department heads assigned tasks and told workers the order, speed, and manner to do them. Although routines and customary procedures for performing most jobs had evolved over the years, department heads sometimes added tasks or altered procedures. When department heads felt so inclined, they

divided work unequally, changed regular assignments, or ordered tasks to be done in a harder-than-necessary manner.

In the 1940s and 1950s, top management planned standard procedures for department labor processes. As with the division of labor, department heads sometimes altered the plans. Guided by the new administrator in the mid-sixties, management recorded (or 'codified') the existing procedures and division of labor, and placed a manual of procedures in each department. Management wrote a 'job description' listing the tasks a person in each position must do. And it set a limit on employment for each position. Subsequent reorganizations included revisions in these written directives.[3]

Job descriptions and standard procedures formally directed frontline workers after 1964. Although department heads did not always boss by the written directives and, of course, workers did not always do as told, the changes created a presumption in favor of top management's plans for the labor process. Between 1964 and 1978, top management sporadically enforced the formal directives.

Directives to department heads. As implied above, top management directed department heads in a general, informal manner during the first half of the period. It gave few instructions about evaluating, rewarding, punishing, and training frontline workers. In 1947 and after, the director and administrator issued hospital-wide directives at monthly meetings for the department heads. As the period progressed, top management used the meetings to spell out department head duties in greater detail.

The written job descriptions and procedures told department heads more precisely how to boss. The staff maximums prevented them from unilaterally increasing employment or altering relative employment among positions.

During the second half of the period, top management standardized (and periodically enforced) directives to department heads about evaluating, rewarding, and punishing frontline workers, which are discussed below.

Attrition, budgets, and unionization. During the early 1970s, after the board hired a new administrator, two new kinds of directives were superimposed over the existing ones. In 1971 top management ordered department heads to leave jobs vacant after workers quit or were fired. The next year top management helped department heads estimate stringent budgets and insisted that they stick to the estimates.

In 1978 top management signed a collective bargaining agreement (or 'contract') with Local 1000 of the Building and Service Workers Union (B.S.W.U.), which had won an election to represent workers in hotel services and most primary services and medical support services departments. The contract specified minor constraints on management's authority to direct union-eligible workers.[4]

Explanations for changes in the directing function.

Respond to product market conditions, reduce constant-intensity costs through innovation and price-induced input substitution. The total number of departments and employees increased primarily because the medical staff wanted a higher service intensity of output every

production period, that is, primarily in response to product market conditions. As service intensity rose, top management sought opportunities to introduce constant-intensity innovations and changes that increased labor intensity. Market competition also underlay the 1970s decision to increase the ratio of "professional" to "non-professional" workers.

Top management planned many of the reorganizations between 1947 and 1978 to incorporate type A, type B, and other constant-intensity innovations. In some instances, use of a new product from the medical supply, hospital equipment, or other industry represented a constant-intensity innovation. Such innovations occurred with and without reductions in the average skill level of frontline workers. Of course, the decision to use a new input depended on its price relative to prices of non-labor and labor inputs, as well as on its technical properties and impact on labor speed and accuracy. However, changes in relative prices was most likely a weak factor in labor system change.[5]

Increase labor speed, accuracy, or both. As it reorganized production, top management sought out innovations compatible with higher labor intensity in order to reduce costs even further than if the innovations used labor at its prior intensity. And the desire to increase labor speed or accuracy provides the main explanation for several changes in the directing function: periodic clarification of lines of authority; the mid-sixties codification of the authority structure, job descriptions, and procedures; and stratification of authority.

The attrition and budget mandates of the early 1970s were bald attempts to increase labor speed.[6]

Contain challenges to top management authority. Top management agreed to minor contractual limits on its directing authority to minimize the effects of the successful union challenge.

The Inspecting and Evaluating Function

Changes in the function, 1947-1978. Top management structured inspecting to some degree, and formalized and enforced rules and mechanisms for evaluating workers. I summarize the changes under the following headings: inspecting intermediate goods and services, assessing department labor processes, racial discrimination, evaluating frontline workers, and evaluating department heads.

Inspecting intermediate goods and services. Throughout the period, authority and responsibility to inspect the output of a department rested with the department head. In 1947 department heads set most of their own inspection standards and personally checked output. Regulations of the hospital industry and government agencies dictated some minimum standards. Inspection by means of periodic, personal checks remained the norm to the end of the period, although standardization of production tasks made inspecting simpler.

As the ratio of assistant department heads and supervisors to frontline workers rose in the mid-sixties, authority to inspect was parceled out alongside authority to boss.

In the 1970s the Joint Commission on Accreditation of Hospitals (JCAH) issued more stringent and detailed standards, which raised minimum standards.

Assessing department labor processes. During most of the period, top management assessed a department's operations by inspecting intermediate outputs and informally reviewing production processes, making no analysis of costs.

Top management based the department reorganizations between 1947 and 1949 on reviews of procedures, equipment, supplies, and labor power, but did not calculate costs for alternative techniques and staffing patterns. Before reorganizations in the 1960s and 1970s, top management or outside consultants assessed labor processes methodically.

In 1972 top management began to use the budget estimates to continuously monitor department costs.

Racial discrimination. Racism enveloped Children's 1947 social relations of production and biased evaluating practices. Management forbade black workers to use many hospital facilities, filled virtually all the low-skilled jobs with blacks, employed few blacks as skilled workers, and hired none as supervisors, department heads, or top managers. Evaluating practices combined with the divisions of labor and authority to maintain a gulf between blacks and whites, institutionalize racist practices, secure management authority, and (for whites) mask the abuses.[7]

After 1962 top management eased the race rules, named several black men as assistant department heads, and encouraged department

heads to promote blacks to the new supervisor jobs. In 1970 a public agency found discriminatory employment practices at the hospital, and top management adopted an affirmative action plan. In 1972 a group of black workers questioned top management's all-white composition and its lack of commitment to affirmative action. The board appointed a committee to recruit black board members, and top management promoted two black men into its ranks. By 1978, management followed affirmative action policies more consistently and blacks filled a larger share of skilled, supervisor, and department head positions. Yet the lowest-skilled, dead-end jobs remained jobs for blacks only, and racial discrimination and tension persisted.

Evaluating frontline workers. In 1947, each department head determined her or his own criteria to evaluate frontline workers for hire, choice assignments, raises, promotions, and punishments. Workers who did their jobs, reported on time, and obeyed orders generally kept their jobs; yet some department heads evaluated inconsistently and harshly.

In 1952 top management tried to transfer responsibility for recruiting and screening job applicants from department heads to a personnel department. ('Screening' means evaluating whether an applicant meets minimum job requirements.) The change did not actually occur until the 1960s, and department heads retained final authority to hire.

In 1964 top management issued instructions for annual written evaluations in a supervisors' manual. Year after year between 1964 and 1978, official evaluation policies appeared in the manual; in practice

top management alternately tightened and relaxed its own rules. Turns in evaluating practices paralleled and reinforced changes in the directing and the rewarding and punishing functions. I point out changes in evaluating practices here, but mention interactions among the management functions below.

Top management minimally enforced the evaluating procedures between 1964 and 1967, and some department heads ignored official policies. In 1967 top management established a grievance procedure, allowing a frontline worker to formally appeal a supervisor's decisions, and tried to eliminate arbitrary evaluations.

In the early 1970s, as top management emphasized budgets and attrition over principles of fairness and consistency, some department heads violated evaluation policies. After 1978, workers could appeal evaluations through the union grievance procedure and top management again enforced its written rules.

Evaluating department heads. During the 1940s and 1950s, top management evaluated department heads informally, irregularly, and mainly by the quantity and quality of intermediate outputs produced.

Standardization of production and personnel tasks (the latter is further described below) implicitly added new evaluation criteria: Did department heads boss, evaluate, reward, and punish in accordance with official procedures? Top management applied the new criteria after 1967, dropped them in the early 1970s, and reinstated them in 1978. Beginning in 1972, top management also judged department heads' ability to operate within their budgets.

Explanations for changes in the inspecting and evaluating function.

Respond to product market conditions; reduce constant-intensity costs through innovation and price-induced input substitution. Inspections applied higher standards in the 1970s as a response to market conditions.

Centralization and standardization of recruitment and screening is explained partly as a constant-intensity innovation and partly as a move to increase average labor intensity.

Consultants were frequently brought in to assess labor processes in hopes that they could recommend both constant-intensity innovations and methods for raising labor intensity.

Increase labor speed, accuracy, or both. Top management and department heads parceled out inspecting tasks in order to increase the intensity of frontline labor.

Establishment of annual written evaluations was one of several changes simultaneously introduced to increase labor speed and accuracy through positive incentives. Department head violations of evaluating procedures in the early 1970s is also explained as an attempt to increase labor intensity.

Contain challenges to top management authority. Top management began to enforce official evaluation policies in 1967 in order to prevent unionization. The reversion to evaluating frontline workers "by the book" in 1978 was forced by workers' challenges to treatment they felt unfair.

Abate racism. The six explanations for change that I postulated do not fully explain the movement toward racial equality. Top management ended segregation in 1962 partly because the administrator believed that it was wrong and that integration would increase positive incentives and, therefore, labor intensity.

Since I assumed charitable contributions depended on the hospital's reputation as a humane institution, the opening of more equal employment opportunities in the 1970s can be construed as a response to challenges by black workers that threatened the "market" for gift income and the legitimacy of management authority.

The Rewarding and Punishing Function

Changes in the function, 1947-1978. Top management formalized and sporadically enforced rules and mechanisms for rewarding and punishing workers, consolidating its authority over the function. I identify the changes under the following headings: wages, benefits, rewarding and punishing frontline workers, and rewarding and punishing department heads.

Wages. In 1947, Children's wages fell far short of wages paid by other area hospitals, and the rates bore little relation to workers' experience or contribution to output. Department heads gave "merit" increases to reward individual workers. Workers in the lowest-skilled jobs, who were black, received the legal minimum.

Top management brought rates for selected jobs closer to the area averages in the late 1940s and early 1950s. Rates increased across the board several times in the 1950s but still lagged area rates.

In 1964 top management standardized the wage structure by setting entry rates according to the relative "worth" of different positions, boosting rates to the average paid by area hospitals, and restricting "merit" raises. Top management periodically increased rates in the 1960s and 1970s, responding to increases at other area hospitals or signs of union activity.

After 1978, wages of union-eligible workers were set through negotiation.

Benefits. In 1947 workers at Children's earned fewer paid vacation days, holidays, and sick days than workers at other Hudson hospitals. Top management set leave accrual rates; department heads granted the use of accrued leave and could deny leave to punish front-line workers.

In 1964 top management wrote uniform leave policies and printed them in the supervisors' manual. However, considerable discretion to grant leave remained with department heads.

In 1967 top management improved hospitalization insurance and sick leave to compare with other area hospitals, started a pension plan, announced plans for a credit union, and enforced leave policies.

Top management tended to overlook arbitrary department head decisions about leave in the early 1970s, and some department heads again used leave as a disciplinary tool. After 1978, benefits for union-eligible workers were set through collective bargaining, and top management enforced official leave policies.

Rewarding and punishing frontline workers. During the first half of the period, top management left department heads free to reward and punish frontline workers as well as evaluate them, so department practices varied with the values and attitudes of the heads.

In addition to granting raises and leave, department heads rewarded with promotions and choice assignments and work schedules. They punished by withholding rewards and with tongue-lashings, harassment, and termination.

Top management constrained department head autonomy to reward and punish when it formalized directing and evaluating in the mid-sixties.

Top management also directly restricted department head autonomy by introducing the principle of progressive discipline and codifying procedures for punishing in the supervisors' manual.

The administrator hired in 1962 encouraged department heads to follow rewarding and punishing policies. But some department heads ignored the policies, and for several years top management did not challenge their prerogative.

After establishing the three-step grievance procedure in 1967, the administrator paid attention to frontline workers' complaints and reversed decisions that ran against policy.[3]

In the early 1970s, as top management thinned staffs and curtailed expenditures, it ignored the favoritism and arbitrariness that flourished in many departments.

The 1978 union contract sanctioned top management's procedures for rewarding and punishing and left most of management's rule-making

power intact. However, the contract allowed the union to get a binding decision on contractual disputes from an arbitrator. Top management pressed department heads to abide by procedures after 1978.

Rewarding and punishing department heads. Rewards and punishments for department heads, along with evaluations, were supposed to be standardized in the mid-sixties. Actual practices remained arbitrary throughout the period. Beginning in 1967 and again in 1978, top management did punish department heads who violated personnel policies.

Explanations for changes in the rewarding and punishing function.

Reduce constant-intensity costs through innovation. The wage increases at the end of the 1940s can be interpreted as a constant-intensity innovation in rewarding practices.

Across-the-board increases that maintained Children's rates relative to average area rates often did not constitute a change in rewarding practices. (Wage increases made under the "threat" of unionization are discussed below.)

Increase labor speed, accuracy, or both. Top management raised rates equal to the area averages, planned a "fair" rate structure, and formalized rewarding and punishing in 1964 to increase labor intensity. It introduced other changes mentioned above at the same time for the same reason. However, top management overlooked improper rewarding and punishing practices and improper evaluating practices, as long as department heads maintained labor intensity and did not incite challenges to authority.[9]

Ironically, the desire to boost labor intensity motivated department heads' violations of personnel procedures in the early 1970s, and top management's acceptance of the violations, as well as top management's initial establishment of the policies.

Contain challenges to top management authority. In 1967 top management raised benefits and readjusted wages to the area averages, instituted a grievance procedure, and enforced rewarding and punishing policies solely to prevent repercussions from a well-publicized union drive at a nearby hospital. It raised wages again the next year to squelch a union drive in the housekeeping department, and boosted wages and benefits several times after 1974 to defeat union drives without sacrificing labor intensity.

Top management agreed that the union contract contain further wage increases and a grievance procedure and began to enforce its rules about rewarding and punishing as well as evaluating in order to counteract the union challenge.

The Training Function

Changes in the function, 1947-1978. Top management paid greater attention to training activities as time passed. I identify the changes under the following headings: training frontline workers and training department heads.

Training frontline workers. In 1947 most frontline workers either learned skills on the job or were presumed to possess skills and immediately started their permanent duties. The department heads were responsible for training.

On-the-job training became more consistent after departmental procedures were standardized and recorded. Each time production was reorganized, top managers and department heads arranged for frontline workers to learn new procedures and machine operation.

In the 1960s and 1970s, semi-structured on-the-job training prepared new hires for the lowest-skilled jobs. Specialized training prior to employment became a prerequisite for a greater number of positions, particularly in primary services and medical support services departments. Although management spelled out a few short paths of promotion (or 'job ladders'), little on-the-job training existed that allowed workers to advance to higher-skilled, nonsupervisory positions.

Training department heads. In 1947 department heads relied mostly on instinct and experience to direct, evaluate, reward, punish, and train frontline workers. To some extent, top management used its meetings with department heads to train them to implement directives and to see their departments in a hospital-wide context.

After the new administrator took over in 1962, top management explained and reviewed all its directives for department heads and indoctrinated them to its objectives.

In the early 1970s, top management routinely enrolled department heads and middle-level supervisors in supervisory skills courses offered by private consultants or the American Hospital Association.

Top management taught department heads to draw up a budget and counter union drives at meetings in the early 1970s. After signing the union contract, top management held seminars to explain the limits of workers' new rights.

Explanations for changes in the training function.

Respond to product market conditions, reduce constant-intensity costs through innovation and market-induced input substitution. Skills taught on the job often changed during the period because tasks were modified to adapt to constant-intensity innovations, input substitutions, and new intermediate outputs.

Standardization of training accompanied standardization of procedures, which I explained as a constant-intensity innovation. Use of regular meetings to train department heads also was a constant-intensity innovation.

Specialized training became a prerequisite for more positions due partly to product market constraints and partly to constant-intensity innovation.

Increase labor speed, accuracy, or both. Many instances of reteaching job skills complemented changes in the directing function that aimed to increase labor intensity. The greater emphasis on job-skill training in the mid-sixties was part of the attempt to increase frontline labor intensity through positive incentives.

Indoctrinating department heads to top management's objectives, teaching them to budget, and sending them to supervisors' school are explained as indirect attempts to increase frontline labor intensity.

Contain challenges to top management's authority. Top management adapted supervisory skills training to prevent unionization. When prevention failed, top management taught department heads the provisions of the contract to make the best of an unwanted situation.

CHAPTER VI

SOME SIGNS OF STRUCTURE

At the Top

The First Post-War Crisis

Twenty-four men and three women constituted the Board of Directors of Children's Charity Hospital in January 1947. Among them sat successful businessmen, aspiring physicians, and inveterate do-gooders. Many had been board members or corporate members before; all were intent to maintain the hospital's tradition of charity. Their mission: patch up an aging, and in part condemned physical plant, pay off $94,000 in back bills, and strengthen an idiosyncratic production process. Board members felt optimistic. They had just elected a new president and hired a director to succeed the retiring superintendent. But as spring approached, prospects darkened. The new director, Elliott Tift, Jr., M.D., warned the executive committee (the steering committee of the board) of cash shortages and looming bankruptcy.[1]

Alarmed, the executive committee identified "causes" of the crisis: increased wages, higher prices for food and supplies, expensive new medicines, and loss of private subsidies for the blood bank and social services department. The committee proposed to remedy the crisis by reducing the number of inpatients and laying off workers. Tift and his staff objected, citing indivisibilities of production. The administrative secretary later explained that lowering the patient

census would not cut necessary labor inputs because "each ward must be fully staffed, day and night, with maids, orderlies, diet kitchen maids, etc., whether this ward staff is serving ten patients or twenty."[2]

In the end the board took other steps to boost revenues and cut costs. In April 1947 it raised the charge for private rooms. In May it petitioned the Hudson city government to raise payments for indigent children, and the assistant administrator negotiated with federal, city and county officials to broaden legal definitions of indigency to cover more children. In July the board raised charges for the operating rooms, ward accommodations, and outpatient visits. During 1948 it argued with area Blue Cross corporations for higher payments.[3]

The board also drummed up donations. It restarted a mail appeal for unrestricted gifts, which could be applied to operating costs, and publicized the fund drive to replace the condemned building.[4]

The board decided costs must be cut and turned to the labor system. In April 1947 the board cleared up a "misunderstanding" over the director's duties. The first vice-president (who took the president's place when the latter became ill) read the following statement:

> Irrespective of the working of the written agreement [between the board and Tift], I feel sure that this Board in appointing a Director intended to have him assume the management of the Hospital to the same extent as Miss Benson had done for the last twenty-five years--in fact, to a greater extent on account of the constantly increasing technicalities and increasing services of the present day. It is my understanding that the Board looks to our Director, Dr. Tift, to take a decided part in the financial management of the Hospital, at least to the extent of seeing to it that we spend no more than our income--even though it may take 30 or 60 more days of study before he can cut out all unnecessary expenses . . . ; cut down admission of patients at his discretion when we know we do not have sufficient funds to care for them; and make such other drastic recommendations as he finds necessary.

> In other words, I invite a Resolution which would give Dr. Tift not only the authority which he desires to have defined and clarified for managing this Hospital and submitting definite Resolutions and suggestions for action by the Executive Committee and the Board; but place upon him the responsibility of managing this Hospital from a business point of view. It is my understanding that the Ways and Means Committee will raise certain funds; that the Hospital will bring in a certain revenue from its various departments; that there will be certain profits available from investments and donations. All of this will be expended for the Hospital by our Director, but no more than this. It would be impossible for the President of the Hospital or its Executive Committee to be responsible for the details which represent the Hospital's expenses. This responsibility should be the Director's, and I am sure he will be glad to assume it, if the Board directs him to do so. I hope there will never be another meeting of the Executive Committee without the Director. It has always been the function of this Committee to thresh out with the Superintendent all problems and details, and then submit Resolutions to the Board. Our present serious financial condition is largely due to divided authority and responsibilities.

The board duly authorized and directed Tift to take control of the labor system, assess it, and reorganize it to cut costs. From then on Tift attended board meetings and turned in written reports. However, as management practices settled into new routines the reports became cursory and appeared infrequently.[5]

Board meetings in early 1947 set the pattern for the board's role in managing production during the entire period under study. The board outlined general responsibilities of hired top managers, assigned them specific tasks, and monitored their efforts. The corporate by-laws also served as directives. Previous boards had directed superintendent Benson in a similar manner, but in addition, standing committees of the board had more directly managed the labor process. For example, in 1940 the executive committee expected the chairmen of the other ten standing committees to enact a consultant's recommendations. The board vested Tift with greater authority than Benson. He (and his

successor, Berkmeyer) rarely secured board approval for minor equipment purchases and building repairs as Benson had done.[6]

Tift and the board determined that many "unnecessary personnel" worked at the hospital. Tift began to eliminate them and the board watched his progress, pointedly discussing increases in payroll and employment it noticed in 1948. The board reviewed costs of labor, supplies, and equipment in a number of departments.[7]

In April 1948 the assistant treasurer wrote a half-page memorandum: "The hospital is now operating in the black for the first time in approximately two years." The crisis seemed resolved but the division of top management tasks proved unstable. In July 1949 the board appointed Tift to the new post of medical director and promoted Ethyl Berkmeyer, R.N., to the new position of administrator. Tift retained responsibility for medical affairs and Berkmeyer took over non-medical labor processes. With a workable authority structure in place, the board occupied itself with bequests, the investment portfolio, and constructing a new building. It approved wage increases recommended by its committee on personnel and the hired top managers, but otherwise seldom intervened in the labor system.[8]

Vital Statistics 1947-1962

Beginning in the second half of 1952, deficits again plagued the board. Table 5 shows financial data that the board found important. Between 1947 and 1962 operating expenses tripled. The hospital ran an operating deficit every year, usually a deficit of two or three hundred thousand dollars, or 10 to 20 percent of operating expenses. Although

TABLE 5

FINANCES AND DEMAND 1947-1962

Year	Net Gain or (Loss) (Thousands)	Operating Surplus or (Deficit) (Thousands)	Operating Expenses[a] (Thousands)	Average Occupancy[b] (Percent)	Average Daily Clinic Visits
1947	(78)	(186)	NA	NA	188
1948	(86)	(198)[c]	939	69	209
1949	95	(56)	948	62	220
1950	77	NA	1,003	62	242
1951	7	NA	1,103	62	213
1952	NA[d]	NA	NA	62	176
1953	(55)	(253)	1,330	63	170
1954	(47)	(254)	1,393	56	177
1955	(54)	(228)	1,489	60	180
1956	(203)	(428)	1,697	59	186
1957	(36)	(222)	2,005	64	196
1958	(44)	(225)	2,151	72	211
1959	(87)	(365)	2,287	75	221
1960	(57)	(373)	2,364	65	185
1961	154	(228)	2,623	66	163
1962	(42)	(404)	3,054	75	192

SOURCES: Archives of Children's Charity Hospital, Hudson; American Hospital Association, Hospitals: Journal of the American Hospital Association, Guide issue 1949-1963.

NOTE: NA means not available.

[a]Building depreciation was recorded for the first time in 1958 but was not designated an operating expense until fiscal year 1971.

[b]Average annual occupancy was calculated from figures reported to the American Hospital Association for average daily census and number of beds.

[c]Estimated.

[d]Net income was positive in 1952.

gifts and interest income offset operating deficits, the hospital took a net loss in all but five years.[9]

Managing the Accumulation Process 1952-1962

As it had done in the late 1940s, the board kept the hospital solvent by manipulating prices, gift income, and unit costs of intermediate outputs. But during these years it devised a new strategy: it would shift demand for hospital days by outdoing other hospitals at medical accumulation.

Prices and gifts. The board increased operating income by raising the price of output and reducing the amount of free care. It approved higher room rates for private and semi-private rooms in 1951, 1954 and 1958. It hired a collection agency to go after bad debts and it regularly asked area governments to pay higher rates for indigent children.[10]

Year after year the board sponsored fund drives, angling to increase unrestricted gifts without discouraging donations for plant and equipment. For example, in 1959 the board of directors said each member of the Board of Lady Visitors (a group of women volunteers) should write letters to ten selected wealthy people asking them to pledge at least $100 a year. The ladies' board already ran the gift shop and many miscellaneous benefits for the hospital.[11]

The board and the labor system. In 1952 the board agreed to the first vice-president's suggestion that financial statements break out the operating loss (that is, that expenses be subtracted from operating income before gift and investment income were added). The board then

knew at a glance how large a loss the labor system generated. It followed the administrator's "economizing" efforts but it offered few ideas for cutting costs of production. In 1955, at the recommendation of a special committee it had appointed, the board contracted a private firm to manage the dietary department.[12]

The doctrine of medical accumulation. In the 1940s the board identified low prices, price ceilings, and high unit costs as causes of deficits. By the mid-1950s it acknowledged another cause: low occupancy. The board realized that at low rates of occupancy (that is, a low ratio of filled beds to total beds) the revenue from additional patients would far exceed the marginal costs of their care. The point was brought home by an accountant's comparison of costs of output and occupancy rates at fifteen children's hospitals in the United States. In 1955 Children's top management calculated its breakeven point to be an 80 percent annual rate of occupancy. As table 5 shows (see page 120) this was never reached between 1947 and 1962. Another problem that worried the board was a difficulty in recruiting medical residents.[13]

Armed with this new insight, the board re-evaluated its options. Director Tift resigned and in 1956 the board reorganized the medical staff, hired a dynamic, young physician-in-chief, and opened a ward for teenagers. At the 1957 annual corporate meeting the president reported that diversification of output and the efforts of the physician-in-chief had raised the annual average census.[14]

The physician-in-chief, Charles Gilchrist, had done his residency at Children's and then worked at the National Institutes of Health.

Gilchrist envisioned Children's as more than an inner-city hospital; he wanted to build a regional pediatric "medical center." By this he meant an institution that produced output of a high service intensity and that sponsored many research and medical education projects. Gilchrist promoted his ideas among the board and corporate membership. He argued that specialty services, "high calibre" medical residents, pathbreaking research would please doctors in private practice and the parents of their patients. Other top managers had also concluded that strong demand depended on attracting private doctors, which in turn depended on the rate of medical accumulation.[15]

Children's top management had long advocated medical accumulation. Annual reports of the 1940s and 1950s catalogued new treatments, equipment, facilities, research projects, and medical education programs. For example, in 1949 administrator Berkmeyer reported:

> The Operating Room also shows a greatly increased load this year, recording 1,000 more operations than last year. . . . One major operating room has been completely refurnished. The newest and most efficient type of operating table was purchased at a cost of $1600. Our present objective is to build up the cardiac, orthopedic and eye services, providing new instruments and equipment for them. At present our doctors are often forced to bring their own instruments with them.

In 1952, director Tift had linked the treatment, education, and research goals of the hospital as follows:

> After six years as Medical Director, I am even more aware that there is no better description of the functions of a modern, metropolitan hospital than the five objectives of Children's Charity Hospital listed in Article 1 of the By-laws. For the sake of brevity, these five objectives can be compressed into three words--care, education and research. The three are interdependent, for without a hospital to provide medical care for patients, there could be no education or research. Without education and research, the hospital could degenerate into a mere hotel for the sick and medical care of patients would suffer.

> . . . it is the purpose of my report this year to show how the three elements have merged together to improve the service we provide to the community.

In the past, top management pursued medical accumulation to stay abreast of other hospitals. Gilchrist called for aggressive action to surpass them.[16]

The Sutton report. Top management's declaration of intentions did not shift demand overnight and bills still had to be paid. In 1954 the board closed two wards temporarily to cut expenses; in 1959 it closed another indefinitely. Year after year the board covered deficits by liquidating the hospital's investments. In November 1957 the president warned in "the strongest of language" that if large deficits continued the hospital would soon go bankrupt. In the spring of 1959 the board discovered "the investment account would be wiped out in five months at the current rate of cash loss."[17]

The board was in a quandary. On the one hand, the finance committee of the board said annual expenses must be cut by $100,000, and the board saw no choice but to eliminate some departments and decimate others. Gilchrist said that unit costs of existing intermediate outputs could be reduced no further because "in almost all ways, the hospital [was] already running on an economy budget." But the board feared that if it dropped the service intensity ceiling enough to balance the budget, it would destroy enticements to physicians.[18]

The board consulted a specialist. In June 1959 it engaged Harold Sutton, physician and director of an Ohio hospital, to diagnose

the problem and prescribe treatments for cutting costs and raising revenues. Sutton recommended sixty changes in the accumulation process that can be distilled into four main points. The board should:

1. attract doctors in private practice and their paying patients by remodeling offices and patient accomodations to their preferences (and pocketbooks), adding new diagnostic, treatment, and research facilities, and diversifying outputs and modernizing equipment in primary services and medical support services departments--in short, by proceeding full speed ahead with medical accumulation

2. increase operating and non-operating revenues obtained from a constant output by basing charges on costs, forming a collections department, renegotiating payments from governments and insurance companies (that is, from 'third-party payers'), renegotiating contracts with pediatric specialists, and setting up systematic ways to solicit gifts

3. orient decisions about the labor system to medical accumulation by delegating (in writing) authority over and responsibility for all departments to one top manager who would be accountable solely to the board

4. increase operating revenues and contain costs of intermediate outputs by codifying the directing and the rewarding and punishing functions and standardizing departmental assessments.[19]

Sutton clinched the case for Gilchrist and others who dreamed of a medical center. The recommendations lent credence to the board's ad hoc strategies for increasing revenues. And through his proposed

alteration of the labor system, Sutton seemed to resolve the tension between medical accumulation and solvency.

In September 1959 the board and the executive committee of the medical staff approved almost all the recommendations. During the following months the board, administration, and medical staff began to enact them. Top management embellished its plans for a medical center, anticipating rapid acquisition of equipment, hiring of pediatric specialists and establishment of unique facilities. At the behest of the medical staff, the board sweetened financial arrangements with the psychiatry department to persuade its director to stay. The department was said to be innovative, which enhanced the hospital's prestige. Remodeling in 1960 and 1961 catered to private doctors and the parents of their patients. Top management turned several wards into private and semi-private rooms, opened more beds for teenagers, upgraded the clinical laboratories and medical records department, remodeled the medical library and the outpatient department, and air-conditioned the dining room. The board approved revisions in accounting procedures, sought higher third-party payments, and redoubled fund-raising efforts.[20]

Berkmeyer made many recommended changes that fell within her authority but, as described below, the labor system stayed fundamentally the same. In November 1959 the president reported that costs had been cut $125,000 during the preceeding two years. But most likely it was cost-cutting steps taken several years earlier--not the Sutton changes--that led to the savings. In any case, the board was not satisfied and in June 1960 it asked Sutton for more ideas. The details of

his answer are not known. Yet, the June 1962 shake-up leads one to speculate that Sutton said the problem was not just a failure to make all the recommended changes; it was rather a failure or an inability of the administrator to put them to use.[21]

The Labor Process under Tift and Berkmeyer

Elliott Tift accepted a challenge when he took charge of Children's labor system. Traditions and personal relations built up over Hattie Benson's twenty-six years as superintendent regulated the hospital's day-to-day affairs. The board expected Tift to overhaul this antiquated production mechanism. He was to guarantee adequate output quantity, high quality, and solvency. Tift was enthusiastic and tackled the job even before it officially began.[22]

Directing Production 1947-1962

Tift's innovations. Tift made the directing function more systematic by (a) codifying (or 'formalizing') the authority structure, (b) planning divisions of labor and standard procedures for frontline tasks, and (c) holding regular meetings to direct department heads.

Formalizing the authority structure. Tift drew up an organizational chart and a list of regulations in December 1946. After the board delineated his duties and authority, he did the same for department heads. He delegated each one authority over the labor process in her or his department but issued few guidelines for exercising the authority. Tift altered the lines of authority several times in search of a workable structure. One male assistant director quit and then

another. Tift divided the position's duties among three female "liaison officers" but this arrangement was also unreliable.[23]

Codification of the authority structure in part represented type A constant-intensity innovation. By writing an organizational chart, Tift eliminated the confusion, disputes, and duplicated effort that resulted when lines of authority accidentally overlapped. However a clear division of authority was necessary to the success of changes top management made to increase labor intensity so that department heads could be held accountable to carry out the changes.

Redividing and directing frontline labor. The 150 people employed in hotel services departments in 1947 accounted for more than 40 percent of the hospital workforce (see table 6). Most frontline jobs in these departments, except for the maintenance and engineering department, required few skills (or skills that adults learned as they grew up) and consisted of a limited number of tasks. And workers had little or no chance to progress from these jobs to higher-skilled positions.[24]

In the dietary department, which cooked meals for patients, staff, and visitors, jobs fell into several skill levels. This allowed some workers in cleaning and carting jobs to become cooks. A department head supervised all frontline workers; two dieticians with specialized education also worked in the department. The maintenance and engineering department employed one or two craftsmen in each of several building trades, a watchman, and an engineer, all supervised by the chief engineer.[25]

The only primary services departments that existed in 1947 were radiology, the laboratory, and the dispensary (later renamed the

TABLE 6

TOTAL EMPLOYMENT BY DEPARTMENT

Department	1947[a]	1962[b]	1970[c]
Hotel Services			
Dietary	59	49	50
Housekeeping (environmental health services)	53	63	99
Laundry and linen	25	25	31
Maintenance and engineering	13	29	30
Total	150	166	210
Business			
Administration	28	29	139
Admitting	0[d]	23	0[e]
Personnel	0[f]	0[g]	0[h]
Financial offices	7	16	0[i]
Total	35	68	139
Primary Services			
Anesthesiology	0	0	5
Operating and recovery rooms	0	29	51
Radiology	4.5	13	23
Laboratories, blood bank, pathology	16	45	80
EKG	0	0[j]	4
EEG	0	0	3
Physical therapy	0[k]	0[l]	10
Respiratory therapy	0	5	9
Occupational therapy	0[m]	0[n]	7
Subtotal	20.5	92	192
Outpatient clinics and emergency rooms	27.5	57	92
Floor Nursing and nursing education	91	232	255
Total	139	381	539

TABLE 6 - Continued

TOTAL EMPLOYMENT BY DEPARTMENT

Department	1947[a]	1962[b]	1970[c]
Medical Support Services			
Purchasing	0	4	0[o]
Pharmacy	2	5	6
Medical records	4	16	56
Medical library	0	2	0[p]
Social services	5	5	11
Sterile processing and distribution (central supply)	3	0[q]	12
Biomedical engineering	0	0	0
Total	14	32	85
Grand total	338	647	973

SOURCE: Archives of Children's Charity Hospital, Hudson.

[a]October 31, 1947.

[b]August 31, 1962.

[c]Exact date unknown.

[d]Eight employees in administration department did admitting tasks.

[e]Included in figures for administration.

[f]One employee in administration department did personnel tasks.

[g]Two employees in administration department did personnel tasks.

[h]Included in figures for administration.

[i]Included in figures for administration.

[j]One employee in the outpatient clinics did EKG's.

[k]Two employees in the outpatient clinics gave physical therapy.

[l]Four employees in the outpatient clinics gave physical therapy.

[m]One employee in the outpatient clinics gave occupational therapy.

[n]One employee in the outpatient clinics gave occupational therapy.

[o]Included in figures for sterile processing and receiving.

[p]Included in figures for medical records.

[q]One employee in purchasing did sterile processing and distribution tasks.

outpatient department). Some primary services that doctors commonly prescribed in 1978 had not been introduced into medical practice. Others were produced (often in rudimentary form) in departments that existed in 1947. For example, two physical therapists and an occupational therapist worked in the dispensary; floor nurses performed many primary services and clerical tasks; and electroencephalographs were not done. Several medical support services departments existed in 1947: the pharmacy, medical records, social services, and central supply. Workers lumped under the categories "administration" and "assistant treasurer's office" performed business transactions.[26]

Between 1947 and 1949 management reorganized labor processes in departments in all four categories. Department by department, management altered the divisions of labor, set up standard procedures and sometimes installed equipment. In several departments the workforce was reduced. Top managers and department heads planned the changes for most departments themselves.[27]

A rapid rise in meal costs marked the dietary department for early scrutiny. Tift hired Mabel Ashenfelter, a dietitian who had been a supervisor for a firm that ran cafeterias in government buildings. Ashenfelter surveyed the department and redivided supervisory and front-line tasks to eliminate several jobs. She set up a schedule for cleaning and purchased kitchen equipment and utensils. Monthly expenses for food and wages each fell by $500.[28]

Administrative assistant Ethyl Berkmeyer reorganized the labor process in the laundry. Minor carpentry work was done in the laundry room, "a new system of exchange of linen was put into effect, new

procedures for checking and storage of laundry and supplies was [sic] established, and a system of cleaning and maintenance of machinery was set up, all of which [according to Tift] . . . contributed considerably toward increasing the efficiency of the laundry."[29]

The assistant director brought the incomplete, chaotic inventory records up to date, set up periodic distribution of supplies, and started buying standard supplies at scheduled intervals. Redivision of labor and standardization of procedures also occurred in the pharmacy and the nursing and medical records departments.[30]

Even after the reorganizations, the state of mechanization was rudimentary. For example, the administrator reported to the corporate membership at the 1949 annual meeting:

> This year has seen two important installations in the X-ray Department. One is a portable x-ray machine to be used when pictures need to be taken in the operating room or when a patient is too ill to be moved from the floor to the x-ray department. The other is an electric cooling unit for the solutions used in developing pictures. Previously, this was done with the use of ice, at a great cost in time and labor; also, pictures were ruined because the solution was not the right temperature. The present automatic device is highly successful, and adds greatly to the efficiency of the work of the Department.

Designating standard procedures for frontline tasks in part represented type A constant-intensity innovation. Top management determined the most practical way to do tasks (at a constant labor intensity) and this least-cost procedure became the standard. Unnecessary effort, waste, and confusion were minimized, which cut costs. However, once standard procedures are designated, each division of labor implies a desired speed and accuracy at which frontliners must labor to complete their workloads. Unless the type A savings were large, the staff reductions meant that workers had to work faster and more accurately to

maintain the quantity and quality of intermediate outputs. It is most likely that top management intended the early reorganizations, in combination with the formalization of the authority structure, to increase labor intensity. As part of the dietary department reorganization, for example, top management beefed up supervision to insure frontliners labored at the desired intensity. It is impossible to assess whether top management expected a greater reduction in costs from type A constant-intensity innovations or higher labor intensity.[31]

After Tift became director, top management reorganized and standardized on a broad scale. Others before him, objecting to the idiosyncratic labor processes that evolved as the physical plant grew and medical complexity rose, had taken steps in this direction. In 1946 the assistant treasurer found the business office workload had grown over the years as top management asked for new and more detailed data. She revised procedures "to give better control over the books, records, and accounts." Berkmeyer had reorganized the housekeeping department during the same year. Department heads did not need top management permission to modify labor processes. And there was no system for recording and updating the division of frontline labor and standard procedures. Top management never followed through on an attempt it made in 1947 to define the duties of frontline positions in writing.[32]

Directing department heads. Immediately after he arrived, Tift established the monthly meeting as one of the main channels for directing department heads. At meetings in 1947 and 1948, for example, he told department heads to describe jobs in their departments, submit

monthly staff counts, and report to the proper liaison officer. He informed the group of changes in personnel policies made as a result of their discussions of past policies.[33]

Holding department head meetings on a regular basis was a new practice and a type A constant-intensity innovation. By announcing directives that pertained to all departments at mandatory meetings, Tift improved the chances they would be uniformly interpreted and followed. Without regular meetings, Benson had been mostly limited to individual contacts with department heads. The meetings also helped consolidate Tift's authority over department heads, some of whom had exercised authority independent of Benson. The chief engineer, for example, had reported directly to the board.[34]

Top management tried to use the meetings for another purpose: "to educate each Department Head in operating within certain specified limits." Top management estimated a budget for each department in 1947 and 1948--the first in many years. Evidently, the budgets did not work as planned, for top management did not continue the practice.[35]

Berkmeyer's years. In 1949 the board split Tift's job into two positions with independent authority: "A Medical Director responsible for professional activities and an Administrator responsible for administrative functions." Ethyl Berkmeyer, R.N., was promoted from liaison officer to administrator. She had left Children's to join the Army during WWII; she returned with Army management skills and Army standards. Berkmeyer helped create the labor system that she took over in 1949, and she kept it basically intact for twelve years. A few changes

made in the 1950s anticipated trends of the 1960s, but Berkmeyer did not exploit their full potential.[36]

In 1950 top managment began a construction project that disrupted operations for five and a half years. Moving into the new central building took almost all of 1953; remodeling in the east and west wings continued until 1955. Management revised standard procedures (and sometimes the division of labor) to adapt each department's labor process to its new location and to re-establish links with other departments. Changes made in conjunction with the construction were primarily outcomes of medical accumulation, which was top management's response to product market conditions. It appears that little constant intensity innovation resulted from these changes.[37]

Top management formed a personnel department in 1957, hoping to standardize recruiting and other personnel activities. Berkmeyer explained at the annual meeting:

> The entire hospital was saddened by the death of Mrs. Edith Punch in February 1952. Mrs. Punch had been with the hospital for 24 years and none realized her many duties and how much we all depended on her until she was no longer with us. It was necessary to reorganize our Administrative Office and separate the Personnel Department from the Administrative Department. Miss Hope Weatherby, an employee for 8 years, was appointed Assistant Administrator and Miss Catherine Clint was made Personnel Officer in charge of all personnel. It has been the greatest help to concentrate the personnel work in one department instead of having all department heads responsible for personnel, especially at a time when it is so difficult to obtain and retain workers.[38]

In 1952 Berkmeyer told department heads that each should compile a "Procedure Book . . . stating the functions of the department and the duties of the employees assigned to each job." The codification did not involve redivisions of labor nor replanning of procedures, most of

which had been standardized between 1945 and 1950. Top management's motives are unclear; in any case, the completed books did not alter the labor process and they soon became outdated.[39]

As monthly deficits ballooned in the mid-fifties, top management tried various measures to cut costs. Management of the dietary department was contracted out to a private restaurant firm, the Hot Shoppes, Inc. The firm reorganized the labor process and cut costs; however the specific changes it made are unknown.[40]

Berkmeyer repeatedly scolded department heads about waste, telling them, for example, to conserve electricity, office supplies, and medical supplies. Top management also modified standard procedures to cut costs:

> Department Heads were again reminded [at the January 1958 meeting] that no overtime for employees will be paid without proper procedures being enforced. No employe is to work overtime for pay unless so requested by the Department Head in advance. Overtime is to be cut to a minimum.
>
> . . . . . .
>
> Inner-departmental [sic] communications will not be permitted to be sent in envelopes; medical supplies must be ordered for one week only each time; printed forms are to be used only for the purpose they are intended.[41]

Top management further stratified labor in the nursing department in 1958 by separating clerical tasks from nursing tasks and assigning the former to ward clerks. The change represented a type B constant-intensity innovation because ward clerks' wages stood far below nurses' wages. Berkmeyer and other administrators had discussed this way of reducing the average wage in nursing at the 1957 meeting of the Children's Hospitals Executive Council.[42]

Operating expenses did respond to the cost-cutting efforts. On the other hand, it became increasingly apparent that formal structures and procedures could not, in and of themselves, regulate activities of department heads and frontline workers; it was necessary that top managers continually enforce them. For this, Berkmeyer relied on verbal commands. But two facts indicate that department heads ignored directives that interfered with the way they ran their shops. First, as implied above, Berkmeyer harped about certain new and existing procedures that were not followed. For example, in 1952 Berkmeyer reminded department heads to contact the executive housekeeper when they needed maids or porters to run errands for the hospital, and never to send housekeeping workers on personal errands. In 1953 she told department heads that all employees, including themselves, must be at their stations--not in the dining room--when the workday began. In 1954 she cleared up some "confusion" about who scheduled the work times of maids and orderlies: "she reminded all present [at the department head meeting] that that was the job of Mrs. McGrady and that under no circumstances were they to attempt to regulate the working hours of their maids and orderlies." And she repeatedly demanded that the proper slips and channels be used for ordering equipment, supplies, and repairs. Second, the administrator who replaced Berkmeyer took additional steps to enforce formal directives.[43]

Trends in employment and the division of labor. Between 1947 and 1962 employment doubled in the departments studied (see table 6 on page 129). Management formed several new departments, including the operating

room, the medical library, and the respiratory therapy department. Staff size grew rapidly in other departments, such as the laboratories, business offices, radiology, medical records, central supply, maintenance and engineering, admitting, and floor nursing.

In general employment grew fastest in primary services departments and slowest in hotel services departments. Thus over the sixteen-year period, a relative shift in employment toward the former categories occurred. Employment in primary services departments (excluding floor nursing and the out-patient departments) rose from 6 to 14 percent of the workforce while employment in hotel services fell from 44 to 26 percent (see table 7).

Employment growth reflected the increasing service intensity of output because more labor was necessary to produce the higher number of intermediate goods and services in an average hospital day. (Table 3 page 11 indicates the increase in service intensity in three departments.) Higher employment thus followed from top management's response to product market conditions. The specialization that resulted from forming new departments represented type A constant-intensity innovations because (although labor intensity was always an important consideration) such specialization generally represented a logical separation of dissimilar activities rather than a minute division of tasks.

Inspecting and Evaluating 1947-1962

Tift's organizational chart allocated authority for inspecting output and evaluating workers as well as directing the labor process.

TABLE 7

DISTRIBUTION OF EMPLOYMENT BY DEPARTMENT CATEGORY

Department Category	Percent of Total Employment 1947[a]	1962[b]	1970[c]
(a) Hotel services	44%	26%	22%
(b) Business	10	11	14
Total a + b	54%	37%	36%
(c) Primary services excluding floor nursing and outpatient department	6%	14%	20%
(d) Medical support services	4	5	9
Total c + d	10%	19%	29%
(e) Outpatient departments	8%	9%	9%
(f) Floor nursing	27%	36%	26%
Total Employment	338	647	973

SOURCE: Archives of Children's Charity Hospital, Hudson.

[a]October 31, 1947.

[b]August 31, 1967.

[c]Exact date unknown.

Thus formalization of the authority structure was a step towards formalizing this function.

Inspecting output. By delegating authority to inspect to department heads, top management made them accountable for quality and quantity of particular intermediate outputs, which helped to guarantee adequate speed and accuracy of frontline labor. However, top management left methods for inspecting up to department heads. As when Benson was superintendent, department heads to a large extent set their own standards (or 'criteria') for inspections. They informally observed work and checked output as they bossed, rarely planning standard inspection procedures.[44]

Due to the nature of hospital production, most intermediate goods and services received frequent, strict inspections. Intermediate outputs were used simultaneously with or soon after their production, and many people might detect imperfections and the workers "at fault." For example, patients' parents and nurses quickly noticed (and complained about) dirty bathrooms, overflowing linen and trash cans, and cold food. If the pharmacy sent to the wrong medicine, nurses caught the error within hours. Medical residents and nurses, especially the emergency room staff, acutely felt production lags in the laboratory and the radiology department. And many workers--orderlies, respiratory therapists, ward clerks--labored under the watchful eyes of doctors, parents, and other workers who were not their supervisors. These checks that were internal to the production of a hospital day tended to (a) maintain the desired quantity of intermediate outputs, and

(b) prevent and correct deficiencies in output characteristics (that is, maintain quality). Internal checks pressed the actual labor process into the contours that management specified.

Inspection criteria of outside groups dictated minimum standards for some intermediate outputs. For example, the Program on Hospital Standardization (the forerunner of the Joint Commission on Accreditation of Hospitals) inspected the laboratories and the medical records and radiology departments each year before approving Children's surgical facilities. Government agencies checked for observance of fire and sanitation codes.[45]

The 1947 reorganizations in the dietary and laundry departments were meant to cut costs partly through tougher inspections. Management hired a night supervisor to oversee kitchen cleaning, expecting closer inspecting to increase labor speed and accuracy and, therefore, cleanliness. New procedures in the laundry included routine checks on the quality and quantity of linen. This was intended to systemize linen replacement and insure adequate supplies so represented a type A constant-intensity innovation. (Management probably also aimed to deter theft).[46]

Racism. In the 1930s and 1940s Hudson was a segregated Southern city. No convalescent home took in black children. Hudson hospitals that treated blacks, including Children's Charity Hospital, kept them in wards labeled "colored." As a group, white top managers, department heads, and frontline workers at Children's believed and acted as if their darker-skinned co-workers were inferior.[47]

Amicable surface relations partly obscured whites' attitude: a group of blacks sang spirituals at the tea party commemorating Benson's twenty-fifth year as superintendent. But managers referred to black workers as "the help" and made them eat in a separate dining room, enter by the loading platform, and ride the freight elevator. Top management even threw separate Christmas parties for them. Tift reported in 1947 that food costs had been cut by using "bulk milk . . . for cooking and in the Help's Dining-room." In 1953 the executive committee, shocked that the chief dentist wanted to appoint a black dental resident, voted to

> . . . appoint a special committee to go into the whole question of a dental Resident, . . . including whether the Hospital needs one, whether his pay should be increased and whether further efforts should be made to obtain a white one.[48]

In this atmosphere, surrounded by biased social institutions, black workers at Children's had no chance for evaluations, rewards, and punishments on the same terms as whites. Management filled the lowest-skilled, lowest-paid jobs with blacks only. It never hired or promoted blacks to supervisory positions. The evaluation function at the hospital (as well as the directing and the rewarding and punishing functions) was premised on and reaffirmed Hudson's pervasive racism.[49]

Evaluating frontline workers. In 1947 department heads evaluated when they judged whether workers "deserved" permanent status, merit increases, and promotions, and when they hired and fired. Department heads used their discretion in choosing the aspects of performance and behavior to evaluate and the standards (or 'criteria') by which to judge. Nothing prevented a department head from evaluating two workers by different

standards; nothing insured consistent practices from one department to the next. The values and prejudices of the department head determined how fair and evenhanded were her or his evaluations. As when Benson was superintendent, evaluations centered on the department head's perception of workers' speed and accuracy.[50]

The personnel department, which Berkmeyer formed in 1952, planned standard procedures for recruiting and screening. By standardizing evaluations of job applicants, top management realized type A constant-intensity gains. Department heads did not heed these new directives.[51]

Assessing department labor processes. When Tift became director, top management judged department operations by the quality and quantity of their intermediate outputs. The assessments were informal since management did not collect production statistics or conduct standard inspections. In 1947 Tift and the board learned a new way to assess the dietary department labor process. Ashenfelter, the consulting dietitian, began recording numbers of meals served and outlays for food, and calculated unit labor costs and unit material costs. The figures proved that her reorganization turned the department around financially; Tift thought the records themselves were "the most striking changes."[52]

Consultant Richard MacKensie had suggested in 1940 that top management monitor unit costs of intermediate outputs to assess department operations. He recommended that management keep count of patient days, operations (numbers and hours), outpatient visits, outpatient

treatments, laboratory tests, x-ray pictures, x-ray treatments, meals, laundry (pieces), and steam (pounds). Many of these numbers were not compiled in 1940. MacKensie's plan for the data was similar to Ashenfelter's:

> If the cost of operating the laundry is known, and the number of pieces washed is already counted, the cost per piece can be determined. If the total cost increases, inquiry should be made by the Assistant Treasurer to learn the cause.[53]

The usefulness of cost statistics was again demonstrated in the mid-fifties. Berkmeyer showed the board how the Hot Shoppes had calculated unit meal costs before and after it took charge of the dietary department. The firm reduced outlays and was able to run the department at a profit.[54]

After Tift became director, top management kept monthly counts of the intermediate outputs that MacKensie had mentioned. In addition, each month it collected figures on employment and separations (quits and firings) by job category. Tift and the board used the reports, which were called payroll reports, to monitor their "great efforts to keep the number of employees at a minimum." Administrative secretary Edith Punch calculated monthly changes in employment, and Tift relayed the information to the board, often justifying reductions and increases in particular departments. In the 1950s Berkmeyer used payroll reports to tell whether steps to reduce turnover had actually done so. But top management did not calculate unit costs of intermediate outputs.[55]

Evaluating department heads. Top management evaluated department heads in an informal manner during these years. Because unit costs of intermediate outputs were not known, top management could evaluate a

department head only by the quality and quantity of department outputs and an intuitive appraisal of her or his supervisory skills. Given top management's interest in reducing employment, department heads who cut staff (or produced more with the same staff) probably improved their chances for a favorable evaluation.

Rewarding and Punishing 1947-1962

Under Tift and Berkmeyer, rewarding and punishing occurred much as it had while Benson was superintendent, although formalization of the authority structure clarified each department head's jurisdiction.

Wages. The board set and raised entry-level wages for frontline workers after consulting the director and administrator. In determining rates, top management considered wages of comparable jobs at other Hudson hospitals, and for years it had paid less than the area average. The least-skilled workers received the federal minimum wage.[56]

The board raised the wages of frontline workers, or a subset of them, numerous times during the period. Each raise is explained by one or more of the following factors: (1) average area rates for comparable jobs rose, (2) the legal minimum rose, (3) a group of workers demanded higher pay, (4) top management intended to reduce turnover by narrowing the gap between Children's rates and the area averages.

Raises caused by one of the first two factors did not constitute a change in rewarding practices. Top management had to partially, if not fully, match area-wide increases to attract job applicants and keep the quit rate from rising. When a group of workers demanded

higher wages, top management usually raised rates in order to smooth over challenges to its unilateral authority to set wages.

Wage increases that brought rates nearer to the area averages can be interpreted as a constant-intensity innovation in rewarding practices. Top management hoped to cut costs by reducing the quit rate, turnover, and the ratio of new hires to experienced workers. With fewer new hires, training costs per unit of output would fall and (assuming that experienced people worked more accurately and faster than trainees) so would the costs of defective output and the implicit costs of foregone output. Top management expected the savings to exceed the total outlays for higher wages.

An increase in the federal minimum wage in July 1946 had forced the board to raise wages for "the entire staff of some 135 colored employees." The board approved higher wages for operating room nurses in 1947 when the nurses threatened a "wholesale departure." The next year Tift convinced the board to raise nurses' rates by 12 percent and other wages by an average of 4 percent to reduce turnover, especially turnover of workers in "strategic positions."[57]

In 1949 the board gave a $5.00 a month raise to 121 "time-clock employees in the lowest pay brackets"--dietary, housekeeping and laundry jobs--to reduce a monthly turnover rate that ranged from 8 to 22 percent. In 1952 an increase in the minimum wage forced an equal pay increase for maids and women dietary workers. Maids' wages rose again for the same reason in 1955.[58]

After 1952 the Hudson Graduate Nurses' Association negotiated rates with the Hudson Hospital Council. A shortage of nurses compelled

Children's top management to accept the city-wide pacts. Each time nurses' rates rose, the board generally voted a smaller increase for other workers to avert disaffection.[59]

Although the board set entry-level minimums, department heads could pay new workers at higher rates and could reward "good" workers and their favorites with merit increases. However blacks rarely if ever received such rewards.[60]

The board set and raised the salaries of hired top managers and department heads on an individual basis, in part according to how diligently they worked for the hospital. For example, in 1946 the board took the advice of the hospital's auditor and rewarded the assistant treasurer for her hard work. After the board raised frontline wages it often gave the hired top managers and department heads an increase to maintain wage differentials.[61]

Benefits. The board also set benefits below the average for area hospitals. Until the mid-fifties, the least-skilled workers put in more than five days a week. Frontliners in the dietary department began working a forty-hour workweek under Hot Shoppes management, but frontliners in housekeeping worked a forty-eight hour week for several more years. Everyone earned four days of paid sick leave and six paid holidays per year. The least-skilled workers accumulated one day of vacation per month. Higher-skilled workers accumulated one and one-half days per month, and department heads, one and five-sixths days. Top management made no provision for workers to build pensions; it subscribed to a group health insurance plan for which workers paid their own premiums--payments that few low-skilled workers could afford.

And until 1954, in a burst of holiday generosity, Berkmeyer gave everyone a half-day off for Christmas shopping.[62]

Other rewards, punishments. Top management found that paying workers for their time and assigning department heads to direct their efforts and inspect their output rarely induced the labor speed and accuracy it desired. It delegated department heads substantial authority to reward workers with promotions, holiday and vacation preferences, choice working schedules, and extra sick leave, and to punish them with denials of rewards, vituperation, and firings.

As when Benson was superintendent, there were no designated paths of progression from low-skilled to higher-skilled jobs (or 'job ladders') and no written prerequisites for most jobs. Thus department heads freely decided when and how far to promote frontline workers. The board promoted department heads and top managers in a similar, informal manner. For example, during the 1940s Berkmeyer and another administrative assistant each won a series of promotions into positions of greater authority.[63]

Department heads' considerable ability to reward "good" workers and punish "bad" rested on their right to do the following:

1. assign days and shifts of work
2. approve overtime (subject to the approval of the personnel officer)
3. decide if the workload permitted a coffee break
4. mark time cards for payroll
5. schedule an employee to work on a hospital holiday (and

give a compensatory day off) or allow the holiday off

6. schedule annual leave (subject to the personnel officer's approval)
7. recommend an extension of sick leave (subject to the approval of the administration)
8. approve a request to substitute annual leave for sick leave
9. recommend allowance of special religious or other holidays not observed by the hospital (subject to the approval of the administration)
10. recommend time off for professional conferences or educational purposes (subject to the approval of the administration)
11. recommend salary advances in cases of emergency (subject to the approval of the administration)
12. terminate during probation on one day's notice
13. discharge immediately for absence without notice
14. discharge for unsatisfactory work after giving "reasonable time" for improvement
15. discharge for insubordination, dishonesty, intoxication, or excessive absenteeism.

A 1952 leaflet for new hires said this about firings for unsatisfactory work:

> An employee whose work is considered unsatisfactory will be notified of this fact by the Department Head and encouraged to improve. If no improvement is noted within a reasonable length of time, the Department Head will give the employee notice of dismissal and arrange for an exit interview with the Personnel Office.[64]

Promotions for black workers were restricted to a few semi-skilled positions. Merit increases and promotions were the rewards that most contributed to frontline goals of economic security and advancement. It is unknown how often department heads gave merit increases and promotions to whites.[65]

Department heads did often use their ultimate punishment. They fired thirty-one workers during the year ending in October 1955--14 percent of the workforce (exclusive of doctors and nurses). As reasons, department heads most often cited unsatisfactory work (that is, insufficient labor speed, accuracy, or both) and specific deportment that hindered labor intensity, such as absenteeism, tardiness, or drinking on the job. Firings also occurred for alleged insubordination, such as "talking back" or hitting a supervisor (see table 8). The number of firings in 1955 was average, if not low, for the 1947 to 1962 period, and the reasons stated were typical.[66]

The wide latitude left department heads to reward and punish enabled them to treat frontline workers unequally. Even after the personnel office issued leave regulations in 1952, authority to award earned leave remained with department heads, and some of them ignored the regulations. Some department heads required certain workers to make up all the days they took off because of illness. Department heads could reward and punish for personal traits unrelated to work performance. For example, in 1956 the housekeeper fired a maid who did satisfactory work, because she allegedly "wanted to hang around the men's locker room although . . . [she had] two children born 'under the rose.'" To the extent that department heads judged by their own racial

TABLE 8

FIRINGS AND QUITS AT
CHILDREN'S CHARITY HOSPITAL[a]

	1954[b]	1955[b]
Firings		
Absenteeism and tardiness	10	6
Work unsatisfactory	21	7
Insubordination	NA	4
Drinking on the job	7	3
Creating disturbance	NA	2
Probable forced resignations		
Emotionally unstable	4	6
Personality clash	NA	3
Total firings	NA	31
Other resignations	NA	86
Left without notice	10	10
Total quits	NA	96
Total firings and quits	156[c]	127

SOURCE: Archives of Children's Charity Hospital, Hudson.

NOTE: NA means not available.

[a]Excludes doctors, nurses, and workers in the dietary department.

[b]Twelve months ending October 31.

[c]Includes transfers.

prejudices, moral strictures, and whims, rewards and punishments were biased and arbitrary. It is probable that practices for rewarding and punishing differed across departments and that favoritism often marked practices within departments.[67]

Berkmeyer did insist on one principle of fairness. She told department heads to draw up vacation schedules early and stick to them: "When employees plan their vacations it is very trying to have all arrangements made and then to have the Department Head rearrange the dates."[68]

Training 1947-1962

Training frontline workers. Most but not all department heads found it necessary to teach new hires the scope and method of performing tasks. Training occurred on the job; that is, the new hire initially assisted another worker with her or his regular duties. The department head kept close watch, and when the new hire learned the routine, assigned her or him a full workload. The training period for most jobs was brief, but it enabled management to familiarize workers with standards for speed, accuracy, and deportment as well as with the work tasks.[69]

When reorganization altered the labor process, management held sessions (or 'inservice' training) to teach workers the new duties and procedures. After the new assistant treasurer replanned accounting procedures in 1946, she trained office workers "to relieve her of some of the burdensome detailed work of this office." In 1947 a resident doctor told dietary workers about kitchen techniques that prevented contamination.[70]

Training department heads. Tift and Berkmeyer used the monthly meetings to instruct department heads about their directives. These brief lectures composed a sort of on-the-job training. When top management told department heads to submit monthly staff counts in 1947, Edith Punch showed them how to fill out the forms. The controller explained how to mark time-books for the payroll office in 1949. (Department heads received a memorandum on the same subject in 1950.) At meetings in 1956 the controller explained modifications to the payroll system and the purchasing agent talked about the procedure for distributing supplies. Department heads received almost no instruction about evaluating, rewarding, and punishing during this period because top management issued few directives for these activities. An exception was the set of regulations governing annual leave, which Berkmeyer discussed "at length" in 1955.[71]

Top management indoctrinated department heads to view their jurisdictions as part of a hospital-wide labor system. At several meetings after Berkmeyer became administrator, a department head described the labor process in her or his department to the others. The head of the laundry discussed washing and distribution procedures and the chief technician in the EEG department related the history of electroencephalography. Top management also kept department heads informed of the various financial crises and its actions to alleviate them.[72]

Top management intended training to reinforce its directives. To increase the accuracy of department heads' activities, top managers

explained how to implement policies and procedures. To motivate department heads to follow the directives, they explained why.

The American Hospital Association offered short courses in housekeeping and supervisory skills for housekeepers; top management sent the executive housekeeper in 1950. At industry gatherings throughout the 1950s, managers from Children's heard speakers advocate training for department heads and supervisors, but top management set up no program of systematic training.[73]

The Sutton Report

More than twenty of the specific changes that Sutton recommended in 1959 addressed the labor system. His suggestions in effect called for formalizing the directing and the rewarding and punishing functions, and standardizing department assessments. As mentioned above, Sutton said the board should codify the administrator's duties and authority. In addition, the administrator should redefine and codify the lines of authority and the duties of each management position. Job descriptions for all non-supervisory positions should be written. Management should record department procedures and, where standard procedures did not exist, should adapt procedures published by the American Hospital Association. Sutton noted that periodic review and revision of written procedures would be necessary to keep them current.[74]

Outpatient clinics should be consolidated and fewer "non-educational," non-paying patients should be treated in the clinics and wards. To improve the inflow of revenue, charges for intermediate outputs should be recorded differently and a credit and collection department formed.[75]

Sutton recommended that management use specific "internal controls [that were] essential to an effective plan of administrative accountability," that is, specific tools for inspecting output and assessing departments. Codified directives were one such control. In addition, management should revise its chart of accounts and establish a "cost analysis system," that is, it should begin calculating unit costs (including fixed costs) of production. After that, management should estimate an operating budget.[76]

Sutton recommended that the personnel department assume all recruiting and screening activities, and that it plan standard procedures for doing them. The department should also maintain daily attendance records. Top management should specify an entry wage rate and step increases for every position and a procedure for advancing up the steps. Personnel policies should be written in a handbook for workers. All employees should earn sick leave and overtime pay at the same rates, and a pension plan and a grievance procedure should be established.[77]

Sutton included almost all recommendations that involved the labor system in his list of "phase one" changes--those needed immediately--which he claimed "should result in significant improvement in the financial picture at Children's Charity Hospital as well as develop a sound basis for future operations." He did not say whether he counted more on higher revenues or lower costs to achieve this happy result.[78]

Berkmeyer implemented the labor system recommendations as best she could. Soon after the report was submitted she assigned personnel

director Clint to coordinate the job description project. Each department head was to write descriptions for positions in her or his jurisdiction after a discussion with Clint. Most department heads turned them in by the end of the year. In 1962 Berkmeyer said that each time a job's duties changed, the department head must submit a new description.[79]

In 1960 Berkmeyer told department heads to compile procedure books for their departments. She said, "This is to be done in no great detail, but is rather a list of the work of the individual department, how it is divided and carried out." The project was never completed.[80]

Top management revised accounting procedures, began recording building depreciation, and planned to apportion overhead costs (or 'indirect' costs) "so that Departments will know more nearly how much it costs to operate." Top management told department heads that it was the responsibility of the personnel department to (a) recruit and initially interview job applicants and (b) determine, with the approval of the administrator, entry-level pay rates. The department head's role was limited to making the final decision about hiring.[81]

Top management printed a newsletter for employees. The new personnel director revised sick and annual leave regulations and wrote a handbook of personnel policies for new hires. After 1960 all workers earned ten days of sick leave per year with a maximum accumulation of twenty days. And pressure from important doctors convinced the board to sponsor tax-sheltered annuity contracts; workers whose incomes were above subsistence could then finance their own pensions.[82]

All in all, the measures changed the labor system in only minor ways; they offered no cost-cutting breakthroughs. Using hindsight, one can point out a number of reasons why. Writing job descriptions did not affect the actual labor process and department heads could change the division of labor, procedures, and employment at will. With no budgets, department heads felt little pressure to limit expenditures. With few rules for rewarding and punishing and no grievance procedure, they were under no compulsion to treat workers decently or equally. With no real enforcement of hiring procedures and leave regulations, they could still interview and hire whomever they pleased, determine entry-level pay, and discriminate in awarding leave.

C H A P T E R V I I

"EFFICIENCY" TAKES COMMAND

At the Top

The Coup

June 1962: swiftly and quietly, the board tightened its grip on the labor process. It created a new staff position of director who ranked above the administrator and was responsible "for all Hospital operations . . . subject to the policies of the Board of the Hospital." The board confirmed the obvious choice for director, Charles Gilchrist, M.D. It named Berkmeyer "Administrator Emeritus," relieved her of her duties, and began looking for a replacement. In October it hired Ronald Jones.[1]

The board believed that by redrawing lines of authority at the top, the organization of production could be tailored to medical accumulation. By subordinating the administrator to director Gilchrist, the board placed the labor process in the hotel services, business, primary services, and medical support services departments at the service of its longterm goals. In addition, the board selected an administrator who agreed with the goals. On occasions when explanations were in order, the president and the new director said the change was necessary for Children's to become a medical center. After two and a half years, the board had taken Sutton's advice.[2]

Vital Statistics 1963-1970

The ad hoc medical accumulation of the late 1950s had strengthened demand. The proportion of private patients (that is, patients admitted by a physician in private practice), who were most likely to carry insurance, had increased from 45 to 55 percent between 1958 and 1962. During Jones's years as administrator, average annual occupancy and the number of clinic visits rose from the preceding eight year period. But financial problems dogged top management throughout the 1960s. Operating expenses grew two and a half times between 1963 and 1970, and except in 1970, the annual operating deficit was more than 15 percent of expenses. In 1967 the deficit equaled 24 percent of expenses (see table 9).[3]

Annual net income figures improved remarkably, due to the board's efforts to raise gift income and third-party payments. Several times, however, a cash shortage caused a panic. The board accepted large operating deficits as long as the labor system ran smoothly and sustained a rapid rise in the service intensity of output. A liquidity crisis in 1969 forced the board to reassess its strategy and management of the labor system.

Managing the Accumulation Process 1963-1970

Having restructured authority over the labor process, the board resumed efforts to (a) shift out demand for hospital days through medical accumulation and (b) increase both the non-operating and operating revenues obtained from a constant output. Administrator Jones interpreted his responsibility for the labor system broadly, often

TABLE 9

FINANCES AND DEMAND 1963-1979

Year	Net Gain or (Loss) (Thousands)	Operating Surplusor (Deficit) (Thousands)	Operating Expenses[a] (Thousands)	Average Occupancy[b] (Percent)	Average Daily Clinic Visits
1963	(327)	(756)	3,586	74	235
1964	74	(662)	3,931	71	220
1965[c]	180	(730)	4,342	79	232
1966[c]	145	(879)	4,919	76	279
1967[c]	(198)	(1,448)	5,934	72	245
1968[c]	825	(1,287)	7,149	69	261
1969[d]	213	(1,389)	8,605	66[e]	262
1970[d]	793	(681)	9,367	70	279
1971[d]	(1,867)	(3,392)	12,604	66	275
1972[d]	(708)	(2,342)	12,365	62	318
1973[d]	531	(1,279)	12,664	67[e]	316
1974[d]	59	(1,708)	14,282	68	293
1975[d]	NA	NA	17,975[f]	66	NA
1976[d]	889	(1,061)	22,751	65	NA
1977[d]	(92)	(2,115)	27,864	61	NA
1978[d]	NA	NA	40,674[f]	67	NA
1979[d]	(545)	(3,107)	50,213	77	381

SOURCES: Archives of Childrens's Charity Hospital, Hudson; American Hospital Association, Hospitals: Journal of the American Hospital Association, Guide issues 1964-1980.

NOTE: NA means not available.

[a]Building depreciation was recorded for the first time in 1958 but was not designated as an operating expense until fiscal year 1971.

[b]Average annual occupancy was calculated from figures reported to the American Hospital Association for average daily census and number of beds.

[c]Monetary amounts are for the twelve months ending July 31.

[d]Monetary amounts are for the fiscal year, which ended June 31.

[e]Figure from Children's archives.

[f]Figure reported to American Hospital Association.

making suggestions and sometimes acting in the board's affairs--territory into which Berkmeyer had rarely ventured.[4]

Medical accumulation. Board members rallied behind Gilchrist's proposals for a medical center. They readily approved offices, laboratories, and specialty services for doctors, and room rennovations, parking lots, and other amenities for patients and their parents. Appendix A indicates the magnitude of medical accumulation during these years. Although the board wanted more paying patients, it insisted the door be wide open to poor children, an unbroken tradition since the hospital's founding. It turned down a suggestion by Jones to cut losses by limiting admissions and clinic visits of staff patients (that is, patients without a private doctor).[5]

Demand did not increase as fast as top management hoped. Suburban hospitals built pediatric beds at an alarming rate (see chapter 1). Children's, with its peculiar old facilities in a high-crime area, was losing in market competition despite medical accumulation. Also, political battles for higher revenues, which are described below, diverted the board's attention from developing a medical center. The board consulted another specialist. In 1967 it hired E. D. Goldstein Associates Inc. to "devise a master plan . . . so each forward step is taken according to a calculated plan."[6]

Goldstein's most important recommendation was that the board build a new hospital. He named several possible locations; the best would be a tract of land adjoining a non-profit adult hospital and a Veterans Administration hospital. Brand new facilities in a "better"

neighborhood would overcome the main causes of the dwindling inpatient census, said Goldstein. The board decided he was right.[7]

Gifts and grants. Throughout the 1960s the board wanted to replenish the investment fund, which had been depleted by security liquidations to cover operating deficits, and to increase and stabilize unrestricted gifts. The board contracted professional fundraisers and in 1966 hired a full-time head for the fundraising office. The amount of gifts needed to offset operating deficits remained high so after the board decided to erect a new building the fundraising effort had a dual focus. New promotions and benefits were invented to supplement solicitations by mail and in newspaper columns for unrestricted gifts. To finance construction, the board applied for federal loans and grants and appealed to wealthy individuals and foundations; early results of the drive were discouraging.[8]

Payments and charges. Top management blamed the financial crunch that began in the spring of 1964 (when monthly operating deficits ran between $32,000 and $42,000) on the high volume of charity care. It campaigned for higher health department reimbursement of indigent care and for a broader definition of indigency. Board members lobbied their friends and contacts in Congress and top management took out a full-page newspaper advertisement. The campaign was bigger and more systematic than previous ones and it brought mixed results: (a) a temporary increase in payments worth $90,000 a year, (b) publicity about the hospital's plight, and (c) a Congressionally-mandated probe into production "efficiency" and quality of care.[9]

The board also took a new stance towards private insurers. It backed a demand by the Hudson Hospital Council that the area Blue Cross affiliate increase payments. The council proposed that all hospitals terminate contracts with the insurance company if it refused to negotiate, and Children's board agreed to participate in the action.[10]

In 1966 Gilchrist applied for a Comprehensive Health Care contract, a federal program that paid hospitals to provide total health care for poor children. The next year the board lobbied Congress for legislation that would enable Hudson to sponsor a Medicaid program. Top management estimated the federal programs would yield up to $1 million a year.[11]

Children's won the Comprehensive Health Care contract. Medicaid legislation passed but at first the program was underfunded and poorly organized. By September 1969 Medicaid owed Children's $426,000 in back payments, with other claims pending, and the board looked to political friends to speed up payments.[12]

Top management periodically raised the price of a hospital day, basing charges for intermediate outputs on charges at other area hospitals. On several occasions, operating deficits forced additional price increases at Children's.[13]

The board and the labor system. The board allowed Jones much autonomy to manage the labor process. Mostly acting as an overseer, it monitored his activities and his proposals regarding matters outside his authority. From time to time, board decisions independent of or in conflict with Jones's advice affected the labor system. Such decisions are mentioned here and are further discussed later in the chapter.

The board scrutinized changes Jones made in the labor system during his first years as administrator. He proposed that wages and benefits at Children's be raised comparable to area hospital rates. The board agreed to higher wages but not higher benefits.[14]

In 1965 the board hired an accounting firm to reorganize the business offices. The firm, MacNicol, Johnson & Co., was one of two that had carried out the investigation ordered by Congress. The firms judged Children's medical care first-rate and blamed deficits mainly on the high charity load and low third-party payments. But MacNicol Johnson found sloppy accounting and billing practices that caused revenue losses, too. The report received a fair amount of media coverage and the board felt it must correct deficiencies in the labor system to retain its credibility--a crucial factor in the political battle for higher third-party payments.[15]

In 1967 the board approved a benefits package similar to those at other Hudson hospitals. Two years later it reconsidered its long-standing refusal to negotiate with a workers' organization over wages, hours and conditions of employment. The board declared it would allow workers to vote on the question of a union, but hastened to add that they did not need one, and appointed the director to convince them this was so.[16]

The board seemed to intervene in the labor system in early 1971 to eradicate racism. It adopted an affirmative action plan as part of an agreement with the Hudson Human Relations Commission to settle a discrimination charge.[17]

Crisis in the accumulation process. Every year the board scrounged and scrambled to cover the operating deficit. Almost every year it was forced to liquidate tens of thousands of dollars worth of securities. The decision to build a new hospital worsened the problem, for medical accumulation continued apace while construction multiplied capital requirements. Operating deficits averaged $167,000 a month in fiscal year 1968 and $199,000 in fiscal year 1969. By September 1969, liabilities exceeded assets by $340,000.[18]

In order to meet payrolls the administration borrowed from the building fund, the restricted funds, and the research foundation. The board considered whether it could divert donations for the new building to operating accounts. It resolved to continue pressuring doctors to use the hospital, asking political friends to speed up Medicaid payments, and soliciting gifts. But the crisis prompted the executive committee to reassess its long-run strategy. In September 1969 the committee discussed (a) whether to proceed with the new building and (b) how to finance production costs without wiping out assets.[19]

The committee reaffirmed the commitment to medical accumulation--scrapping the new building was only a rhetorical choice. But the administrator and at least one committee member said that expansion had been promoted unmindful of its costs. The discussion continued a debate as old as the medical center concept itself: whether medical accumulation could increase demand sufficiently to offset the increased costs that it entailed. Many years earlier, Berkmeyer had rationalized the high costs of education and research as a necessary burden of a progressive medical institution. In 1959 Sutton had implied that the

hospital could become a medical center and stay solvent only by altering the labor system to cut production costs of intermediate outputs. The board replaced Berkmeyer with Jones once it was convinced that cutting costs was as essential as enticing private doctors. However, Jones expressed doubts about restraining the costs of medical accumulation as early as 1966. He found that grants for research and training projects did not fully cover overhead costs and that additional workers were usually needed in the hotel services, business, medical support services, and primary services departments as service intensity rose.[20]

The board never disputed that medical accumulation increased operating costs. As the hospital continued to run in the red, some members questioned the perpetual remodeling and rebuilding. But the majority dismissed all suggestions for lowering the service intensity ceiling. In 1969, as it had in 1962, top management focused on the labor process and it decided it must cut production costs drastically. In July the director and administrator froze employment and the equipment stock. The board formally approved the action in August.[21]

The employment and equipment freeze, timely Medicaid payments, a boost in room rates, and a higher census combined to pull the hospital from the brink of bankruptcy. In fiscal year 1970, top management halved the operating deficit of the previous year, which had reached $1,389,000. However, Jones left and the director and board devoted its energies to fundraising and construction. Management of the labor process disintegrated and the operating deficit rose fivefold during the next fiscal year.[22]

Vital Statistics 1971-1977

Top management reduced operating deficit from 27 percent of expenses to 8 percent between 1971 and 1977, even though average annual occupancy never exceeded 68 percent (see table 9 page 160). The net income figures improved substantially during this time as well. Finances still required constant attention but no longer presented overwhelming problems.

Managing the Accumulation Proceess 1971-1977

After a long search the board and director found a man to manage the labor process in keeping with their goal. Brandon Rankey assumed the administrator's post in 1971 just as the hospital's auditor submitted the 1970 audit. The firm, Arthur Anderson & Co., attached a report to the audit documenting abysmal management practices, which effectively gave Rankey a mandate to reorient the labor system.[23]

The board and the labor system. The board watched Rankey's progress on the auditor's recommendations and other cost-cutting measures. Satisfied with the results, it seldom intervened in the labor process. An exception occurred in 1972 when it declared that "composition of the Annual Corporate Board and Board of Directors shall more fully reflect the racial, cultural and religious composition of the Metropolitan Hudson community," and said it would try to eliminate racism throughout the hospital. And where wages and benefits were concerned, the board held the purse strings tight throughout the 1970s, approving increases only under pressure.[24]

Gifts and grants. Fundraising in the 1970s served two ends: offset operating deficits and complete the new building. For unrestricted gifts, the board relied on mass fund drives that used "public relations" techniques: local radio stars hosted an annual golf tournament, a local restaurant firm made a strawberry pie that fed six thousand, and heart-rending television commercials featured Children's. For the new building, which cost $77 million, wealthy individuals and foundations donated $8 million and a bank loaned $5 million. The federal government financed the rest. In the early 1970s the board lobbied for grants and loans from the U.S. Department of Health, Education, and Welfare and for direct Congressional appropriations, eventually raising more than $50 million in federal gifts.[25]

Payments and charges. Arthur Anderson recommended that output be priced to cover costs (a practice long advocated by the American Hospital Association) rather than at prevailing community rates. Costs had skyrocketed and the board worried that if it raised charges enough to cover them, a public outcry would ensue. It finally made the change in 1974. By that time, most third-party payers based payments on the minimum of a hospital's charges or costs, so revenues from governments and private insurers immediately increased.[26]

Medical accumulation. Top management continued to increase the complexity of departments at the old location, affiliate with other health care providers, and add new services that were unavailable in the Hudson area. Staff doctors felt all this was necessary despite the cost; the board conceded to prevent more of them from leaving. For

example, the board rented clinic space in several suburbs for pediatric cardiologists, who referred their patients to Children's for hospitalization.[27]

Top management clung to the hope that the new building would bring salvation. At the end of 1972 the board thought it would be finished by mid-1974. Funding and construction delays postponed the opening by three years. To keep the hospital solvent in the meantime, the board charged the administration to produce intermediate outputs with fewer workers and at lower costs.[28]

The Labor Process under Jones

Jones's resume in 1962 showed a master's degree in hospital administration and top management positions at three hospitals and a city hospital council. Experience had honed his ideas about running a hospital: he thought structures and procedures important, yet he did not manage from a distance. He believed the labor process would run cheaply, smoothly, and "by the rules" if workers felt it ran fairly and in line with their goals. His role, as he saw it, was to make it run that way. A nurse recalled, "Mr. Jones would walk around the hospital, and he knew every employee by name."[29]

Directing Production 1963-1970

Codifying directives, limiting employment and budgets, and stratifying authority. Jones codified many aspects of the directing function during his first years as administrator. He handed department heads a new organizational chart at his second meeting with them. At that and

later meetings he delineated (a) the lines of authority between top management and department heads, (b) the jurisdictions of department heads, and (c) the tasks of bossing, training, evaluating, rewarding, punishing, and inspecting output for which he held them responsible.[30]

In 1962, top management set a maximum staff size for each department. To add workers over the maximum, a department head first secured top management approval. Jones also told department heads to schedule vacations for slack winter months and to leave positions vacant as long as workloads could be handled by the remaining workers.[31]

Top management combined the housekeeping and laundry departments in 1963 and, as part of the reorganization, appointed more low-level supervisors relative to the numbr of frontline workers. These working supervisors were straw bosses because management authorized them to boss frontline workers according to standard procedures and department head instructions. Such parceling of authority became common in all departments during the next fifteen years.[32]

Between 1962 and 1964, following Jones instructions, the department heads and personnel director (a) wrote job descriptions for all positions and (b) compiled manuals for each department that specified the standard procedures for its labor processes. Procedure manuals had not been completed under Berkmeyer and job descriptions, if they still existed, must have been unsatisfactory. Once the job descriptions were written, top management combined them with staffing maximums and wage scales to create what it called a 'position control system.'[33]

Soon after it hired Jones, the board asked him to set up a budgeting process, but his attempt failed. Wondering where to cut if

Congress denied more funds for indigent care, the board asked again in 1965. The administrator and controller prepared an aggregate budget for the fiscal year 1966, which began July 1, 1965. The next year each department head estimated her or his expenses and justified the projection to the budget committee; then the controller compiled the total budget. Management followed this formal process until 1970 but did not view the projections as spending constraints.[34]

As top management codified directives, set limits on employment, and stratified authority, it created mechanisms for increasing labor intensity. Top management's authority to plan the division of labor and procedures was well-established before 1962 but department heads had modified the plans with ease. The changes could curb department heads' autonomy. Written directives specified the tasks that department heads and straw bosses should assign to workers and the "correct" ways the tasks should be done, which tended to minimize lagging from the standards. Employment maximums controlled staff size (and thus labor intensity) more surely than requests that staffing be kept as low as possible. Stratified authority meant that the straw bosses, who were accountable if frontline effort lagged, each supervised a relatively small number of workers. Together the changes enhanced top management's ability to determine the kind and quantity of tasks that each worker performed.[35]

Top management stated its intent to increase labor speed and accuracy. Jones told department heads in 1962 to assess whether their departments were overstaffed and whether people were working hard enough. He told the board that changes in the labor system would

increase productivity and morale. He called for "methods improvement" (which in popular terms meant finding "better" ways to perform tasks), but few constant-intensity innovations resulted from his early investigations of staffing practices and work assignments, while a number of jobs were eliminated.[36]

Top management combined the changes to expand and enforce its directing authority with positive incentives that are described below. By reminder and reprimand, Jones encouraged department heads to encourage supervisors to boss (and inspect) frequently and in line with written directives. However, Jones enforced the limits on employment laxly, approving department head requests for more staff as a matter of course. And management only went through the motions of budgeting; the budget procedure fell apart after Jones left. All in all, Jones's luck in containing expenses was slightly better than Tift's had been twenty years before.[37]

Standardization of financial processes. The 1965 report of the accounting firm MacNicol, Johnson & Co. recommended that certain accounting and payment-generating processes be standardized. (Payment-generating processes "produced" (a) information for billing, including insurance or medical assistance codes for eligible patients, (b) records of intermediate outputs used by patients, (c) daily records of accounts receivable, and (d) pressure on delinquent parents, insurance companies, and government agencies.) MacNicol Johnson had reviewed the formal authority structure and procedures at Children's, and had observed production, interviewed workers, and studied records in the admitting

office, the emergency room, the business office, the clinic business office, the purchasing and stores department, the credit and collections department, the controller's office, the payroll department, and the personnel department. The firm uncovered various wasteful and slipshod practices.[38]

In 1965 top management hired MacNicol Johnson to reorganize labor processes in the financial offices so as to "provide complete control over charges and cash." The contract called for the firm to modify the divisions of authority and labor, mechanize tasks where possible, redesign forms, and instruct workers in their new duties. The same year top management centralized the pricing of output by issuing a manual of charges for intermediate outputs and warning department heads not to change charges on their own. (As mentioned above, in the 1960s management based charges on those at other area hospitals.) Top management followed many of the other MacNicol Johnson recommendations.[39]

Standard payment-generating processes would raise the revenues received from a constant quantity of output; standardization of these processes and of procedures in the financial offices for the most part represented type A constant-intensity innovations. A second aim of several MacNicol Johnson recommendations was deterring theft of cash and supplies.[40]

MacNicol Johnson also urged top management to increase labor intensity. The firm compared total employment and employment by department at Children's with "the total number of employees per occupied bed in similar institutions and . . . the staffing pattern in general

voluntary hospitals along the eastern seaboard." It concluded Children's was "overstaffed" and pointed to the administration, admitting, maintenance and engineering, radiology, laundry, housekeeping, medical records, personnel, and social services departments. Since the firm suggested few constant-intensity innovations apart from standardizing payment-generating processes and other procedures in the financial offices, any reduction in employment would entail a rise in average labor intensity.[41]

Trends in employment and the division of labor. Total employment grew as much in eight years after 1962 as in fifteen years before. By 1970 Children's employed 973 people in hotel services, business, primary services, and medical support services departments (see table 6 page 129). Top management formed new departments to produce some new intermediate outputs--departments such as anesthesiology, electrocardiography, physical therapy, and occupational therapy. It greatly expanded the workforce in several existing departments including housekeeping, central supply, the operating room, the laboratories, and medical records. In general, primary services and medical support services departments grew the fastest, and hotel services departments the slowest. By 1970 workers in the first two categories accounted for almost a third of Children's workforce. Hotel services and business departments employed a little more than a third, and floor nursing and the outpatient departments the rest (see table 7 page 139).

Top management oversaw reorganizations--some minor and some thorough-going--in a number of departments where the labor process had already been standardized. For example, the radiology department

installed an automatic film-processing machine in 1965. A few automatic machines were purchased for the laboratories. A direct-dial telephone system relieved the over-loaded switchboard in 1968. An electronic data-processing firm began computing the hospital payroll in 1967 and the general ledger in 1971.[42]

Precedents existed for two general characteristics of the 1960s reorganizations. Top management allocated different kinds of tasks to different job classifications, which led to specialization. (Notably, it separated clerical from patient care and other non-clerical tasks). It allocated simpler tasks to less-skilled workers, which led to stratification. A third characteristic of the reorganizations was introduction of a greater amount and assortment of supplies and equipment relative to labor. The 1967 Goldstein report noted that lack of space in the physical plant hampered mechanization of production processes.[43]

As in the 1940s and 1950s, increases in employment and the number of departments as well as shifts in departments' relative employment accompanied the higher service intensity of output. The changes thus resulted from medical accumulation, which was top management's response to product market competition.

Many reorganizations cut costs partly through type A constant-intensity innovations: the medical supplies and hospital equipment industries had begun churning out new, "improved" supplies and equipment. On the other hand, some changes that introduced new supplies and equipment did not involve innovation but represented a response to product market conditions. As doctors came to consider newly-invented

products necessary for adequate medical practice, top management incorporated them in the labor process to maintain demand.

Specialization within departments and stratification of jobs led to little type A innovation. Most workers could have been assigned a broader range of tasks with no resulting rise in waste or confusion. Specialization and stratification in the 1960s cut costs mostly by reducing the average skill levels necessary to produce intermediate outputs, thus cutting unit labor costs. To the extent that the reorganizations specialized and stratified labor, they are explained as changes to allow type B constant-intensity innovation.

Some additions of supplies and equipment represented, in part, price-induced substitutions of working and fixed capital for labor (or substitutions of capital and less-skilled labor for higher-skilled labor). During the 1960s the prices of some outputs of the medical supplies, hospital equipment, and other industries fell relative to wages. The use of computers, for example, is explained by several factors including (a) changes in the characteristics of software and hardware that made computers practical for the hospital's labor process and (b) price reduction due to type A and type B innovations in the production of computers.[44]

Top management always considered how constant-intensity innovations and input substitutions affected frontline speed and accuracy. It intended the changes, especially specialization and stratification, to interact with stratified authority, written directives, limits on employment and positive incentives to enhance its ability to order and pace frontline labor--which meant circumscribing workers' autonomy.

Inspecting and Evaluating 1963-1970

Inspecting output. From the beginning, Jones emphasized inspections. In presenting the new authority structure to department heads, he charged each one with inspecting output of a specific group of front-line workers. For example, he assigned the head nurse on each unit responsibility to check the output of housekeeping and maintenance workers there. Jones left the logistics of inspections to department heads. But two changes in the directing function, codification of directives and stratification of authority, made inspections more strict and frequent. The job descriptions and written procedures to some extent provided criteria for acceptable output. (And under Jones, criteria were often more stringent than before.) Written directives made it easier for top management to prescribe what constituted "sub-standard" output and to pinpoint the supervisors and frontline workers who were responsible. Stratification of authority resulted in more inspections because inspecting intermediate outputs was part of each straw boss's job.[45]

Top management intended frequent, strict inspections to raise average labor accuracy and speed. Jones lectured department heads about the costs of "an employee who is incapable of producing the quality and quantity of work needed for the job," and told them to assess whether workers gave "maximum services."[46]

MacNicol Johnson standardized inspections of labor processes in the financial offices. When the firm investigated accounting practices in 1965, it found many of the usual checks missing and reported the following problems with payment-generating processes:

> The first three categories [of accounts--inpatient, discharged patient, and outpatient] are not in one general ledger control. The open ledger cards are filed in various file cabinets which are labelled as to the parties responsible for the patients' accounts. Trial balances of the ledgers are taken at various intervals, but there have always been differences between the trial balances and the general ledger control account. The great number of ledger cards in the one control and the lack of proper procedures for proofing the accounts receivable make it almost impossible to locate existing differences when a trial balance of all accounts is taken. Since the reasons for differences cannot be explained, it may be stated that adequate internal control is lacking. . .
>
> Another example of the poor control over patients' ledger cards can be seen when one realizes that there is no control over the movement of these account cards. Account cards are removed from the files by the credit and collection department, cashiers and third-party billing clerks. In some cases these cards may remain out of the files for a number of days. There is no record made of cards removed from the files.
>
> . . . We also noted that when the accounts of former in-patients and private ambulatory patients are referred to a collection agency they are written off the books by a charge to the reserve for doubtful accounts. . . . Once accounts are turned over to an agency, the hospital relies entirely on the integrity and carefulness of the agencies.

MacNicol Johnson wrote systematic checks into the procedures. For example, daily trial balances would be run on patient accounts to insure charges and receipts were correctly posted. Several years later, computerization of the accounts (and also of the payroll) automated some of these inspections.[47]

Evaluating frontline workers. Top management formalized screening of job applicants and evaluations of frontline workers after 1962. Jones enforced Berkmeyer's plans for the personnel department to take over screening from department heads. The personnel department devised procedures for recruiting and screening applicants, such as running police and credit checks on them. In 1964 all employee records were transferred from the departments to the personnel office.[48]

Jones directed department heads to evaluate workers in writing soon after he became administrator. A supervisors' manual, first issued in 1964, contained instructions for evaluations. Each worker would be evaluated after a three-month probationary period and annually on her or his date of hire. The manual listed categories for the possible ratings, which ran from "unsatisfactory" to "oustanding."[49]

As implied above, Jones wanted the quantity and quality of output that a worker produced to be a pivotal factor in her or his evaluation. Jones intended regular, uniform evaluations to increase labor speed and accuracy through two mechanisms. First, he assumed that opportunities for praise, merit raises, and promotions would spur workers to extra effort. Second, he expected department heads to fire those workers who consistantly worked poorly. The supervisors' manual said evaluations were used to award raises and promotions and to assist with counseling for job improvement; it linked evaluation ratings to appropriate rewards and punishments.[50]

Department heads filled out the evaluation forms, but some judged by their preferences rather than official criteria. For several years the prevailing practices did not conform to top management directives.[51]

Racism. Soon after he became administrator, Jones struck down the blatent race restrictions. Blacks no longer had to enter by the loading platform, ride the freight elevator, and eat in a separate cafeteria. Jones believed that the restrictions were wrong and that respectful treatment of black workers would add to positive incentives

and encourage high labor intensity. A few jobs began to open to blacks: low-level supervisory positions over black workers and semi-skilled positions in primary services and medical support services departments. But the lowest-paid jobs at Children's were still reserved for blacks, and discriminatory evaluations remained the rule.[52]

In 1970 three black workers who had been fired complained to the Hudson Human Relations Commision. The commission held informal hearings on the incidents and the common personnel practices at Children's. The commission decided the hospital had discriminated but proposed to drop charges if the hospital rehired the three and adopted an affirmative action program. To prevent bad publicity, top management compromised. Its promise of affirmative action was half-hearted: the executive committee felt the whole question to be a "political" one, and the director reported that

> the staff is reviewing the affirmative action program to determine what part is consistent with current practice and policy as basis for a negotiated program which would allow the hospital to retain control of hiring and firing.[53]

Assessing department labor processes and evaluating department heads. The employment maximum for each department provided a new means to assess the labor process. Jones monitored staff sizes and numbers of vacant positions in the departments. Thus quantity of labor (in a gross sense) in addition to quantities and qualities of intermediate outputs figured in assessments of departments and evaluations of their heads. Since Jones readily approved requests to increase the maximums, this was not a stringent criterion. Practices for assessing departments

and evaluating department heads became little more formal under Jones than Berkmeyer although standards for output quality generally tightened. After Jones established a grievance procedure in 1967, he could better judge whether department heads followed top management's personnel procedures (see page 185 below).[54]

Rewarding and Punishing 1963-1970

Wages and benefits 1963-1967. Jones decided that replanning and codifying the wage structure should be one of his first projects. He hired a personnel director who specialized in such things. Top management reviewed the job descriptions that department heads had written, classified the jobs by "relative content," and assigned each job a grade on a payscale. The payscale specified entry-level rates and merit (or 'step') increases for each grade. By the spring of 1964 the new rates, the job descriptions, and the employment maximums (which together made up the position control system) were completed and stored in two cardex files.[55]

As the administration formalized the wage structure, Jones convinced the board to stop paying at the low edge of area wage bands. He reported in 1964 that the new rates fell "well within the community pattern for non-profit hospitals."[56]

Top management intended the changes in pay practices to increase the speed and accuracy of frontline labor. Jones disputed the notion, implicit in past practice, that lower wages resulted in lower costs. He said that "in the past, depressed salary scales have in a sense encouraged the accumulation of some relatively inefficient personnel."

Jones argued that wages competitive with those paid by other area hospitals would attract "good personnel"--by which he no doubt meant hard workers. He also expected that raises regularly awarded for good performance (as evaluated by management) and years of service would stimulate frontline effort. Jones won approval for higher wages using this rationale; no doubt he personally felt the plan was fair as well.[57]

Top management also intended the formal structure to increase its control over wage levels by lessening department head discretion. At his first meeting with department heads, Jones told them to report all wage increases to him, with justification. Under the wage structure, department heads gave raises based on performance (as documented in evaluations) and length of service. The supervisors' manual "emphasized that meritorious pay increases are not automatic but are awarded only for performance of duty which is consistently superior and far above average." A department head was allowed to boost a worker up one pay step a year until the worker reached the maximum step in her or his grade. As a result, department heads could less easily reward arbitrarily--for example, overpay favorites.[58]

Wages at Hudson hospitals climbed in the mid-sixties, touched off by labor market competition between a large non-profit and a Veterans Administration hospital. Children's board grudgingly raised rates to the area averages. As in the past, the board usually increased wages across the board after the nurses' association negotiated a raise for registered nurses with the area hospital council.[59]

Top management modified benefit regulations to encourage behavior that it desired. For example, a 1965 rule denied both sick

pay and holiday pay to a worker who called in sick the day before or after a holiday, unless she or he produced certification from a doctor.[60]

Other rewards, punishments. Job descriptions and screening by the personnel department to some extent constrained department heads in making promotions. Before a department head could interview applicants for a position, including those already employed at the hospital, the personnel department checked their qualifications. Thus the department head could only promote a worker who met the requirements of the job description.

Top management standardized and codified punishments in 1964. The supervisors' manual said that the sanctioned punishments, which ranged from an oral warning to a written warning, suspension, and discharge, should match the frequency and seriousness (in top management's eyes) of the "offenses." Serious infractions merited immediate suspension or discharge; these included insubordination, falsifying records, punching another employee's timecard, and drinking or sleeping on the job.[61]

Jones intended codification of punishments to increase labor speed and accuracy. He believed that consistent evaluating, rewarding, and punishing--and friendly relations at work--would maintain high labor intensity because he assumed that if workers saw management wield its authority "fairly" and consistently, they would voluntarily work harder. The new department heads he appointed shared his outlook. He assigned the personnel department to notify department heads when

evaluations were due, and he sometimes reversed department head decisions that violated the rules.[62]

Some incumbent department heads, used to running things their own way, evaluated, rewarded and punished without regard for top management's procedures. Some, for personal reasons, punished harshly and capriciously. Top management as a whole was unconcerned about this as long as labor processes ran smoothly, costs stayed in bounds, and quality and quantity were maintained. The fairness of evaluations, rewards, and punishments did not intrinsically matter to top management as a whole because Jones's other changes in the labor system satisfied its goals. Where department heads ensconced themselves through intimidation of workers and connections with doctors, board members, and other managers, Jones could not easily identify and correct violations. Such competing centers of power prevented him from uniformly implementing the regulations for several years.[63]

The union scare. Top management significantly improved remuneration in 1967. Jones and Gilchrist proposed in the spring that top management (a) provide health insurance and a real pension plan, (b) allow sick leave to accumulate up to sixty days rather than twenty (at the same accumulation rate of five-sixths days per month) and (c) sponsor a credit union. It took several months to overcome the board's reluctance--at first the board wanted to pay only half the insurance premium and do another pension plan study--but in late October the proposals passed.[64]

Jones enacted a grievance procedure in 1967 and had it printed in the employee handbook and the supervisors' manual. A worker with a "gripe" was directed to complain first to the immediate supervisor, next to the department head, and then in writing to the personnel office. At this stage, the administrator would investigate the problem. Although top management affirmed its "fundamental policy" of treating workers fairly, it preserved its own unilateral power to define fair treatment, which made the procedure a 'company grievance procedure.' Jones did investigate workers' complaints and tended to treat people at all levels of authority equally, so the creation of a systematic means for workers to bring grievances to his attention reduced arbitrary and harsh department head actions.[65]

Top management's fear of a challenge to its authority explained its sudden generosity to frontline workers and its sudden concern with personnel procedures. Jones had advocated higher benefits since the start of his career at Children's but the board did not accept his argument that higher benefits would raise "productivity." A 1967 recognition strike at a nearby hospital (which sent area administrators into consultations with each other and their labor lawyers) provided Jones with a compelling rationale. Jones confided to department heads in May that "the real necessity for such a [benefits] plan has perhaps been made more apparent [to the board] at this time, due to the difficulties encountered at Suburban Hospital." The union threat also justified Jones's efforts to appease frontline complaints, even if this required stepping on department heads' toes.[66]

The idea of preventing unionization--or minimizing its effects--through the positive incentive of monetary rewards was familiar to Children's top management. At a 1960 board meeting Berkmeyer had summarized a speech by a labor relations expert:

> He said that hospitals have the largest group of employees in unorganized labor. He thinks the wedge is going to be driven through in nursing homes and mental hospitals, hence to the general hospitals. Unionization is inevitable, but make the best contract possible. He advised to have job descriptions and classifications as broad as possible. . . . He felt it advisable to have as soon as possible, a retirement plan with the social security.

Hudson hospitals reacted to the union organizing with several rounds of wage and benefit increases. Children's top management followed suit to remain competitive in labor markets. Even Gilchrist, the champion of medical accumulation, declared higher benefits "necessary to continue the efficiency and morale of our employees, to put us in a position to compete favorably with other hospitals in the area, and to avoid the potential of 'pressure' from organized or unorganized labor groups."[67]

In the summer of 1969 the board shifted its stance towards unions. In the past the board had flatly refused to talk with any group that claimed to represent workers at Children's. Now the board agreed that

> . . . the employees of the hospital in this day and age should have the right to organize for mutual benefit and assistance and for collective bargaining purposes. The employes should have the right to determine for themselves whether they wish to have an internal organization or to join an existing union or refuse representation by a collective bargaining agent. This right should be exercised in a free and democratic manner by the employees without hindrance, intimidation, or unreasonable pressure. The Board recognizes that unions may and have served a desirable purpose;

> however, in specific instances and particularly considering the circumstances at the hospital the Board does not believe that its employees need a union or an internal organization to represent them.[68]

The shift occurred after Local 3 of the International Brotherhood of Railway Workers sent an energetic young organizer to sign up the housekeeping department. The board intended the new policy, in combination with positive incentives, to contain challenges without damaging the hospital's charitable image. The board retained a labor lawyer from a prestigious Hudson firm and instructed Gilchrist and Jones to persuade workers to vote "No Union." Local 3 lost the representation election; from top management's point of view the new policy was a success.[69]

In 1970 the board raised wages across the board and financed more comprehensive health insurance. Top management acted after it learned of organizing by the Building and Service Workers Union. The director told board members he felt that it was "urgent" to give the lowest-paid employees a raise; the president said, "The unions are knocking at our door again."[70]

Training 1963-1970

Training frontline workers. Top management encouraged on-the-job training for new hires but let department heads determine the form and content. The head of housekeeping, whom Jones had appointed in 1964, instituted fairly structured, short, on-the-job training. During the same year the nursing department planned "an intensive orientation and inservice program" for nonprofessional personnel, which included

orderlies, unit clerks, and practical nurses. Jones planned to expand the program to other departments. Workers retrained on the job after labor processes underwent reorganization. Retraining occured whether management made the change to adapt to market conditions, install constant-intensity innovations, or increase labor intensity.[71]

Top managment also began holding orientation meetings for all new workers. From these brief lectures and the new employee handbooks they received, workers learned cardinal rules of deportment, such as bans on drinking, sleeping, and punching another's timecard.[72]

Top management intended on-the-job training to help raise and maintain labor speed and accuracy. Training supplemented the formalization of directives because all new hires learned the standard way to perform each task, including the required pace.

Training department heads. Monthly meetings still served for instructing department heads. As Jones presented the organizational chart to department heads in 1963, he explained their sphere of responsibility and that of the administration and the board. He reviewed the procedure for hiring, particularly the limits on department heads, at a 1964 meeting. As top management formalized other personnel procedures, such as procedures for raises and punishments, Jones spoke briefly about them. He explained the grievance procedure at several meetings. However, for the most part he assumed the supervisors' manual to be self-explanatory.[73]

At meetings during 1963, 1964, and 1965, Jones and Gilchrist went over Children's financial problems, top management's strategy,

and department heads' part in the plan. They explained why top management had changed the authority structure and raised wages. Jones told department heads they were key personnel who must know about hospital affairs and top management's goals. He regularly informed them about medical accumulation, especially progress on the new hospital.[74]

The Labor Process under Rankey

Despite top management's determination to press ahead with medical accumulation, the hospital fell so short of cash in 1969 that a swift, sharp cut in outlays became imperative. In July the director and administrator privately told department heads they would authorize no additional positions or equipment unless a department head came up with "very special justification."[75]

Jones took an administrator's job in another hospital. The assistant director and the new controller juggled funds to pay workers and suppliers. Thanks to the employment and equipment freeze and to gains in operating and non-operating income, the financial picture improved by the summer of 1970. But the board, preoccupied with a building, lost sight of the hospital as a labor process of people. Management of the labor system began to unravel: financial reports and budgets went undone and payments to suppliers backed up eight to nine months.[76]

Directing production 1971-1977. Brandon Rankey, the new administrator, left an associate administrator's position at a 420-bed Illinois hospital and arrived at Children' late in March 1971. Rankey came eager to

test his skills and advance his career. Gilchrist remained as director and believed more strongly than ever in the medical center goal. The 1971 report by Arthur Anderson & Co. documented the consequences of running without an administrator: (a) ill-defined lines of authority, (b) haphazard setting and recording of charges, (c) antiquated accounting methods, and (d) excess staff. The administrator and director wanted to revitalize the labor system and place it at the service of medical accumulation.[77]

Attrition and budget directives to department heads. Rankey retraced some of Jones's steps, clarifying the authority structure and the jurisdictions of department heads. Next, backed by the auditor's report, he and Gilchrist ordered hospital-wide staff reductions through attrition. When the attrition program began in September 1971 the hospital employed 1083 full-time workers. By March 1972 there were 78 fewer; by June 1972, 177 fewer--16 percent of the workforce cut in ten months.[78]

Top management instituted a budgeting procedure in the spring of 1972. As under Jones, each department head projected her or his annual expenses. But under Rankey, she or he was answerable for spending over budget. Rankey told department heads to maintain smaller staffs, defer equipment purchases until government aid came through at the new location, and operate without temporary help or overtime hours when workers took vacations.[79]

Convinced costs could be brought down even further, top management told department heads in 1973 to cut budgeted expenses for wages, supplies, and equipment. The next year it enlisted a consultant with

a "Cost Containment Program" to pare budgets "systematically." (A few departments were excepted. For example, several doctors who were candidates to head primary services departments demanded larger budgets as a condition of employment, and top management acquiesced for the good of medical accumulation.) In 1976 and 1977, operating deficits fell to less than 10 percent of expenses.[80]

Top management issued the attrition and budget directives to push up labor speed. It installed no constant-intensity innovations, yet charged department heads to maintain output quantity and quality with their decimated staffs. Gilchrist claimed attrition was "systemized" because a consultant had helped lower the staff maximums. In fact, top management left department heads on their own to redirect labor and get the work done. Spending constraints prevented substitution of capital for the lost labor, so department heads could either induce higher labor speed or make top management unhappy.[81]

Directing frontline workers. In the early 1970s top management generally let department heads boss as they pleased. Some department heads, particularly those hired after Rankey became administrator, did not always follow formal directives. Some bossed in a harsh, capricious manner. The tendency is explained as a by-product of the attrition and budget directives. Shortages of staff and money pressured department heads to assign bigger workloads. Workers would not willingly speed up a great deal, which created an incentive for department heads to command them to work, to do tasks out of their job descriptions, and to short-cut procedures--and to tell supervisors to boss

the same way. A handful of department heads enjoyed bullying people, and used the pressure from top management as justification. And top management saw nothing but the bottom line.[82]

Trends in employment and the division of labor. Employment increased by about 370 people between 1970 and 1977. Table 10 shows figures reported to the American Hospital Association, which for some years most likely included workers in the Comprehensive Health Care clinic and the research foundation in addition to the departments studied. Although data by department was unavailable for 1977, evidence suggests a continuation of the shift in relative employment towards primary services and medical support services departments. The number of departments increased with such additions as biomedical engineering, nephrology, the child protection program, and the chaplaincy program.[83]

Management reorganized department labor processes from time to time. Past trends continued: specialization, stratification by skill level and authority level, substitution of supplies for labor, and substitution of equipment for labor (or of equipment and less-skilled labor for higher-skilled labor). Use of disposable supplies became common in many departments. As in the 1960s, the lack of space and the pending move to new quarters limited mechanization. A new trend counteracted the decrease in the average skill level caused by stratification: top management required more and more applicants for semi-skilled and skilled jobs to show outside certification.[84]

As a result of modifications within departments and hospital-wide, the 1977 division of labor exhibited extreme specialization and

TABLE 10

TOTAL EMPLOYMENT AND THE RATIO
OF PAYROLL TO TOTAL EXPENSES

Year	Total Non-Physician Employment[a]	Payroll ÷ Total Expenses (Percent)
1948	375	51%
1962	690	68
1970	1126	62
1977	1499	60
1978	1585	50
1979	1680	49

SOURCES: American Hospital Association, Hospitals: Journal of the American Hospital Association, Guide Issues 1949, 1963, 1971, 1978, 1979, 1980.

NOTE: The figures for some years probably include employees of the research center and the Comprehensive Health Care program.

[a]The figures include department heads and other managers who were physicians.

extreme stratification by skill level and authority level. Virtually all jobs in hotel services departments other than the maintenance and engineering department still required few skills. Jobs in business, primary services, and medical support services departments fell into many skill levels. In general, easily-acquired tasks and "non-professional" tasks were grouped together and assigned to low-paid jobs. "Professional" and relatively complex tasks were assigned to workers with specialized education prior to employment. Few paths of internal promotion linked skill levels. More low-level and mid-level supervisors worked in 1977 than in 1962, which gave frontline workers some opportunity to move up the authority structure. (Appendix C illustrates specialization and stratification in six departments.)

Trends of the late 1970s that began earlier are explained as above. Certain changes were, in part, responses to market conditions, price-induced input substitutions, or type A constant-intensity innovations. As in the 1960s, further specialization and stratification are mostly attributable to top management's intent to cut the average wage through type B constant-intensity innovations and to increase labor intensity. The rise in the proportion of workers with specialized education partly followed from a top management decision that such workers would attract private doctors: accumulation of so-called human capital became part of medical accumulation.

Inspecting and Evaluating 1971-1977

Racism. At meetings top management held in February and March 1972, a group of black workers called the affirmative action program a sham.

Management wanted to tell frontline workers about the shakey finances and the need for a new hospital; the black workers surprised management with pointed questions about inequities. The tactic gained the black workers an audience with representatives of the board, from whom they demanded (a) black representation on the board, (b) appointment of a black assistant administrator and (c) action to abolish racist attitudes and practices at the hospital.[85]

The director said the board must act on all the demands--or "recommendations," as he called them--to prove it recognized the problem and intended to solve it. The board quickly endorsed the demands and reactivated a committee to nominate blacks to the corporate board and the board of directors. In October it hired a black assistant administrator. Once blacks filled a few management positions, they took advantage of affirmative action rules and appointed other blacks to skilled and supervisory positions. (The lowest-skilled, dead-end jobs were still filled almost solely by blacks.) Thus movement towards racial equality at Children's after 1972 was initiated by a frontline challenge.[86]

Inspecting output and evaluating frontline workers. Top management scarcely touched official procedures for inspections and evaluations. But in its determination to cut costs, it lost interest in whether department heads followed official procedures--as long as the hospital passed inspections by the Joint Commission on Accreditation of Hospitals (JCAH) and the Hudson health department. The JCAH, a private medical-hospital group established in 1952, set and policed standards for many

intermediate outputs. The JCAH issued more stringent and detailed inspection criteria in the 1970s.[87]

Department heads at Children's introduced gimmicks such as requiring paperwork to be initialed and chores to be logged to catch errors and omissions. Some department heads inspected and evaluated arbitrarily, in conjunction with high-pressure bossing and punishing, to coerce frontliners to work faster.[88]

Assessing department labor processes and evaluating department heads. Top management transformed the way it assessed labor processes and evaluated department heads when it enforced budgeting. In effect, it began to monitor the costs of intermediate outputs in addition to checking quantity and quality. Success at cutting costs became a criterion in department head evaluations. The controller scrutinized expenses and investigated whether over-budget spending was "justified." Knowing that top management took the budgets seriously, department heads tried to operate within them.[89]

Rewarding and Punishing 1971-1977

Punishing frontline workers. As with inspecting and evaluating, top management made few changes in official punishing procedures but stopped enforcing them. Some department heads punished harshly and arbitrarily. In a few departments, favoritism ran rampant. Many workers did not know about the company grievance procedure. And by 1978 the administrator no longer considered grievances; this was done by the employee relations officer, who usually ruled in management's

favor even when department heads and supervisors had violated the rules.[90]

Practice diverged from policy because department heads wanted to boost labor speed and workers were not inclined to comply. Harsh punishments coerced workers to follow supervisors' and department heads' directives, reasonable or not. But department heads who did not hesitate to press workers often were individuals who habitually treated workers unequally and intimidated them for no work-related reason. Top management created the pressure for labor speed by insisting that department heads cut staffs and budgets; top management approved the non-sanctioned practices by its indifference.[91]

Wages, benefits, other rewards, and unionization. Between 1971 and 1977, top management raised wages and benefits until they practically reached the area average. Management set up an employee advisory council and for a time encouraged in-house promotions. Heightened frontline interest in a union forced the management action.

Factors behind the challenge. Low wages and benefits constantly irritated workers; some had argued since the mid-sixties that a union would bring improvements. Favoritism and harsh treatment in some departments upset and annoyed those affected; organizing pitches about seniority rights and a grievance procedure appealed to them. In the early 1970s, several external factors improved the climate for unionization. The black power movement influenced young blacks at the hospital who realized that social equality needed an economic foundation. Several international unions targetted Hudson hospitals as a potential

goldmine. Amendments to the National Labor Relations Act in 1974 extended legal protection of workers' rights to organize to hospital workers. And in 1974 workers at a large hospital a few blocks from Children's formed Local 1000 of the Building and Service Workers Union (B.S.W.U.)[92]

Challenge and response. To dispel union sentiment, top management primarily used rewards. (It regretted the adverse effects on costs, but challenges to its authority took priority.) Top management maintained the wage structure and matched or bettered across-the-board raises at other area hospitals in 1971, 1973, and 1974. In 1973 it added an eighth paid holiday (to be taken any day a worker wished); experimentally gave another paid holiday for every three-month period in which a worker used no sick leave, and formed an employee advisory council. In April 1974 Rankey told the board that a 5 percent wage increase it had approved was "not well met" by workers. The board raised rates again and promised a better pension plan. The administrator told department heads he would like to see more inhouse promotions. In the fall of 1974 medical residents voted to unionize, and Local 1000 began organizing service and maintenance workers, most of whom were employed in hotel services departments. Top management announced a tuition refund program, two extra holidays at Christmas (for 1974 only) and plans to sponsor membership in health maintenance organizations. In December 1974 Rankey claimed that wages for most jobs at Children's equaled or surpassed wages at other Hudson hospitals and that benefits compared favorably.[93]

As soon as the required 30 percent of service and maintenance workers signed authorization cards, Local 1000 petitioned the National Labor Relations Board to hold an election. The battle was on. Rankey sent letters to workers' homes crediting the higher benefits to cooperation between top management and the employee advisory council. The union touted contract gains won by its members. In October 1975 workers voted almost two-to-one against the union.[94]

During the next year, two factors reversed the majority opinion. In several departments, harsh and arbitrary bossing, evaluating, and punishing became pronounced--a cumulative effect of the push for labor speed. Second, the impending move threatened jobs. Tours of the new building and the hospital grapevine alerted workers to future changes in the labor process. The new hospital had no laundry; a private firm would produce laundry services under contract. Mechanized boxes running on a track would replace messengers; typists on word processors and receptionists would replace secretaries in the clinics and offices; licensed practical nurses and registered nurses would replace all but a handful of nurses' aides. In primary services and medical support services departments such as respiratory therapy and radiology, technicians and technologists would all be certified; uncredentialed techs could not keep the jobs even if they had done the work for years. Top management said no one would end up unemployed, but workers felt skeptical and afraid.[95]

Local 1000 again filed for an election in 1977. It proposed a bargaining unit for technical workers and one for service and maintenance workers. (Frontline workers in business departments and non-

supervisory "professionals" in some primary services and medical support services departments were not included.) This time Rankey's letter home told of new jobs and training programs that management and workers had developed "together." He guaranteed everyone a job at the new hospital and promised career ladders in the future. The union won by a wide margin among service and maintenance workers and by a single vote in the technical unit.[96]

Training 1971-1977

Training frontline workers. The specialization and stratification of Children's labor processes in the 1970s influenced the pattern of frontline training. Where the division of labor remained stable, as in most hotel services departments and nursing, on-the-job training changed little from the 1960s. In primary and medical support services departments, various kinds of training evolved for different skill levels. Semi-skilled workers usually trained on the job--plebotomists in the lab, technicians in the pharmacy, and clerks in the medical records department. More and more skilled workers learned allied health specialties in colleges or trade schools, which had established health-related programs on a broad scale. As mentioned above, management required applicants for an increasing number of jobs to present certificates from accredited programs, which shifted training costs from the hospital to workers and incorporated labor inputs with new characteristics into production. In some cases, the change was necessary to meet accreditation standards of the JCAH, that is, it was a response to a product market constraint.[97]

Top management experimented with--and soon abandoned--"participation" by frontline workers and training to supplement internal promotions. It called the 1972 meetings (where black workers protested racism) to justify medical accumulation and attrition; frontline "participation" was to consist of listening and asking questions. Top management had hoped to win sympathy and convince workers to resign; the experiment was not repeated. An office of nursing education and training, which was established in 1976, took over and standardized training of unit clerks (formerly called ward clerks) and orientation of nurses.[98]

Training department heads. Top management standardized training for department heads and some supervisors in the early 1970s by sending them to short courses in supervisory skills. The courses, offered by private firms, taught "correct" ways to perform the four management functions. In 1979 top management developed its own supervisors' classes covering the same topics as the private courses. The hospital's curriculum consisted of twenty-five three-hour classes that explained how to boss, inspect, evaluate, reward, and punish to induce high labor intensity without generating conflict. The courses all professed that cooperation, fair treatment, and worker participation were means to management goals, but before unionization, management practices indicated otherwise.[99]

Top management continued using regular meetings to explain its directives to department heads and to indoctrinate them to its goals. It also taught them legal ways to undermine a union.[100]

A New Hospital and a Union

Workers and managers at Children's entered a new era in 1977. In May, Local 1000 won rights to bargain over the wages, hours, and working conditions of 450 service, maintenance, and technical workers. In June the new hospital opened. Contract negotiations did not begin until fall; by that time labor processes had settled into patterns shaped by the new surroundings.

The spacious, futuristic building was all that management had dreamed. Average occupancy began to rise and in 1979 broke 70 percent for the first time in nine years. Operating deficits fell relative to expenses, but net income again ran in the red (see table 9 page 160).[101]

Substantial modification occurred in the directing function, yet most changes simply continued past trends of mechanization, specialization, and stratification. The degree of mechanization rose sharply. A number of departments used computers: admissions and outpatient registration stored billing information on computers; the business offices computerized inventory records as well as the payroll and general ledger; the laboratories reported results via terminals on the nursing units; and the maintenance and engineering department monitored temperatures and the operation of cooling and heating equipment throughout the hospital by computer. Three automatic transport systems criss-crossed the building: boxes carried lightweight supplies, records, and specimens between departments; a trolly took supply carts from materials management to the operating rooms; and a dumbwaiter lifted meals and supplies to the nursing units. Auto-analyzers and blood preparation machines were installed in the

laboratories, and special x-ray machines in the dental clinic. Regular nursing units had built-in oxygen and suction at each bedside; critical-care units had additional equipment and monitors.[102]

The greater floor space in almost all departments was in itself a significant change, allowing more machines and greater flexibility for work procedures. The ratio of payroll to total expenditures fell in 1978 and 1979, indicating the shift to more capital-intensive production (see table 10 page 193).

In part, the higher capital-to-labor ratio resulted from type A constant-intensity innovations. Unit costs of some intermediate outputs fell because (assuming constant input and output prices) technology embodied in the new equipment and the sensible physical arrangements allowed a constant number of workers to produce much more output.[103]

As in previous years, some mechanization at the new building was intrinsic to the drive for medical accumulation: some pieces of equipment resulted in intermediate outputs with different characteristics and higher costs than the outputs replaced, new outputs whose medical superiority was often unmeasurable or unproven. And it seems that some mechanization was ill-conceived: the equipment was technically-deficient, obviously provided no medical benefit, and probably raised costs.

Wherever possible, top management eliminated jobs and replaced high-skilled with lower-skilled workers, further specializing and stratifying labor. (Total employment grew because the service intensity of a hospital day rose.) Many of the workers who were displaced by

the move transferred to jobs a grade or two up the wage scale and briefly trained on the job. A handful moved to much higher-paying positions. Few if any lost out altogether. But when the move was completed, opportunities for progression to higher skill and authority levels had not broadened a bit.[104]

The move affected the directing function but the other three management functions remained as before: top managers took the supervisors' manual and the employees' handbook with them to the new building. In time, unionization affected evaluating, rewarding, and punishing-parts of the labor system that the relocation had not. On the other hand, unionization changed the directing function little.

When they voted for Local 1000, frontline workers won the right to bargain as a group over many aspects of the labor process, although top management was not legally obligated to accede to any demand. Bargaining dragged on for months. A board of inquiry, called by a federal mediator to hear arguments on the unresolved issues, made recommendations that favored the hospital. The union and top management finally signed a collective bargaining agreement (or 'contract') in June 1978.[105]

The management rights clause in the contract affirmed nearly total rights of top management to direct frontline workers. Other clauses placed minor constraints on this authority; for example, top management must notify and discuss with the union proposed changes in job descriptions and proposed schedule changes that affected a "substantial" number of workers; it must make "every reasonable effort" to reassign displaced workers.[106]

The contract sanctioned existing procedures for evaluating, rewarding, and punishing (which top management had written) and left top management authority to unilaterally modify the procedures. However, a grievance procedure ending in third-party arbitration gave the union a mechanism for enforcing official procedures.[107]

The contract did not automatically protect workers; for this, the union had to file and pursue grievances. Top management began to frown on department head actions that violated the contract. It began to settle grievances, sometimes reversing department head decisions, and emphasized "correct" punishment procedures that would withstand union challenges in its 1980 courses for supervisors.[108]

Top management signed the contract and enforced official personnel procedures to contain frontline challenges. Management's strategy was to obtain a contract with minimal constraints on its authority over the labor system, while appearing to bargain in good faith (that is, to seek solutions acceptable to both parties), and then to run the labor system as it always had. This would prevent (a) the union from charging that management refused to bargain and (b) the small group of active workers who picketed and leafleted from building a cohesive organization that could disrupt production. The minor limits on management's authority to direct were of the sort commonly written in contracts--not much of a concession. The grievance procedure was also a standard item. But management could cite both as "compromises." The management rights clause was all-encompassing. Top management denied a union shop, agreeing to only a maintenance of membership clause, and offered meagre wage and benefits increases.[109]

Top management enforced official procedures after the union filed grievances because it did not want the union to gain status among either union or non-union workers. Still, top management most often overruled department heads who bossed unionized workers, and then only if the union showed overwhelming evidence of violations.

C H A P T E R V I I I

LABOR SYSTEMS IN THE HOUSEKEEPING DEPARTMENT

Introduction

A Job in Housekeeping

Ella Mae Hawkins battled germs and grime at Children's for twenty-one years. She began as a maid on a ward for middle-income patients, and retired as an assistant department head. Hawkins grew up in Richmond, Virginia, attended Virginia University for two years, then married and moved to Hudson. She wanted a job to keep busy after raising a daughter: Hawkins values work and self-improvement. She is also active in civic and church affairs because she believes just as firmly in helping others.

Hawkins, outspoken as always, summed up her years at Children's:

> I went to work at Children's Charity Hospital April the third, 1955. My husband had worked at the hospital years before that. So by knowing some of the people he got me the job. At that time, the administrator was a woman named Ethyl Berkmeyer. (We shouldn't have even used her name, but that's all right.) Every department in the hospital was run by women.
>
> I worked as a maid on Central 2. If you wasn't white, you was not allowed to go in through the lobby--this is true--or any other door; only by the loading platform, and ride the freight elevator. If you did, you would be fired. Black patients had to come in on the V Street side, not in the front lobby, only white. They had two cafeterias, one for each race. To be a maid in the front lobby, you had to be of light complexion.
>
> We worked forty-eight hours a week. One weekend we would have half a day [off] Sunday. The next weekend we would work--so you would have half a day [off] Friday. And on our weekends we worked two floors and had to keep them clean--if you want the job. We did

not have any coffee breaks, only half a hour for lunch. Your hours was eight to four p.m. Our paydays, we had to go to the bank, cash the check, eat--all in a half-hour.

If you was working and they found out that you was trying to buy a car--this is true--or a home, you would be fired. . . . Department heads and nurses would talk to [maids and porters] as if they wasn't human beings. That is true. They didn't care a thing about 'em. . . .

In fifty-nine [sic] Mr. Jones came and they began to get rid of the women. And that began when the change was made. I was made a group leader . . . in the sixties. From that I went to supervisor and from that to assistance director of that department. . . .

Times changed that you could go in any door and ride any elevator after Mr. Jones came. And you could eat in any cafeteria.

In working with people . . . that haven't had the education that you have, you have to work with the people and be as like the people to show them. You don't just run and say, "You do such and such a thing because I'm here." That gets in the way . . . But after Al [Alfonzo Rutman] got there, you didn't have that much time to talk to people. . . .

I've brought many lunches for [maids and porters while Mr. Jones was administrator]. And we had Mrs. Moses . . . head of dietary--I'll never forget her. If Sampson would come in and he wasn't making any money and he didn't have anything to eat, I'd say, "You go down and tell Mrs. Moses [that] Mrs. Hawkins said [to say], 'Give me something to eat.' And I will be down to pay for it." And she would give it to him.

In a minute I'd say, "Mrs. Moses, how much do I owe you?"

"Nothing, Mrs. Hawkins. Sampson come in here and helped me do things."

And that's the way we went on [when Mr. Jones was administrator]. We was set up family-like. But they say nowadays it's not. It was a family and that's the way we went.[1]

Management scarcely touched the technology for producing housekeeping services after Jones became administrator, yet Hawkins's job changed markedly. Hawkins and most other maids (women) and porters and orderlies (men) liked the new way the department ran.

Little more than a decade later, a job in housekeeping acquired yet another character. Again, little technological change was involved. This time frontline workers hated the transformation, although they liked the department's new name, environmental health services, and their new titles, environmental aides (women) and environmental assistants (men). To the workers, department head Alfonzo Rutman personified the new labor system. In 1978, twenty-five aides and assistants sent a petition to the director, the administrator, and the assistant administrator over environmental services:

To Whom It MAY Concern:

> We the undersigned have these conplaints to make about Al RUTMAN. We need a new leader in our department. The man we have now undermines us , he sly,sneaky and often writes us up for his personal reason and not that of job relative content. When he counsel about said situations,he lies about them. Our morale is very low because he degrades us in our work and as humans .We often are harassed, these tactics have cause two people to resign so far. There are others that are trying to get into other department because of his treatment towards them. There are others planning to leave now because of the same reasons. Mr. RUTMAN disregards the UNION and often never goes by the hospital hand book .Our people are steadily going down because of this man. The UNION was voted in because of this man. We often have trouble getting all of our regular 80 hours pay after we have worked for it. We often have trouble getting payed holidays. We have called the union often on these matters. We are asking you to please cast out this man , because he does not belong with our <u>family</u>.[2]

As this preview implies, the housekeeping labor system displayed the same trends and turning points as over the overall hospital labor system. And, in general, the same management objectives explain particular changes. However, the timing, force, and details of changes in housekeeping sometimes diverged from the common pattern, because as with every department, its intermediate outputs and personalities were unique.

Housekeeping Labor Systems

Definitions. The housekeeping/environmental health services department produced a multiproduct intermediate output, a variety of tidying, cleaning, and carting services, which together will be termed 'housekeeping services.' The services of 1978 showed remarkable similarity to those of 1947--remarkable considering the metamorphoses of most departments' outputs. Over the years several chores were dropped: transporting ice, food trays, and oxygen; relieving diet maids in the floor kitchens; and stocking medical supplies.[3]

The quantity of housekeeping services produced per year is difficult to measure. It can be conceived as the area of walls and floors scrubbed, number of beds and bathroom fixtures wiped, pounds of trash emptied, and so forth. For simplicity, I define the quantity produced in each production period as equal to total hospital floorspace. The quality of housekeeping services could be gauged by the neatness and sterility of the institution. I use this definition of quality, but assign it no cardinal ranking. Quantity and quality both increased as the speed of housekeeping labor rose (accuracy remaining constant). And quality increased as labor accuracy rose (speed remaining constant).[4]

Assumptions. Applying the model of chapter 4, I assume top management and the heads of housekeeping (whom, when they act in concert, I will call 'management') set up and ran the housekeeping labor system with an eye to medical accumulation and their personal economic goals. I assume the new features that appeared in the labor system between

1947 and 1978 resulted from changes management made to accomplish one or more of the following: (a) adapt to product market conditions, (b) install constant-intensity innovations, (c) substitute cheaper inputs, (d) increase labor speed, (e) increase labor accuracy, (f) contain challenges to management authority, or (g) meet personal goals of managers that were consistent with top management goals.

From management's changes three patterns emerged--three distinct labor systems that coordinated, wheedled, and coerced labor from front-line workers. I call them the McGrady system, the Jones system, and the Rutman system. The McGrady system, which lasted from 1946 to 1964, is named after the executive housekeeper during most of that time. The next labor system, under administrator Jones, deteriorated in the early 1970s and gave way to the Rutman system in 1974.[5]

When McGrady headed housekeeping, she and her assistant personally bossed maids and porters, most of whom cleaned the same areas every day. The housekeepers also inspected output and evaluated, rewarded, and punished workers as they saw fit. Workers received minimum wages and little or no training. The housekeepers and administrator strictly enforced racial segregation.

After Jones became administrator, written procedures directed supervisors in bossing, evaluating, rewarding, and punishing maids and porters, and management followed the procedures. Jones and the executive housekeepers appointed supervisors, relaxed the race rules, and relied on positive incentives. They trained all workers, especially in isolation techniques.

Rutman took over as director of environmental services after the attrition program had increased average floorspace per worker. Rutman and his assistant directors and supervisors barked orders and inspected closely, sometimes disregarding production directives. They flaunted personnel procedures, preferring to intimidate environmental aides and assistants with harsh, arbitrary punishments. Wages and benefits improved; training continued much as before.

In general, the labor systems differed in the following respects: (a) the extent to which directing was standardized, and the number of supervisors and average floorspace per worker; (b) the frequency of inspections, the extent to which evaluations were standardized, and the degree of racism; (c) the extent to which rewarding and punishing was standardized, and whether the management favored the use of inducements or of punishments; and (d) the extent to which training was standardized.

Hypotheses. Studying changes in a single department allows close investigations of their rationalizations and repercussions. Thus, this chapter defends two propositions that support the main thesis of this paper. First, I contend the differences between the McGrady and the Jones systems and between the Jones and the Rutman systems are primarily explained by top management's intent to boost labor speed, accuracy, or both. These objectives resulted from top management's reaction to product market competition: management chose medical accumulation as its market strategy, which initiated a drive to cut (or contain) costs of housekeeping services.[6]

I contend the differences are explained to a lesser extent by managers' intent to (a) mold frontline deportment to satisfy managers' personal goals and (b) contain frontline challenges. In each labor system, management aimed for specific frontline deportment. The desired deportments can be characterized (chronologically) as follows: make workers obsequious because they were blacks; make workers cooperative and obedient; and make workers obsequious because they were workers. The secondary objectives of shaping deportment and containing challenges derived partly from the cost-cutting objectives and partly from exogenous factors. Once introduced into the labor system, secondary objectives became somewhat semi-independent factors.

A corollary hypothesis follows: the significant differences in the labor systems did not result from changes that turned on constant-intensity innovations or relative input prices.

As a second proposition of this chapter, I contend that the department heads and, through them, top management continually pressured frontline workers concerning speed, accuracy, and deportment. I contend that continual generation of such pressure was an essential attribute of all three labor systems. Pressure increased as top management stepped up the pace of medical accumulation. The degree and offensiveness of pressure (from workers' point of view) varied according to the structures management devised to perform the four management functions, the rewards and punishments it used, and the size of the workforce.

A corollary hypothesis follows: labor systems cannot be conceptualized as technical solutions mapped to a self-propelled production

mechanism. Their technical aspects must be acknowledged, but they must also be understood as management's instruments in a daily quest to extract labor from labor power.

The McGrady System

On the Frontline

Ella Hawkins speaks. As she donned her tan uniform, Hawkins joined other maids, porters, and orderlies on the bottom tier of a three-step authority pyramid. The executive housekeeper, Gladys McGrady, and her assistant, Emily Miller, did all the management tasks in housekeeping themselves. They reported directly to administrator Berkmeyer.[7]

The housekeeper assigned one maid to each patient floor and other maids to the lobby, the doctors' quarters, the nurses' home, and several departments. Hawkins had a routine on Central 2:

> In the morning you would pick up your trash, clean your little kitchen, and do your bathroom. Then you'd start your regular cleaning: clean your utility room, make sure your linen hamper was clean, also your bedpan hopper and the trash can.
>
> When a person leave, you would clean that room, wash that bed very good, also spot the walls, sweep the floor, and have the porter to mop the floor, even clean the windowsills before another patient would come into the room.
>
> You cleaned every hall and stairway that would lead to the department that you worked in.

Unscheduled chores came up:

> You must remember, you were working with children so it was always something that you could be doing. You could be picking up a toy where some of 'em throw on the floor. You'd get the porter if they break a bottle--at that time they had nothing but glass bottles. He would get that up and then he would wipe up where the milk was.

Equipment and supplies were simple and rationed:

> We had a mop; we had a dry mop to chemi-mop with. We had a wet mop and we would use. . .What was that stuff? I can't think what's the name of that stuff they used to clean the beds with. It would disinfect them, too. . . .You couldn't have but a little, see. The porter would be down there and he had to pump it out of a drum and give you so much and that had to last you. And a can of Comet. That stuff had to last you.
>
> And then you could go 'round to the laundry and get a few rags, you know, diapers that they had tore up--and washed em and tore 'em up--for you to use to wipe your windows and beds off.

Sometimes a nurse mentioned that a room needed cleaning; sometimes McGrady assigned extra duties; otherwise no one bossed Hawkins in her daily work. Changes in duties or schedules were announced without explanation; Hawkins said, "They were too cunning to explain things to you." Hawkins devised her own methods and cleaned enthusiastically. She seldom broke the rules forbidding her to leave the floor or talk to coworkers on non-break time. She never broke the rules that restricted her to one cafeteria, elevator, and entrance--the 'race rules.'[8]

In 1955 it was the assistant housekeeper who inspected output:

> Mrs. McGrady be there and sitting downstairs. (I told 'em sometimes, down there asleep.) But Mrs. Miller, she was the one had to do the running around to look see if everybody's working and all that. . . .
>
> Mrs. Miller would come 'round and, to tell you the truth, the biggest thing they wanted to look at was the sink and the bed. . . .You know at times they would put their hands up on the cubicle [that subdivided the ward] so you'd have to wax them to make it neat and presentable.[9]

The housekeepers hired, punished, and rewarded as they pleased, although rewards were few. Hawkins told how McGrady hired her:

> Well, she greeted me very nice, she really did. She said, "I know your husband. He was an honest man. He worked good the time that he did work [here]. . . .He asked me to give you a job since you was determined to work. I told him [to tell you] to come in here."

> And I didn't have any problem getting a job. None whatsoever. It was a thing at that time: if you knew somebody you could get a job. That's the way it was.

After the "interview" Hawkins went to the personnel officer--just to sign the papers. McGrady and Miller did not evaluate workers in writing, but as far as Hawkins could tell, they judged everyone's work by the same standards:

> 'Course they had their, you would say, they had their picks, you know. But I never had those problems. I don't know why but I never had those problems.

Parents and workers in other departments often complimented Hawkins's work but the housekeepers gave her neither promotion or recognition. The measly wages she took home in 1955 equaled an hourly rate below the legal minimum: after a government agency inspected housekeeping timecards, management cut the workweek by eight hours but did not change the paychecks.[10]

No one trained Hawkins. McGrady led her to Central 2, and the maid from the floor above ran down to demonstrate bed-making. Hawkins sized up the situation and set to work:

> I guess they figured if you're ever a woman and you ever kept house you would know how to keep tight. So that's the way it went. So then I used my own intuition. I knew how to clean a house and I said, "I will keep this place clean like I clean my house." And that's what I did.

When a child had a contagious illness and the doctor ordered the room to be isolated, maids and porters used special cleaning techniques to protect themselves and later occupants of the room. Correct techniques required wearing gowns, masks, gloves or all three, using strong germicides and cleaning all surfaces thoroughly, and properly disposing of contents of the room and cleaning equipment. The

housekeepers did not teach the isolation techniques but workers could look them up in a book. Isolation cleaning was dangerous as well as important, and two factors counted in Hawkins's favor: doctors did not often isolate Central 2 patients and, unlike some in housekeeping, Hawkins could read.[11]

Adding to Hawkins's account. Two factors limited Hawkins's picture of the McGrady system. Hawkins came to Children's nine years after the system began, and management made a point to keep maids and porters uninformed. Other sources rounded out Hawkins's testimony.

Origin and duration of the McGrady System. The labor system Hawkins entered took shape in 1946. Berkmeyer, just returned from war nursing, imposed a bit of army organization on the department and trained McGrady as executive housekeeper. McGrady retired from the position in 1959, and several women filled it in rapid succession. In 1961 Miller, who at the time headed the laundry, transferred to head housekeeping. The basic features of the McGrady system continued until Miller left in 1964.[12]

Omissions and discrepancies. In 1947 the housekeepers oversaw about fifty frontline workers. (The number fluctuated from month to month due to high turnover.) As the physical plant expanded, management added positions. The department employed six more workers by the mid-fifties and another fourteen more by the early 1960s. A head orderly was appointed in 1953 and a second assistant housekeeper hired in 1959.[13]

An orderly or porter covered several patient floors in 1947. He did heavy cleaning, mopping, and waxing, restocked supplies,

transported diets, and removed trash and soiled linen. By 1964 every patient floor was assigned a porter as well as a maid.[14]

As part of director Tift's 1947 reorganization, management split up and reassigned six workers' tasks and eliminated their positions. Two years later it dropped six more daytime positions, formed a three-man night cleaning crew to mop, strip, and wax the halls, and selected orderlies to be oxygen therapists, which involved transporting and setting up oxygen tanks. In 1955 the oxygen therapists were transferred to the nursing department. The minor changes that management made in maids' and porters' jobs over the years did not alter the male-female division of tasks.[15]

The housekeepers bossed some maids and porters more frequently than they bossed Hawkins and others who always worked in one area. Window washers, for instance, received daily instructions. A handful of frontline workers were trained for their jobs. A chemical firm representative trained the night cleaning crew. The hospital's oxygen supplier instructed the first oxygen therapist, who then trained others. In 1958 Berkmeyer and McGrady met with orderlies and instructed them in handling linens so as to contain staphylococcic infections.[16]

It was in the matter of punishment that Hawkins's experience broke with a common pattern: she did not get fired. The housekeepers fired often. For example, they fired twelve workers and probably forced two others to resign during the twelve months that ended in October 1955--twenty-six percent of the workforce in a year.

The rate for these months was typical for the McGrady period. In fact, 1955 probably was a mild year. The hospital-wide turnover

rate, which included resignations as well as firings, dropped 20 percent between 1953 and 1954. It dropped another 13 percent between 1954 and 1955, with fewer firings accounting for much of the decrease. Since the housekeepers had fired nine in July 1954 alone, the department seems to have followed the hospital-wide trend.[17]

Firings had occurred even more often in the late 1940s when turnover in housekeeping, dietary, and the laundry ran between 8 and 22 percent each month. If the ratio of firings to total turnover was the same in the 1940s as in 1955, the firing rate in housekeeping ran between 32 and 87 percent each year.[18]

Table 11 shows firings in 1955 by job title and reason. "Absenteeism and tardiness," "not suitable" (sometimes listed as "work unsatisfactory"), and "insubordination" were most often given as reasons. The housekeepers also fired for behavior such as "drinking on the job" or "creating disturbance." The reasons they gave for firing in this year were typical for the McGrady period. They fired based on their inspections and on tips from other department heads and nurses, whom they asked to report maids' and porters' transgressions. Hawkins's testimony about firings for car and home ownership suggests that housekeepers' reasons and impartiality of punishment should be questioned. I assume the real reason for a number of firings each year was violation of race rules.[19]

Frontline feelings and reactions. Hawkins censured the McGrady system. She didn't mind the work itself; she loathed the indignities and injustices to black people. Of course she felt underpaid, but she attributed low wages solely to discrimination, not to management opportunism

TABLE 11

HOUSEKEEPING DEPARTMENT FIRINGS AND QUITS
TWELVE MONTHS ENDING OCTOBER 31, 1955

	Orderly	Porter	Maid	Floor Supervisor	Total
Firings					
Absenteeism and tardiness	2	0	1	0	3
Work unsatisfactory	0	1	2	0	3
Insubordination	1	1	1	0	3
Drinking on the job	1	0	0	0	1
Creating disturbance . . .	1	0	0	1	2
Probable forced resignations					
Emotionally unstable . . .	1	0	0	0	1
Personality clash	0	0	1	0	1
Total firings	6	2	5	1	14
Other resignations					
Better position	2	2	0	0	4
Left city	3	0	1	0	4
More time home	0	0	5	0	5
Felt work too difficult . .	0	0	3	0	3
Return to school	1	0	1	0	2
Ill	2	0	2	0	4
Miscellaneous	0	0	1	0	1
Left without notice	3	0	3	0	6
Total quits	11	2	16	0	29
Total firings and quits	17	4	21	1	43

SOURCE: Archives of Children's Charity Hospital, Hudson.

in a buyers' labor market--where sellers happened to be black. Even with these feelings, Hawkins wanted to do a good job. She kept Central 2 spotless and endured discrimination without public comment. About this she said:

> At times I would get confused. At times I wouldn't even let it bother me. At times I'd get a good laugh.

She made up her mind to do her best in spite of it

> because it was just one thing: you'd go in the freight elevator. I'd say, "That don't matter to me. . . . But when I go home, I go in my front door."

And she said a daily prayer:

> Lord, black people are being oppressed so at this place. . . . But one day I expect to overcome it.

Maids, orderlies, and porters whom Hawkins knew also hated the double standards and badges of inferiority. Her close friends at work reacted much as she did. But their long tenure at Children's was the exception, not the rule. The high turnover shows most workers reacted very differently. Either they quit (see table 11) or they were fired because they worked half-heartedly, often came in late or not at all, left their floors to socialize, or parried with words and acts not properly "subordinate." However, they rarely organized to protest the rules or treatment. Since all frontline workers faced the demeaning conditions and it seems few objected to the work, I assume the social relations of the labor system tended to breed such reactions.[20]

The Logic of the McGrady System

Management objectives and constraints. Hospital finances worried top management incessantly during the McGrady years. Cost-cutting was an

ever-present objective. Large numbers of charity cases, low government payments, and rises in input prices caused chronic operating losses that gifts did not offset. Top management also sought funds to replace and rennovate plant and to add and equip new facilities. However, competition with suburban hospitals became fierce only towards the end of the period. Hence the drive for medical accumulation and cost-cutting was moderate compared to later years.[21]

Administrator Berkmeyer and the housekeepers acknowledged the need for "economizing" measures but their management skills had limits. They also shared a personal goal: to preserve practices of earlier labor systems that segregated blacks from whites and subordinated blacks. A lifting of the race rules would have mortified the white women.[22]

Operating the system.

Setting up the structure. The system employed simple technology and social relations. The housekeepers were in charge. They divided housekeeping services into duties for maids, for porters, and for orderlies. They divided the hospital into areas such that if a worker used common-sense methods and labored throughout the shift at moderate speed and accuracy, she or he completed the duties. The housekeepers told workers to stay in their areas and periodically checked output quantity and quality. In order to pare planned costs to a minimum, management rationed supplies, paid wages and benefits close to the lowest in Hudson, and required workers to labor eight hours every week for free.

Management reserved the dead end jobs in housekeeping (and several other departments) for blacks. All frontline workers in housekeeping were black so the race rules applied to them all.

When the labor system functioned as management intended, all areas of the hospital received an adequate quantity and quality of housekeeping services every production period. Blacks and whites did not associate freely and blacks were marked as inferior.

Pressuring for frontline speed, accuracy, and obsequiousness. The labor system in no sense operated automatically. Of course some frontline workers, such as Hawkins, performed to management's satisfaction without close watch or warnings. Most workers, resentful of pitifully small pay and ill treatment, did not. The housekeepers subjected most workers to continual surveillance, correction, and punishment. Day after day and week after week the housekeepers reprimanded for incomplete tasks, sloppy work, lateness, absences, socializing in the halls, talking back, refusing orders, drinking, or breaking race rules. This bossing, inspecting, and punishing pressured workers directly. Week after week and month after month the housekeepers fired those who ignored demands for speed, accuracy, or obsequiousness. Terminations intimidated workers who remained. The high, steady firing rate throughout the period indicates that to extract the labor intensity and deportment it desired, management found continual pressure necessary.

Although the pressure for racial stratification tended to depress labor intensity to minimally-acceptable levels, it operated in other ways to reinforce management's authority and cost-cutting efforts.

Under pressure, blacks obeyed race rules to keep their jobs. They saw authority that could enforce these irrational, pernicious rules as all-encompassing authority, which made them little-inclined to challenge unreasonable production demands. In addition, it was easier for whites to pay blacks low wages when blacks seemed of lower worth. Racism was thus thoroughly embedded in the McGrady system.

Management experimented with training and upgrading to boost labor intensity without increasing pressure, but did not incorporate such rewards into the labor system. The experiments helped only a handful of workers.

I identified management's main objectives as cutting costs and guarding racial prerogatives of whites. I conclude that the continual, moderate pressure the housekeepers and, through them, top management exerted on frontline labor speed, accuracy, and deportment was an essential attribute of the McGrady system.

Outcomes of the system. The McGrady system resulted in relatively low cleanliness and high labor turnover. Top managment accepted both outcomes for many years. By the early 1960s, competition forced top management to reassess its objectives and to question the logic of the McGrady system.

The Jones System

On the Frontline

Roosevelt Baylor speaks. Baylor took a porter job at Children's in the late 1960's--the heyday of the Jones system--and enjoyed it from the

start. He liked working with the people there and they liked him. He liked seeing children heal and knowing his work helped. Baylor is quick to share his convictions about what makes a well-run workplace. He thinks, for instance, people should discuss their ideas about work and should give older workers the lightest workloads. He thinks management should act sensibly, fairly, and consistently--and never short-change the workers:

> . . . I think if the big people, the big shots there, began to look at the little people and try to find out, not just make them happy, but just try to make sure that each department is ran like it's supposed to be ran--by the rules and everything--I think the hospital would have no problems. But if the big shots are gonna just look around and just forget the little people--and the little people are really the ones that carry them and make the big people the big people--and if they're gonna forget the little people then very soon they're not gonna be big any more.[23]

Baylor's workday was more structured than Hawkins's early days had been. He reported to a supervisor, not directly to the department heads. Each workday and workweek was planned so as to produce housekeeping services regularly and often. In addition to the night cleaning crew, the department heads designated a crew to move heavy furniture and medical equipment. They selected durable cleaning equipment, such as the floor buffers, and strong germicides and wax.

Baylor did almost the same tasks in almost the same ways as porters in the McGrady system had done.

> You was told in the mornings when you got your assignment, you knew exactly what you had to do that day. You was told by your group leader or supervisor what particular thing that you had to do that day and the only time that you was interrupted in doing this is like, an emergency came up. Say for instance, if a toilet was running over or someone dropped a bottle and you would have to stop your work and go get it.
> . . . . . .

> Every day we did something different. . . . Then [the next week] we would go through the same cycle. . . . [I]f you didn't buff a certain day, then it may have been a day when you would wash the top of beds off. . . . Another time you would, maybe, wash the screens. . . . This was a special project that you did after you got through with your regular daily work.

At specific times in the day the porters began routine duties, each in his own area:

> It was like picking up trash, taking [it] out. . . . [W]e took the linen to the laundry to have it cleaned. We mopped the floors and we buffed the halls and all the rooms. At that time we would come back to doing the special project and in the evening we would pick up the trash and the linen again and dispose of it in the different places.[24]

The supervisors assigned tasks throughout the day, but said little about how to do them. For the latter, maids and porters referred to a booklet of housekeeping procedures, solutions, and equipment. Bossing and inspecting were closely linked:

> . . . [The supervisor] would give you a certain project to do. When that was over with you would get in touch with the supervisor. He would check it to make sure it was done correctly. Then he would give you another projct, and then sometimes working along with you. And maybe by supervising other floors, sometimes he would leave you for half an hour or an hour or so, but he would come right back and to make sure that you was still doing your job.[25]

The supervisors and department heads didn't hesitate to pitch in:

> If a time come where an [operation] come up that was really hard, like stripping the floor--that's getting the wax off--which is gonna take a lot of time and which should be done at night[,] . . . sometimes the supervisor would take off his tie. Even our department head at that time, which was Mr. Barnes--he was white--he would come in and he would take off his tie and take off his coat and get down and help us. He was the department head. He wouldn't ask us to do anything that he wouldn't do. He would chip in and help us work.

> When we got through he would always say, "A job well done!" if that job was well done. He would always thank you and say, "Thank you, Baylor. The floor looked beautiful."[26]

The supervisors thanked and praised maids and porters regularly, too. Jones and the department heads always hailed them when they passed in the halls. The system gave other rewards for extra effort and long years of service:

> But this is what they did for reward to show the appreciation for the work that you do. . . . [I]f a person retires--say, like, if they're working in an area where they're only working five days: all weekends off and all holidays off. If you've been working regularly and you are a good worker, then this will be one of the rewards that they will give you. They would step you up in that position and the next person come along would be in your position. They did this with everybody.
>
> In fact, the older people there, the people that was really in age, they had the easiest duties. I mean, they worked in areas where they didn't have to work the weekend; they worked in areas where they was off all holidays; and the work wasn't as hard as the rest of the people that's working.

And there was the "Maid or Porter of the Month" award:

> [F]or this particular thing they inspect the floors once a month. Whoever had the cleanest, the best floor, this was the reward they would give them: they would give them--that porter and that maid--they would give them a day off . . . in the month to show the appreciation for them having the cleanest floor.[27]

When maids and porters felt overworked or unfairly punished, they often went right to administrator Jones. A run-in between a maid or porter and another hospital employee could easily result in punishment for the housekeeping worker because her or his status was lower than almost anyone else's and, to many people, her or his word counted for less. Jones did his best to prevent such injustices:

You never have to make an appointment to see this man. . . . [If you went to his office,] he would come out there [from his office in the middle of a meeting] and talk to you. If he felt your problem was necessary: "Well, you come back at such and such a time and we'll get this straightened out."

. . . [I]f your gripe is about the supervisor or a nurse or a doctor or whatever, then in turn he would get in touch with that doctor, nurse, supervisor, or your department head and he would have you both to come in. He would listen to your story, then he would listen to the other person's story, then he would bring you both in there and have you both to talk. And whenever he decide--which was always fair--if that supervisor, group leader, or the employee was wrong, he would make them--not make them--he would suggest that they apologize.

Now if they apologized, he would tell them in a small lecture, like, "Look, we all here are human beings. We're all here to do a job. Regardless of whatever your job title is, no one here is better than anybody else. We are all a family trying to keep this hospital functioning."

And he would say like, "If this situation come up again, you're gonna be dismissed," whoever it is--if it was me, the supervisor, or the so and so and so. You got a warning and then the next time you're gone. And there were times where he felt and other people knew that they were wrong, and they were supervisors, and he would ask them to apologize and they wouldn't apologize; and they were gone. They were gone.[28]

Baylor's supervisor saw to his training:

If I would start working today, they would have me to start working with a fellow and he would show me everything that he did on that floor that particular day. If I worked with him the next day, he would show me what was to be done the next day so that in case that if I worked his area, that I would be able to do the same thing. You would work with this fellow for about two or three days. Then they would give you another fellow because you may not work in that particular area all the time; you may work in another part. So you was with this fellow. This was to familiarize you with the whole hospital.

As you went from different places they trained you all the way until they felt that you was necessary, that you could do the job yourself. Then they would turn you loose, maybe when a fellow was off. You weren't regular then, you were rotating. And wherever this fellow was off they would put you there and if you did the job well they felt like you could be on your own. If maybe someone else would leave, eventually, then they would put you in one of the regular spots. . . .

> . . .[T]he fellow that's working there now named Leroy Johnson--he's not in housekeeping [now], he's in respiratory therapy--he taught me just about everything I knew then. Later on he became the big supervisor--I think about four months after I was there--and he really showed me all the ropes. . . . Our most [important] object[ive] was when the doctors came around and he would teach me how to work at the end where the doctors weren't. And when the doctors worked toward you, he would like tell me to get out of their way, step aside. And then when they passed me I would go to the other end and start and work behind them. This way no one was in anybody's way. Everybody was free to do their work and be sure that it was safe.

Johnson also demonstrated isolation techniques to Baylor, step by step. Physicians isolated children more often during the Jones than the McGrady period. Isolation technique was modified slightly by the use of the fogger. Instead of washing all surfaces in a stripped room by hand, a worker set a fogger in the room, closed the door, and waited while it sprayed a disinfectant mist. She or he then wiped the horizontal surfaces and mopped the floor. The department heads and supervisors quizzed workers on solutions and procedures, especially isolation techniques, at meetings held every month or so.[29]

Adding to Baylor's account. The Jones system was well-established when Baylor joined Children's workforce so he didn't know how it began. His position also limited his perception of the system, although management did not keep frontline workers thoroughly in the dark as before. Baylor disliked the system that followed the Jones system, which may have led him to romanticize the latter. Other oral and written sources presented a picture similar to Baylor's account and filled in significant details.[30]

Origin and duration of the Jones system. The board hired Jones as administrator in the fall of 1962. He immediately ordered modifications that affected all departments, and planned further changes in the labor system hospital-wide and in single departments. Jones considered contracting with a private firm for housekeeping services but the aspiring, young, laundry manager, Ted Mitchell, sold him on a plan to combine the laundry and housekeeping departments. In 1964 housekeeper Miller retired, and top management extended Mitchell's jurisdiction to housekeeping and put additional hospital-wide changes in place.

Mitchell carried out his reorganization plan, then left soon after. Four men headed the department during the next nine yars and many men and one woman filled assistant department head positions. Of the department heads, Dennis Barnes stayed the longest; his management practices fit closely with Jones's. The labor system that management formed in 1964 persisted as department heads came and went. Its main contours remained visible even after Jones left, although top management began to dismantle the system several years before it choose Rutman as department head.[31]

Hospital-wide changes. Upon his arrival, Jones rescinded the race rules. Soon he had department heads writing annual evaluations on workers. During the next few years the ratio of supervisors to front-line workers rose in many departments. By 1964 job descriptions and manuals of procedures had been compiled for each department, and an upper limit set on its employment. In 1964 top management made two other important changes: it printed a supervisors' manual of procedures for evaluating, rewarding, and punishing (that is, management 'formalized'

the 'personnel procedures'); and it raised wage rates close to the area average. In 1967 Jones established a formal grievance procedure and convinced the board to raise benefits and readjust wages near to the area average.[32]

Omissions and discrepancies. The number of assistant department heads, supervisors, and working supervisors (or 'group leaders') varied between 1964 and 1974 but remained higher than during the McGrady period. In the mid-sixties the department head had one or two assistants, three or four supervisors, and several group leaders, some in an "acting" capacity. By 1974 four group leaders worked on both the day and evening shifts. Most of the group leaders and supervisors, like Hawkins, were promoted from the frontline.[33]

The frontline workforce increased, too, although not in proportion to supervisory employment. In August 1963 the department employed seventy frontline workers; in July 1969, seventy-nine; and by the fall of 1970, ninety-three. The physical plant expanded during this time but it is likely that floorspace per housekeeping worker declined slightly. Within the upward trend in employment, management several times took advice from outside consultants and reassigned duties to cut jobs.[34]

After the hospital-wide changes made between 1962 and 1964 and the reorganization of housekeeping in 1964, directing and inspecting occurred systematically. Baylor mentioned several elements of the directing structure: each supervisor was responsible for a certain section of the hospital, booklets contained instructions about cleaning procedures, and special cleaning projects were systematically rotated.

The group leaders under each supervisor acted as "straw bosses," assigning tasks and inspecting output, and also performed frontline duties. The daily duties of maids as well as porters remained virtually the same; the formal procedures spelled out the common sense procedures that workers already used. (The isolation cleaning procedures contained important information about solution strengths and disposal of contaminated objects.) Frontline workers did not see the job descriptions that were compiled in 1964.[35]

Frequent, strict inspections were the rule. The department heads insisted that workers adhere to written procedures and encouraged them to use lots of detergent. The department heads also stressed punctuality. Top management routinely checked for microscopic contaminants by growing specimens from floors and equipment on culture media.[36]

Management added maids and more porters to the night crew and moved the start of the shift to late afternoon. The women straightened the deserted offices and clinics while the men continued to do heavy cleaning. The department heads modified duties, staffing, and supervision of the second shift several times during the period. Cleaning supplies and equipment changed little at first; towards the end of the 1960s the department heads experimented with new supplies. In the early 1970s the department heads forbade workers to enter the snack bar or cafeteria on non-break time or to make personal phone calls.[37]

After Jones became administrator, housekeeper Miller gave frontline workers their first written evaluations. Throughout the Jones and Rutman periods, department heads had a policy about evaluations: never give a perfect one.[38]

As Baylor's testimony suggests, the Jones system rewarded more liberally than the McGrady system. Rewards that Baylor did not mention included higher wages and benefits, and promotions to the new group leader and supervisor jobs and to the department head positions--promotions that had never before been given to blacks.[39]

Firings became less frequent and less arbitrary. As the supervisors' manual specified, the department heads usually fit punishment to the "offense" and used progressive discipline (that is, they did not suspend or fire for a first offense). And even before the formal grievance procedure existed, Jones's attention to maids' and porters' complaints provided an effective appeals mechanism.[40]

A few incidents suggest that the same sorts of disputes--over hours, duties, and deportment--sparked punishments in the Jones and McGrady systems. It also seems that some favoritism slipped past Jones. One maid recalled that when she arrived late, the department head simply docked her for the missed time. Another maid once wore the same gown into two isolation rooms and the supervisor gave her a "tongue-lashing." The maid was later assigned to a choice area. Then with no justification the supervisor said her work was unsatisfactory and gave her assignment to a maid in whom he took an interest. A third maid allegedly refused to damp-mop floors after the duty was added to the job description, and the supervisor issued a written warning for defiance.[41]

The Jones system emphasized training for frontline workers but provided none for supervisors. Hawkins taught herself skills as a group leader and as a supervisor, just as she had done in 1955 as a maid. Asked how she learned to supervise, Hawkins said:

> Once you work around people, you know how to treat a human being. They're a human being and you just go on and act normal like a human being should and you'll get a lot from it.[42]

Hawkins's comments on bossing, inspecting, evaluating add a supervisor's perspective to the picture of the Jones system. Hawkins recounted her willingness to work:

> If a tell a man to take a buffer and do it, I can use that buffer good as he could. And I know how to do it. And I would put on a maid's uniform and work right along with them to see that they did it the right way--and help them.

Hawkins drew from experience to assign tasks and inspect work. Under her, workers quickly learned the meaning of "clean":

> If it was a job that I know that is very teeth-setting--like, say, like if we had to go into an examining room. You've got to get every corner. You've got to get every spot. I don't want you to go in there and stay in there a half-hour or hour and come out and tell me it's clean because I'm going to inspect and if not, you'll do it over again.
>
> So the thing to do: you take your time; do it right. If you don't accomplish nothing but just that one place that day, fine with me. We will catch up with the others next time. But I want that place clean because a child's health means a lot. Health means a lot to anyone. And that's it.
>
> But it's the same way I take a bed; I'll roll a bed up and run my fingers under it and see how much dust I can get.

Hawkins did not believe in perfect evaluations:

> . . . [A new supervisor] had evaluated a person and he said that she was excellent. I said, "Well, if she is excellent, then she should have your job." And he stood; he looked at me. I said, "Yeah. If she's that good, she should have your job because you're not excellent." I said, "Anytime a person's excellent they should have a supervisor job."

Frontline feelings and reactions. Maids and porters approved of the Jones system. In fact, they said Jones ran the whole hospital the way it ought to be run. They considered the workloads, cleanliness standards, and rules quite reasonable. They did not feel degraded

because of the shades of their skins. Individuals from time to time griped about bossy supervisors. Even after 1967 many found the pay and benefits far too low. However, workers accepted the authority of top management and the department heads. They trusted managers to uphold workers' rights, hear workers' suggestions, and fairly resolve problems. Maids and porters likened the social bonds at Children's to the bonds of a family.[43]

The Jones system created a close-knit corps of frontline workers, loyal and willing to give extra effort. For example, Baylor saw a response to the "Maid or Porter of the Month" award:

> This made everybody in there try to keep their ward clean so that they could get that extra day off. . . . [E]verybody scuffled. Everybody worked their fingers. It really wasn't really hard work there, but what I'm saying, everybody made a task; they made an extra effort to try to keep their department clean. You could hear people coming from other wards, other departments say, "Wow, his floor is really shining." . . . It made the fellow and the lady that was working on that particular floor stand up and stick their chests out a little bit.

A maid who worked an evening shift in the 1970s described cooperation among workers and supervisors:

> . . . If we was running late on finishing our work due to something, we would chip in together and help one another. . . . Maybe if we was supposed to leave at 1:30 [a.m.] and there was something that really had to be done, we would stay over 'til quarter to two, or we would stay over 'til maybe five or ten minutes of two, and finish it. Because the next night, if we finished a little early, we could leave five or ten minutes earlier. We felt that one favor deserves another one. . . .
>
> . . . [T]he employees suggested [staying]. The supervisor did not suggest it. It was the employees suggested, "Well, he give us a break. He's a nice supervisor. He let us left such and such a night a little early. So now that we's been pushed today--we had a lot of emergencies and we had a lot of more work to do--we should stay here. We can get together; we can finish this in fifteen or twenty minutes. It won't take us that long to finish. Let's get in there and finish." So that's what we did.

Workers' testimonies suggested that fewer workers quit each year than during the McGrady period.[44]

Wages and benefits remained a festering sore. A group of workers decided collective bargaining could help and signed up with Local 3 of the International Brotherhood of Railway Workers. The union told management it represented frontline workers in housekeeping and management agreed to an election: Jones wagered he could win.[45]

Management leaflets about the union election said the recent pay and benefit increases proved workers did not need a union. The leaflets predicted strikes, exorbitant union dues and fees, and meddling by outsiders--the usual scares. Jones personally conveyed a more positive message to workers, which altered the terms of the debate. Baylor recalled:

> Mr. Jones was there when it first come down and Mr. Jones had a meeting with us immediately because news travels fast over at the hospital. He was telling us, like, he's not gonna tell us not to vote for the union or to vote for the union.
>
> In fact, he told us in a class, you know, in a meeting. And then he had each individual to come to his office and he made sure that they understood that he wasn't standing in their way of voting for a union and he was trying to let them know that if they did vote for a union that they couldn't come to his office any more for help, that they would have to go to them. And he told them then that no one there was ever treated hostile or whatever, that everyone there was treated family and that he did all his best for the employees and everybody else.[46]

Cast in these terms, the vote tested maids' and porters' trust in Jones, not just satisfaction with their paychecks. Workers thought the union question was important--all but two voted--and they stayed with the Jones system by a 60 percent majority.

The Logic of the Jones System

Management objectives and constraints. Cost-cutting assumed increasing importance during the 1960s. Competition raged between Children's and suburban hospitals and financial problems worsened. Hitting on a strategy for survival and fame, the board and medical director pledged to expand and diversify facilities for treatment, teaching, and research. They brought in Jones, who had training and experience in hospital administration, to tighten up production of intermediate outputs and trim operating deficits, which would free capital for medical accumulation. Preventing unionization also surfaced as a critical objective after 1964.[47]

Jones held personal goals with regards to Children's labor process. He wanted a safe and sanitary hospital, that is, housekeeping services of high quality. He wanted friendliness and genuine cooperation among top mananagement, department heads, and frontline workers. And, without abrogating authority, he wanted a labor system that guaranteed workers, both black and white, fair and respectful treatment, financial security, and pleasant work relations. Jones believed that attainment of the goals was prerequisite to a good hospital reputation and low housekeeping costs.[48]

Jones spurred reorganization of the housekeeping labor system and recruited department heads who shared his goals. Mitchell, for example, liked to display his managerial acumen, but as his "Maid or Porter of the Month" award shows, he kept workers' goals in mind. Barnes, Hawkins, and Sherman Henderson (the first black assistant

department head and longtime co-worker of Hawkins) stressed cleanliness, cooperation, and respect for maids and porters--Hawkins and Henderson came from the frontline. Although each department head brought a personal touch to the labor system, Jones, ready with reprimand and reversal, stopped practices that crossed top management's purposes.[49]

Operating the system. The Jones system differed from the McGrady system in three general ways. First, management functions were allotted more labor time and done more systematically. Second, a variety of positive incentives overlay management's arsenal of punishments. Positive incentives included the voiding of race rules; the supervisors' willingness to lend a hand; the material rewards of pay and benefit hikes, days off for the cleanest wards, choice assignments, and promotions; and the intangible rewards of talking and joking, praise, thoughtful gestures, and help with problems. Third, the floorspace area per worker declined slightly.

Reaching management's new objectives. More frequent and systematic directing and inspecting cut costs primarily by increasing labor accuracy and maintaining speed, although standardization of procedures also represented a constant-intensity innovation. Designating one procedure as the standard made it possible for every worker, laboring at a constant intensity, to perform tasks in the (presumably) least-cost manner. Training, the booklet of procedures, department meetings, and supervisors' reminders fixed the least-cost procedures and the higher cleanliness standards in workers' minds. Frequent, careful bossing and inspecting by the numerous group leaders and supervisors,

who were now accountable for specific sections of the hospital, kept maids and porters on their toes.[50]

Formal personnel procedures and positive incentives increased labor intensity and met Jones's other objectives through a different sort of mechanism: by furthering workers' goals. This encouraged workers to cooperate and voluntarily work at high speed and accuracy, and counteracted tension that close bossing and inspecting might have aroused. The personnel procedures, by providing written evaluations, due process, rational punishments, and a means to appeal, offered fair and respectful treatment. Positive incentives enhanced financial security and the social atmosphere at work.

With better pay and a supportive, human environment, maids and porters enjoyed work and thought their labor efforts adequately rewarded. Most willingly increased their speed and accuracy, which reinforced the effects of systematic training, directing, and inspecting. Fewer quit than during the McGrady years, which reduced the ratio of new hires to experienced workers and contributed to accuracy. Management fired less often, but when coaxing failed, it used punishments to force workers into line.

Jones valued a labor system that considered workers' goals as an end in itself. He felt sure, however, that management gained from such a system. As long as the rest of management was convinced that considering workers helped (or at least did not hurt) medical accumulation, workers' goals counted.

The decrease in average floorspace per worker raised the quality of housekeeping services although it also increased costs. With less area to cover, a worker exerted the same effort but cleaned more thoroughly.

Top management also relied on positive incentives to ward off unions. When it learned of organizing drives at area hospitals, it granted wage and benefit increases to upstage the unions. (Once in place, the raises helped boost labor intensity.) Management did not abandon this approach even in 1969 when many workers signed union cards, which indicated that positive incentives might be insufficient to prevent challenge. Its campaign highlighted the inducements of the Jones system; playing on workers' fears was a minor theme. Jones's speeches and one-on-one meetings tapped feelings of loyalty and trust and convinced maids and porters the system stood for them.

Again, Jones pushed a balky board for wage increases and other positive incentives because he believed it management's duty to respond to workers' dissatisfactions. But he knew well that the best insurance against unions was a happy workforce.

I argued above that cost restraint and cleanliness received greater emphasis in the Jones system than the McGrady system while new objectives emerged: prevent unionization, promote cooperation, and satisfy frontline goals for respect, higher pay and benefits, and pleasant work relations.

I conclude that the differences between the systems are explained primarily by management intent to boost speed and accuracy, and secondarily

by its intent to stimulate cooperation and belief in the legitimacy of management.

Attending to frontline speed, accuracy, and problems. I argued above that in the McGrady system the housekeepers and, through them, top management, continually pressured for speed, accuracy, segregation, and obsequiousness. In the Jones system, the frequent, systematic directing and inspecting raised the pressure for labor accuracy and punctuality and imposed steadier, moderate pressure on speed. On the other hand, the Jones system lightened pressure for black subservience. Because the steady, higher pressure for speed and accuracy did not rankle maids and porters, increased pressure in the form of more firings and other punishments did not result. Instead, management relied on inducements to secure extra effort and friendly work relations. The Jones system continually generated inducements: constant friendliness, regular rewards and praise, and help with work or problems whenever needed.

Inducements, which continually renewed belief in management legitimacy, also provided a more systematic barrier to challenges than did the McGrady system's firings. The 1969 union drive can be interpreted as an error of the board: the board always hesitated to follow Jones's recommendations for raises so essential inducements lagged.

I conclude that management's continual pressure on frontline speed and accuracy and also its continual generation of inducements were essential attributes of the Jones system.

Outcomes of the system. Under Jones cooperation prevailed and the hospital shone. But costs of housekeeping services marched upward, since non-monetary incentives increased labor intensity by a finite amount. Market competition led to a reduction in the housekeeping workforce at the end of the Jones period and focused management's attention far from workers' welfare.

The Rutman System

On the Frontline

Leatha Sprague speaks. Sprague started work as a maid at Children's in 1974. She had grown up on a South Carolina farm, married, moved to Hudson, and raised eight children. Money being tight, she worked part-time washing silver in a hotel, laundering at a hospial, and then cleaning a lawyer's home. When her youngest could stay alone after school, she applied for a full-time job at Children's.

Sprague's views on work and workplace relations have much in common with Hawkins's and Baylor's views. Sprague is proud of her cleaning abilities; she is an eager student. She believes in working cooperatively--she was one of the maids on the evening shift who sometimes stayed to finish up. As a negotiating team member and a shop steward, she has asserted workers' rights to just treatment and a voice in workplace affairs.

At the time Sprague was hired, Jones had been gone for several years. Yet she entered a labor system identical to the one Baylor found in the late sixties. Then Rutman became department head and, in Sprague's words:

> It was just like hell broke loose. It was like changing over from non-war to war.

Many features in Rutman's environmental services department closely resembled their counterparts in the Jones system: the authority structure, the division of labor between men and women, the procedures and equipment for cleaning, and the formality of progressive discipline. But the dynamics of bossing, inspecting, evaluating, rewarding and punishing were transformed.[51]

Rutman, a large, dark-skinned man from Alabama, immediately let everyone know he intended to be in charge. Brandon Rankey, the administrator who replaced Jones, kept his distance from environmental services affairs. Rutman exploited Rankey's inaccessibility:

> [Rutman] always said that he was running it [the department], you know. I knowed that he wasn't running it. I knowed that it belongs to Rankey and Gilchrist [the medical director] and Canary [chief of the medical staff], but I didn't know who was his boss before you got to Rankey, Gilchrist, and Canary. I didn't even know [the assistant administrator] was over Mr. Rutman until we was moving into the new hospital.[52]

Egged on by Rutman, the assistant department heads and supervisors bossed all the time, barking orders, hovering, and hounding the aides and assistants. The evening shift supervisor, Clinton Chisholm, was the worst of the lot. He seldom spoke with common courtesy, let alone warmth, and pressured workers from the moment they punched in to the moment they punched out.

> . . . The pressure that we began to get was: "You can't be late!" "You have to stop taking your breaks when you want to; you can only take breaks when we want you to take breaks." The other pressure was supervisor standing over the top of you from time to time. Once Mr. Chisholm came to be supervisor you couldn't ever go to the bathroom and come out what he wasn't standing side the bathroom door.

> After he was come supervisor we would have dinner at 5:30 in the afternoon; it was our lunchtime. . . . He would come . . . into the dining room where we were. He would stand outside the dining room door and we would be on our break. And he would stand there and watch his watch, and watch his time, until Ms. Franklin, Ms. Newsome, and myself would push our chairs back from the table. Then he would walk away from the windows looking into the dining room.[53]

Inspecting, still closely linked to bossing, also turned contentious.

> Now take this thing: [Chisholm] and me got to arguing one night over cleaning a sink. He stood there and argued with me that I didn't clean that sink and I knew I cleaned it. Then I turned around and asked him how did he know; how could he argue with me that the sink hadn't been cleaned when I had knowed that I had cleaned the sink? . . .
>
> And he says, "My school that I went to always told me that if you rub your hand over the sink, you would always get Ajax if it had been cleaned." . . .
>
> I says, "And if you rub your hand over that sink and you get Ajax, it is not clean." . . . We had a big argument over that. . . .
>
> At that time he had a guy he had made group leader. His name was Fred Cherry. He called Cherry in there where I was and he said to Cherry, "I want you to hear me talk to Mrs. Sprague." . . . (You need a second opinion [a witness] and what they would do is get the supervisor and the group leader to stick with one another when you had nobody to stick with you.) So the group leader and the supervisor came in and we was discussing over the sink. Cherry, naturally, as being group leader, he agreed with Mr. Chisholm.
>
> I said, "I'm not thinking about Children's, Mr. Chisholm. One, I did it. I'm not going to do it again."
>
> So we left it that way. I got wrote up [received a written warning], but I cared less.

After this incident Chisholm told Sprague--who is stout--he would make her personnel file "as fat as you are." A written warning in her personnel file was a step towards termination. Sprague became a target: she filled two diaries recording her run-ins with Chisholm.

Promotions followed the department head's whimsy, which seldom corresponded to work performance, qualifications, or seniority. For example, Rutman hired Chisholm as an environmental assistant and quickly made him a supervisor, not even trying him out as a group leader. Rutman hired assistant department heads who had no experience in housekeeping and little in supervising.[54]

After the union was voted in, Chisholm stopped harrassing Sprague. Soon an assistant department head encouraged her to become a group leader on the midnight shift. Sprague had advocated the union and suspected Rutman meant to quiet her by making her a straw boss. She took the position but the intricacies of favoritism soon caught her up:

> The supervisor was dating a girl on my shift and he felt that this girl did not have to take breaks when the other girls took breaks. He felt that she did not have to get up off of her break time at the time that the others got up. When I would walk around through the area, she would not be finished her working in the morning. I would go in and help her to finish, but I told her that she would have to finish because I knowed that area, I had worked it myself. It was not a over-workload that she could not finish it. She couldn't lay around with the supervisor for two or three hours per night and finish it--she couldn't do it.
>
> . . . [O]ne morning I was upstairs in radiology and I was checking [her] work, which was not completed. [The assistant department head and the supervisor] came up there where I were and they told me that I shouldn't of not been up there--I wasn't supposed to go in radiology. When I was made group leader I was told, as a supervisor, it was my privilege to go anywhere in that hospital--anything need to be did or see about.
>
> So [the assistant department head said], "Mrs. Sprague, I'm gonna write you up."
>
> I says, "Write me up? For what?"
>
> "For being in radiology and you wasn't supposed to be up there, right?"

> "I didn't know I wasn't supposed to be up there." . . . I thought it was my duty to go up and check the girls' work every morning. I found out they didn't want me behind this girl at all. . . . He wrote me up. I refused to sign [the disciplinary form].

Although she liked the group leader job, Sprague resigned from it and returned to the evening shift and Chisholm's harrassment. She informed Rutman that a problem with the supervisor caused her resignation but he never asked to hear her version of the incident.[55]

Adding to Sprague's account.

Origin and duration of the Rutman system. By the end of 1970 Jones and Barnes were gone. Administrator Rankey introduced hospital-wide changes that laid the foundation for the Rutman system. But the new heads of housekeeping who had been schooled in the Jones system ran the department as before. A department head hired from outside the hospital did not transform the Jones system either.

In 1974 top management selected Rutman, a midde level manager in another department, to head housekeeping. Rutman knew nothing about housekeeping, so assistant heads Henderson and Hawkins (who were passed over at promotion time) taught their boss his job. The Rutman system reached full force after Henderson and Hawkins retired. It withstood challenges until the union grievance procedure gave workers a chance to protect themselves.[56]

Hospital-wide changes. Top management's demands placed new constraints on department heads in the early 1970s. The attrition program pared down the workforce: top management encouraged workers to retire or resign, and a department head could not replace departing workers until her or his department's workforce fell to a pre-set level.

Top management also began sending department heads and supervisors to supervisory skills programs in the early 1970s. And it built Children's "personnel program"--management's term for wages, benefits, and gimmicks to keep workers happy--to match those of other area hospitals. Management raised wages several times, added a floating holiday, sponsored a better pension plan, and formed an advisory council of frontline workers and department heads.[57]

Omissions and discrepancies. Seventy-two aides, assistants, and group leaders (99 percent of them black) staffed the department in 1977, down from ninety-three in 1970. The reduction occured before Rutman became department head, but he exacerbated the shortage by waiting several months to fill any position that came vacant. Two assistant department heads still worked in environmental services, and the number of supervisors did not change greatly.[58]

Workers on the day shift described other aspects of bossing in the Rutman system. Supervisors did not explain new duties or procedures, they just ordered. They broke up workers' conversations. They rarely helped out and they sometimes gave new hires extra-heavy workloads. A supervisor might assign a time-consuming task at the end of the shift (when she or he could have assigned it hours earlier) and tell the worker to stay and do it or leave for good. Or a supervisor might override standard procedures. Baylor gave this example:

> . . . I've been there fourteen years and if I'm not doing it right I wouldn't have never been there that long. Now they come and they tell you . . . Like maybe you're going to just wash a bathroom floor with stripper, they tell you how to use this. You shouldn't ever mop a bathroom floor with stripper but this is what they have us doing now. . . .

> There are two sides to each bathroom door that comes in. You put a [caution] sign and you're on this side; a person could walk in on the other side. They could fall and break their neck because that floor, it is made out of marble and it's slick as an onion. Sometime we even slip while doing this.
>
> So in order to do this you have to go on and put it down. And you know it's wrong. You know that's wrong. So to be there, you just have to go on and do these things.
>
> Before we used to have all types of films telling us about how to clean certain objects, how to do this, how to do that--and the safe way. . . . But now safety is completely out of the hospital. You just have to do what they tell you, "Do" regardless of whether it's safe or not. Or you show them the book or you tell them about the films that you've seen about how to do such and such a thing and they'll tell you, "Do it this way if you want to be here." . . . Al Rutman himself have told me that.[59]

Baylor's example is revealing. A 1977 environmental services booklet listed the aide's and assistant's job description (a hodge-podge list of rooms, situations, and tasks) and twelve cleaning techniques. The bathroom cleaning technique said a bathroom floor should be scrubbed with half-strength stripper once a week. Rutman neglected to explain the change in technique. What's more, he refused to consider workers' encounters with its drawbacks.[60]

When management added the third shift (on which Sprague became a group leader), almost all intermediate outputs of environmental services were produced around the clock. Rutman periodically reshuffled duties among shifts, as his predecessors had done. One question nagged all department heads: How can we get the night shift to complete its work"?[61]

Supplies proliferated. The department heads purchased disposable cloths for wiping and dusting, and detergents designed to clean

specific materials or to kill specific contaminants. They discontinued fogging in the isolation rooms. Frontline workers disagreed on the effectiveness and toxicity of the new products.[62]

Rutman stopped naming a "Maid or Porter of the Month," saying that workers already received plenty of vacation. Department heads and supervisors rarely praised, thanked, or even said "Good morning" to aides and assistants. They punished for petty infractions or for made-up infractions: it seemed as if everyone in the department grew a thick personnel file--even workers with a perfect record going back years. And they fired left and right: during the twelve months ending in June 1978, thirteen aides and assistants lost their jobs--15 percent of the frontline workforce. Management built up paper cases in the files of some. Management did not have to justify the firing of new hires on probation, who probably made up half of the total fired.[63]

The department heads and supervisors invented new, non-sanctioned punishments that used their discretion to boss, inspect, assign extra chores, require overtime, switch shifts, and order "unsatisfactory" work redone. For example, after an aide won a grievance over an unjustified suspension, she lost her weekdays-only position and was put on the night shift. It was almost impossible for her to make new arrangements for child care. Workers identifed a common pattern: a supervisor would concentrate on one worker for several days at a time, give unreasonable orders until the worker was provoked, and then issue a warning, suspension, or termination.[64]

The Rutman system trained new hires the same way as the Jones system. Periodic meetings to review cleaning techniques continued.

All supervisors were sent to supervisory skills seminars, and the assistant department heads also attended classes on institutional cleaning. Supervisory training ostensibly taught standard ways to boss, inspect, evaluate, reward, and punish, but supervisors' on-the-job training conflicted with the classes. Rutman ordered them to hound workers and threatened to punish them if they did not.[65]

Frontline feelings and reactions. The aides' and assistants' 1978 petition to top management revealed how wrong they thought the system and how greatly it upset them. Hounding supervisors irritated workers, peremptory orders demeaned them, and unjustified punishments enraged them. Aides and assistants believed Rutman's authority was illegitimate, ultimately because he treated them meanly but also because he violated top management policies that they generally viewed as legitimate. Assistant department head Hawkins was also troubled by the Rutman system.[66]

Workers' reactions to the system generated several trends in labor speed, accuracy, and deportment. On the one hand, workers tended to arrive on time, work as ordered, and feign respect for the supervisors and department heads. On the other hand, workers who usually made an extra effort became demoralized and worked only enough to keep their jobs. Baylor, for one, stopped volunteering to do extra chores.[67]

Aides and assistants under the fairer and friendlier supervisors maintained group ties, worked as best they could, and enjoyed helping children get well. But more and more workers felt their rights trampled and, individually, they struck back. Some refused assignments

or argued with their supervisors. One aide took three days of sick leave instead of one after learning that a doctor must certify her one-day illness. She had few previous absences and top management policy required a doctor's slip only for three or more sick days. She was angry about being forced to act "like a child" as well as about being harassed. Another aide contested a denied promotion through top management's grievance procedure--with no results. Workers clued in new hires about the nastiest supervisors and the normal workload. They talked about finding new jobs; a number actually quit.[68]

From its inception the system aroused organized opposition, which Rutman's reprisals only strengthened. Aides and assistants first went to top management because Rutman's practices violated top management's policies, and because workers knew Jones would have immediately set Rutman straight. Baylor recalled:

> When we first, when Mr. Rutman came and we were getting some difficulties, we tried to talk to [Rankey]. We went to his office and he told us that we would have to make an appointment to see him. . . . We told him that we felt like if his time's too valuable that maybe sometime that evening or the next day or the day after, because a problem had arisen where it affected everybody in housekeeping. We still didn't get into his doors.
>
> And then when the next week came, we didn't talk to him. We talked to his assistant, which was Mayes, Mr. Mayes. He listened to what we had to say and he told us that he would get right down to it and he'd find out the problems.
>
> And the only time that you would find out anything was, like, you stopped him in the hall and you'll say, "Mr. Mayes, what about such and such a thing? You remember you were supposed to ask?"
>
> He'd say, "I'm still working on that project. I'll get back to you." And that was it.

After fruitless appeals to top management, more workers concluded their best defense lay with a union. The notion that a union could raise pay and benefits had not died after the 1969 election, but even when the attrition program slashed the workforce, most housekeeping workers believed they did not need a union. Loyalty to Jones lessened every year as older workers retired and as outrage at the Rutman system piled onto dissatisfaction with pay. When approached by organizers from Local 1000 of the Building and Service Workers Union in early 1975, a few environmental aides and assistants signed representation cards right away. More signed in the summer and two assistants volunteered to be union observers at the election.[69]

In 1975 Local 1000 tried to organize all service and maintenance workers, and top management mounted an equally broad anti-union campaign. Administrator Rankey sent a letter to every worker's home that reminded of benefits the hospital had "given" and warned of headaches a union could bring. In environmental services, Rutman stuck with harrassment, write-ups, suspensions, and firings. Supervisor Chisholm told workers a union would do them no good. The day of the election, one environmental assistant who volunteered as a union observer was told he could not observe because the department was under-staffed. The department did excuse the other volunteer from duty in order for him to observe, but then his supervisor ordered him to mop up a grease spot in front of the polls. Local 1000 lost the vote by a two to one margin.[70]

In the 1977 union drive, aides and assistants eagerly signed cards and several joined the organizing committee. Management opposed the union with the same tactics it used in 1975. This time workers in

the service and maintenance bargaining unit (made up primarily of frontline workers in the dietary, environmental health services, laundry, and maintenance and engineering departments) voted overwhelmingly for the union. Several environmental services workers sat on the negotiating team, and frontliners in the department formed the backbone of the local at Children's[71]

The Logic of the Rutman System

Management objectives and constraints. Cost-cutting overshadowed all other management objectives during the Rutman years. In the late 1960s and early 1970s, Children's steadily lost doctors and patients to suburban hospitals. More than ever, top management believed medical accumulation to be its strongest weapon in the market battle. The board decided to go ahead with a futuristic building in a "better" neighborhood, but construction of the new hospital took twice as long as planned. In the meantime, rennovation of the old plant continued. Thus operating deficits reached new heights at the same time capital needs ballooned, and cost-cutting seemed imperative.[72]

Medical accumulation and cost-cutting took priority for administrator Rankey, too, except when a union threat loomed. Housekeeping services had to be produced, but Rankey put low unit costs before high quality. Aides and assistants had to be stopped from unionizing, but as long as agitation did not get out of hand, he showed no interest in them or their problems. He enforced the attrition and budget directives, which ensured that objectives of top management became objectives of the department heads. Despite Rutman's dearth of housekeeping

experience, Rankey approved his promotion; despite Rutman's abuse of authority, Rankey upheld him. Rankey effectively denounced management responsibility for outcomes that Jones had elevated to management objectives, that is, for a labor system marked by cooperation and justice.

The singleminded aim of top management fit neatly with Rutman's obsession to dictate behavior in environmental services. Rutman chose assistants who went along with his goal. The objectives of the department heads assumed significance in this context because they could use the too-small budget and staff to justify their actions.[73]

Operating the system. The Rutman system differed from the Jones system in three general ways. First, the department employed a smaller workforce. Second, supervisors bossed workers and inspected output more frequently and capriciously, but pitched in less often. Third, the system favored negative over positive incentives. Negative incentives included bossing in a nasty manner; write-ups, suspensions, firings, and other official punishments for real or made-up infractions; withholding sick leave and other non-sanctioned punishments; and use of the directing and inspecting functions to punish.

Reaching management's new objectives. Workforce reduction increased average floorspace per worker and thus the average labor speed (at a constant accuracy) necessary to maintain constant quantity and quality of housekeeping services.

Hounding tended to increase labor speed and to give the supervisors and department heads, rather than standard procedures, the final

say. To keep supervisors off their backs, aides and assistants usually obeyed when supervisors assigned job after job, dictated procedures, constantly checked progress, and ordered them on and off breaks.

Negative incentives put teeth in supervisors' commands, which helped increase labor speed and consolidated Rutman's power. Afraid of the consequences of refusing commands, aides and assistants obeyed unreasonable orders and demands for higher speed. Harassment and unjustified punishments made frontline workers mistrust supervisors and intimidated both groups, which kept them from joining to oppose the department heads.

At the same time, hounding and negative incentives generated opposite tendencies in labor intensity and deportment. Demoralized, angry workers who normally labored above the minimum speed and accuracy cut back. High quit and fire rates led to a greater number of inexperienced workers, which tended to reduce average accuracy. Workers' deep resentment destroyed the legitimacy of the department heads' authority, eroded the legitimacy of top management's authority, and brought strength and momentum to the union cause.[74]

Management manipulated negative and positive incentives to combat union challenges and to sustain labor intensity. Rutman relied on negative incentives to meet both objectives, pushing supervisors to harass and punish until the degree of intimidation sufficed. Top management toyed with some positive incentives, raising wages and benefits and touting the pension plan, employee advisory council, and personnel procedures. Negative incentives formed the hidden half of top management's strategy to cut costs and stop unionization because top

management fully supported the Rutman system and therefore complied in harassment and intimidation. By maintaining the trappings of a grievance procedure and progressive discipline, however, top management disassociated itself from the Rutman system.

I argued above that cutting costs assumed greater importance for management in the Rutman than the Jones period, that preventing unionization continued to be emphasized, and that building department head power became an objective. I conclude that the differences between the systems are primarily explained by management's intent to increase labor speed, and secondarily by the department heads' intent, backed by top management, to summon total obedience from frontline workers.

Pressuring for frontline speed, accuracy, and obedience. I argued that in the Jones system management continually pressured for speed and accuracy, but also induced effort and desired deportment by considering workers' goals and problems. In place of inducements, the Rutman system substituted peremptory bossing and harassment, write-ups, suspensions, and terminations. To raise labor intensity and eliminate challenges, the system churned them out double-time. Hounding and negative incentives directly pressured many workers and created a high-stress workplace for the rest. Top management's wage increases and other incentives brought no relief.

I conclude that management's continual, high pressure on labor speed, accuracy, and deportment was an essential attribute of the Rutman system.[75]

Outcomes of the system. In spite of hounding and negative incentives, the low morale and large workloads resulted in a dirtier hospital. And pressure created an almost-tangible tension between department heads and frontline workers-- a tension the system could not contain.

Long-Term Tendencies in the Labor System

Four kinds of modifications to the Rutman system also appeared as modifications to one or both of the earlier labor systems: (1) combination of duties to eliminate positions; (2) more variety in cleaning supplies; (3) new techniques for isolation cleaning; and (4) redivision of labor among shifts. I contend that changes of the first kind were intended to increase labor intensity. Changes in the next two categories are explained by several factors: constant-intensity innovations, adjustments to changes in relative input prices, and physician-mandated changes in output. The last kind of change concealed two opposing trends. On the one hand, reshuffling duties among shifts represented widening use of a potential constant-intensity innovation. On the other hand, it retrenched from the innovation to increase labor intensity.

Eliminating jobs. In all three systems management from time to time cut positions (without changing procedures, equipment, or supplies) by splitting up the duties among workers who remained. The 1971 attrition program was an extreme case. Unless accuracy was sacrificed, average labor speed increased in order that the quantity of housekeeping services did not drop. After each such cut, all management functions came

into play to generate the pressure necessary to boost labor speed. (In the Jones system, inducements also helped.)

Supplies and isolation techniques. During the Jones and Rutman periods, the department heads purchased new brands of supplies and special-purpose cleaning products. More rooms received isolation cleaning. Management introduced and later discontinued fogging of isolation rooms.

Several developments in the hospital industry and in Children's input markets interacted to cause the tendencies. In the late 1950s and 1960s, industry journals publicized the problem of infections spreading from patient to patient. Articles also discussed the effectiveness and cost of various cleaning techniques. Doctors isolated a larger proportion of cases at Children's. Hospital associations adopted stricter sanitation standards. During these same years, firms that produced cleaning supplies introduced many new products, and promoted them by such marketing strategies as advertizing, price-cutting, and in-person sales pitches.[76]

Although factors unrelated to labor speed, accuracy, and deportment were the primary causes of the changes in supplies and isolation technique, these tendencies did not greatly alter the labor process from the workers' perspective. Introduction of the fogging technique, which made one step of cleaning automatic, was the only change that affected workers' control over tools. Fogging was discontinued, most likely as a cost-cutting measure.

Day duties and night duties. In all three labor systems, management periodically rescheduled duties and personnel among shifts. As hospital output increased, it became necessary to have some housekeeping services performed around the clock. However some redivisions of labor among shifts were made to realize constant-intensity innovations. For example, by cleaning administrative offices, clinics, and other areas of the hospital when they were closed, and by stripping and waxing corridors during least-trafficked hours, maids and porters could work more systematicaly. In addition, the noise and fumes bothered fewer people.[77]

Management found it difficult to maintain labor intensity on the lower-staffed shifts. (Usually this was a night shift but for a time it was an evening shift.) In fact, it was sometimes imposible to generate sufficient pressure to gain from redividing duties among shifts. Most redivisions beefed up supervision at night. Several redivisions involved switching duties back to the day shift to insure they would be done.

Postscript: After 1977

Workers at Children's voted to have Local 1000 represent them in May 1977. The hospital moved to new quarters one month later. In June 1978 the union and top management signed a contract. The events set in motion conflicting forces: Rutman accentuated pressure-generating features of the system while workers tried to end the abuses. The time is too short and the strength of the union too uncertain to predict the outcome. But a few comments are in order.

In design and interior, the new hospital differed greatly from the old. Long hallways separated the building into isolated quadrants. Total floorspace and individual patient rooms were larger. Carpets covered most floors.

The number of positions in environmental services did not increase in proportion with the area, which meant more work for each aide and assistant.[78]

The department heads tried to increase labor intensity and break the union by using all the negative incentives at their disposal. But workers now had a legal means--the union grievance procedure--to fight violations of the contract. And the contract adopted top management's personnel procedures practically unaltered.

The grievance procedure was no guarantor of justice. It worked imperfectly and required effort and endurance. It could never recreate the friendly, respectful atmosphere of the Jones system. Rutman tried to outmaneuver the union, yet, case by case, the most flagrant violations were curbed.[79]

Workers did not view the union as their only tool for challenge. In spite of top management's inattention to their problems, which made a mockery of the personnel policies, they still believed that if they only notified the right manager, something would be done. Six months after the contract was signed, they sent the petition denouncing Rutman to top management.

An anecdote Sprague told about working on the night shift reveals the logic of the Rutman system at the new hospital and the

potential of worker challenges, channeled through the grievance procedure, to crack it.

> When we first went into the new hospital, they had us cleaning the escalators while the escalators was running. On one morning . . . I was dressed ready to leave to come home and I was dressed, in addition, excellent, because I wasn't coming straight home. On my way out of the door, after we had hit the time clock, my supervisor walks up and says, "You all cannot leave until the escalator is clean."
>
> We all wanted to know what had happened all night long that nobody had cleaned the escalators. So he says, "I don't know but Mr. Rutman say the escalators got to be cleaned. They got to be cleaned before you all leave."
>
> And I says to him, I says, "I cannot clean this [escalator]."
>
> "I don't care. Mr. Rutman says it's got to be cleaned and you either clean it or you go home, and don't come back."
>
> I went and I cleaned the escalators . . . I cleaned the escalators with a sixty dollar suit on, and heels. . . . When I finished cleaning the escalators about eight o'clock, in the place of me going where I had to go, I went downtown to the labor board. I spent about three hours down to the labor board trying to find who to talk to about this problem. I just went from room to room and room to room and room to room. So I finally found out who to talk to and I talked to 'em. They went in and investigated. And they found that the escalator was being cleaned running. They called Mr. Rutman and they went in and they talked to him about it.
>
> . . . I never was asked to clean 'em any more. But I was punished for it. Where everybody else left work at seven o'clock, I couldn't hit the time clock until 7:30. I would go to the office after everybody else left. I would go to the office and everybody else hit the time clock at seven o'clock and left and went home. I had to stay 'til 7:30. I did it for a week; I did it for a week.
>
> After I did it a week, they had a meeting in the office. . . . Mr. Rutman says, "No more cleaning the escalators. Somebody went down and reported it to the labor board. But I doesn't care; I'm running this."
>
> So the supervisor . . . on the midnight shift, says, "Nobody didn't do it but Mrs. Sprague." I didn't say anything: I didn't say I did it and I didn't say I didn't do it. I didn't say anything but he repeated it at least twice. "Nobody did it but Mrs. Sprague."

Mr. Rutman says, "Yes, well, I don't know who did it. I don't care who did it. But I'm running this."

I hit the time clock about for six days. Seven-thirty, everybody else was gone. I was sitting around the office where I had to wait 'til 7:30 and everybody else was gone at seven. . . . My supervisor actually came out and said it: "You reported it to the labor board. You stay here."

I filed a grievance with Local 1000 and they were made [to] pay overtime. For every half an hour I stayed, overtime pay. Beautiful. It was quick. It was knocked off right away. I did it; I could of had did it earlier than the six days. But let 'em run on and see how far they go. . . .

The union office had been well-notified that I was doing it. I asked them to go in and pull my time card. I give 'em the name of the other people who was working with me, to pull their time cards. [The union business agent] went in, pulled my time card. He pulled everybody else's time card who I had gave him names who worked on the shift with me. My time card was 7:30; everybody else's was seven. But I got paid overtime; I got paid overtime. I had a nice looking check that week.

C H A P T E R I X

THE NONPROFIT HOSPITAL INDUSTRY

Introduction

Can one conclude that the dynamic of labor system development at Children's Charity Hospital was typical for nonprofit hospitals? If so, what is the significance of the finding? I answer "yes" to the first question after reviewing secondary sources and conventional economic studies. The major trends in Children's labor system developed about the same time in labor systems at most short-term, nonprofit hospitals in the United States, and explanations I hypothesized for changes at Children's extend to the corresponding changes at other nonprofits. The primary thesis of this paper, briefly stated on page 1 above, holds for the short-term, nonprofit hospital industry.

The finding signifies that certain basic forces shaping the labor systems in profit-making firms during the twentieth century--forces that underlay perpetual coercion and conflict in the labor process--also emerged as basic forces shaping labor systems of short-term, nonprofit hospitals. The finding is important because hospital workers make up a significant and growing part of the private sector workforce; to understand what determines the quality of their labor process is a task of economic concern.

Postwar Trends in Employment and the Labor System

Growth of Employment

Between 1946 and 1978 the number of workers in short-term, private hospitals increased fivefold while the total number in private, nonagricultural establishments doubled. As table 12 shows, by 1978 employment in hospitals surpassed employment in mining and in the primary metal, the electrical equipment, and the motor vehicles industries.[1]

Nonprofit hospitals are the core of the short-term, private hospital industry. In 1978, as table 13 shows, nonprofits comprised 82 percent of short-term, private hospitals, housed 89 percent of the beds, and employed 92 percent of the workers. The number of nonprofit hospitals increased during the postwar period while the number of for-profit (or 'investor-owned') hospitals declined, and the nonprofits' share of beds and employed remained almost constant. The average number of beds in nonprofit hospitals was greater than in for-profits, and nonprofits tended to be the innovators in medical care, that is, in each production period they generally had a higher service intensity of output.

Changes in Management Functions

Secondary sources describing hospital labor processes during the 1947 to 1978 period revealed that the significant developments at Children's occurred throughout the industry. I define the 'nonprofit hospital labor system' in a given production period as the prevailing

TABLE 12

PRIVATE SECTOR EMPLOYMENT IN SELECTED INDUSTRIES
(In Thousands)

Year	Total Nonagricultural	Mining	Primary Metal Industries	Electrical Equipment and Supplies	Motor Vehicles and Equipment	Short-Term Hospitals[a]
1946	36,080	862	1279[b]	919	655	397
1950	39,196	901	1247	991	816	514
1960	45,881	712	1231	1467	724	840
1970	58,325	623	1260	1871	799	1484
1978	70,970	851	1213	2000	997	2092

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, United States, 1909-75, Bulletin 1312-10 (Washington, D.C.: Government Printing Office, 1976); U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1980 (Washington, D.C.: Government Printing Office, 1980); American Hospital Association, Hospital Statistics: 1979 Edition (Chicago: AHA, 1979).

NOTE: Employment figures except for hospitals are annual averages of monthly employment in establishments in the standard industrial classification (1967) of persons who received pay for any part of the pay period that included the twelfth of the month. Hospital employment figures are full-time equivalent personnel, which equals one-half the number of part-time plus the number of full-time personnel on the payroll as of September 30.

[a]Includes nonprofit and for-profit private hospitals.

[b]This figure is for 1947.

TABLE 13

NONPROFIT HOSPITALS IN THE
PRIVATE, SHORT-TERM HOSPITAL INDUSTRY

Year	Percent of Hospitals	Percent of Beds	Percent of Employment
1946	71	89	91
1950	70	89	92
1960	79	92	94
1970	82	92	93
1978	82	89	92

SOURCE: American Hospital Association, Hospital Statistics: 1979 Edition, (Chicago: AHA, 1979).

structures and practices for directing, inspecting, evaluating, rewarding, punishing, and training. Of course, in any production period hospitals displayed a diversity of labor system features, and years passed between the time the first hospital incorporated a new feature and the time the majority adopted it. Every hospital exhibited a unique timing and pattern of development, but in any production period the degree of formalization, specialization, and stratification of skills and authority in the labor process generally correlated with the number of beds, an urban location, the presence of a union, and affiliation with a medical school.[2]

Trends in the industry labor system can be inferred from three kinds of secondary sources: studies that investigated a sample of hospitals, histories of specific changes at one hospital, and articles that prescribed desirable characteristics for a department or hospital-wide. Case histories and prescriptive pieces appeared frequently in industry journals.[3]

Articles and books published in the late 1940s and early 1950s documented that most hospital managements performed in an informal, idiosyncratic manner. The administrator, director, or superintendent was expected to know basic technical details of the labor process in all departments. In 1954 only 20 percent of hospitals employed an assistant administrator, although a differently-titled employee helped with administrative duties. During these years hospital managements perceived that increases in the number and variety of intermediate outputs were straining old structures and practices and more recent, make-shift adaptations.[4]

The directing function. In the 1950s, journal articles reported the advantages of formalization and instructed managements about standardizing and codifying procedures, lines of authority, and job descriptions. Evidently formal directives were a new idea to most hospital managements. Articles about hotel services departments usually encouraged managements to install simple machines as well. Studies of average departmental staffs in different types and sizes of hospitals began to appear.[5]

Tasks of supervisors did not receive much attention until the 1960s when a number of articles explained simple budgeting. Training, rather than formal directives, was usually offered as the solution to the widely-felt "problem" of supervision. Greater concern with supervision is consistent with the hypothesis that during the 1960s managements stratified authority, causing organizational uncoupling. Articles about planning production in the 1960s described more complicated and theoretically-precise industrial engineering techniques. Articles emphasized type B constant-intensity innovations and greater mechanization. Although in previous decades wide gaps in status and pay marked hospital workforces, in the 1960s managements began to methodically stratify and specialize jobs.[6]

Writers in the 1970s presented extremely complicated industrial engineering techniques for replanning directives. They seemed to assume that formal directives were widely used. However, several writers expressed doubt that labor processes in hospitals could be as thoroughly routinized as in manufacturing. Many articles discussed contracting out the management of departments to profit-making firms.

During the entire postwar period, observers marveled at the increasing number and variety of intermediate outputs and the increasing variety of supplies and equipment available as inputs. These changes, along with the rapid rise in the average number of workers per bed and extensive stratification and specialization by job skill, transformed the division of labor in hospitals.[7]

The inspecting and evaluating function. Guidelines for projecting department budgets appeared in the early 1960s but not until the late 1960s and the 1970s did writers stress using budgets to evaluate department heads in order to contain costs. This implies that managements often did not enforce budget projections after they established budgeting procedures.[8]

Articles that described techniques for selecting divisions of labor and standard procedures often advised managements to set standards and collect statistics on inputs and outputs in order to measure conformance with written directives. Early articles were optimistic about the cost reductions that inspecting could bring but several articles in the 1970s noted difficulties in measuring output quality and quantity.[9]

In the 1960s, articles and case studies suggested that managements form personnel departments and plan standard recruiting and screening procedures. Some writers warned that conflicts of interest might surface between a personnel department and the department heads. The notion of "objective" written evaluations and did not gain popularity until the late 1960s and the 1970s.[10]

The rewarding and punishing function. Discussion of rewards in the late 1950s and the 1960s centered on methods for determining "fair" relative wages. Most methods involved writing job descriptions. As in the case of formal directives, it seems relatively few hospitals actually set wages methodically until the late 1960s. The practice became widespread in the 1970s.[11]

A few articles in the 1960s advocated formal personnel policies and grievance procedures but even at the end of the decade it was common to find hospitals with neither. Writers discussed desirable rewarding policies, such as promoting from within and other positive incentives. However, they rarely made specific recommendations about punishing procedures. In the 1960s and 1970s workers complained that many supervisors rewarded and punished unfairly and inconsistently, whether policies were written or not.[12]

The training function. Articles about individual departments in the 1950s, 1960s, and 1970s mentioned on-the-job training for frontline workers. By the late 1960s on-the-job training was common for most jobs and the subject received relatively little coverage in the industry journals.[13]

In the 1960s, as the complexity of most hospital departments increased, writers voiced a fear that schools were not training enough people for new "paramedical" jobs, that is, skilled jobs in primary services and medical support services departments. One writer suggested that hospitals and colleges work together to develop appropriate curricula. A few writers in the late 1960s and the 1970s advised

hospital managements to create more job ladders and on-the-job training programs for skilled positions; the extent to which managements heeded the advice is unknown.[14]

A flurry of articles in the late 1950s and early 1960s discussed the need to train department heads in supervisory skills and criticized the absence of such training at most hospitals. Later articles included lower-level supervisors in the group that needed training and described seminars, workshops, and other programs that hospitals used to teach supervisor skills. A number of colleges established graduate programs in hospital administration during the period; twenty-four programs existed in 1966.[15]

Management Objectives and Constraints

My review of economic studies of nonprofit hospitals (see chapter 2 above) showed that some conventional economists made assumptions similar to mine about the location of decision-making power in nonprofit hospitals, the market constraints that decision makers faced, and the objectives that decision makers pursued. Such agreement implies Children's was representative in these respects. Specifically, it can be assumed that in a typical nonprofit hospital the board of directors (sometimes called the board of trustees) and its hired managers exercised authority over the accumulation process and that market competition, in the form it took among nonprofit hospitals, compelled management to pursue medical accumulation and to minimize costs of intermediate outputs in every production period. The secondary sources mentioned in the preceeding section of this chapter

supported these assumptions. A perusal of the annual guide and statistical issues of Hospitals, the Journal of the American Hospital Association, verifies that substantial medical accumulation occurred throughout the industry between 1947 and 1978.[16]

The secondary sources showed that the typical top management (a) viewed responding to market conditions as a necessity and (b) saw four possibilities for cost cutting, possibilities I assumed were available to Children's top management: installing constant-intensity innovations, substituting relatively cheaper inputs, increasing labor speed, and increasing labor accuracy.[17]

The secondary sources also revealed that the typical top management at times modified its labor system to contain frontline challenges.[18]

Conclusion

Changes in the nonprofit hospital labor system between 1947 and 1978 are explained by the same factors as the corresponding changes in Children's labor system. The evolution of the labor system depended not only on market constraints and technical properties of labor and non-labor inputs, but also on top managements' desire to increase and maintain labor speed and accuracy and to contain frontline challenges, many of which arose in response to particular features of the labor system. The conclusion is supported by the rationales that secondary sources offered for various changes.

Standardization of directives and mechanization to an extent represented type A constant-intensity innovations. Stratification and

extreme specialization of skills, which sometimes accompanied mechanization and sometimes occurred independently, reduced the average wage by substituting low-paid for high-paid workers--a type B constant-intensity innovation.

Stratification of authority, training for supervisors, formalization of procedures, budgeting, and collection of production statistics were primarily intended to increase labor speed and accuracy, and mechanization was often partly aimed to this end.

Improvements in wages and benefits and establishment and enforcement of standard evaluating, rewarding, and punishing, and grievance procedures primarily occurred to counter actual or potential union challenges.

Furthermore, the evolution of the nonprofit hospital labor system exhibited the same dynamic that Edwards and Braverman demonstrated for the labor system of the modern, core corporation. The typical hospital management made some changes in the labor system solely to increase control over labor in the sense of dictating worker activities more precisely, increasing labor speed, increasing labor accuracy, or eliciting deportment that supported high speed and accuracy. Management made some changes solely to control workers in the sense of containing frontline challenges. And management evaluated the effect of all changes, including adaptations to market conditions and installations of new machines, on its control of labor.

The dynamic of labor system development in the nonprofit hospital ressembled that in the for-profit firm, despite the absense of a profit motive, because (a) the institution's decision makers

constituted a small subset of all those engaged in the labor process and (b) the decision makers faced market constraints and held personal goals that induced them to pursue medical accumulation and so continually seek to expand the institution's capital. This suggests a broader generalization: in any nonprofit institution in the United States for which the above two conditions hold, similar forces will shape the institution's labor system. And, one might expect, similar outcomes will result: the labor process will take little account of personal economic goals of the majority of people involved and, indeed, unless they protest, will often thwart their goals.

NOTES

Chapter 1

[1]See below page 4 for a definition of 'organization of production' and page 74 for a precise definition of 'labor system.' Table 4 on page 67 lists the departments in each of the four categories.

[2]The terms 'labor power' and 'labor' are used in the usual Marxian sense, that is, 'labor power' is the human capacity to do work (which people sell when they hire out to an employer) and 'labor' is the actual doing of work. See Karl Marx, Capital, ed. Frederick Engels, trans. Samuel Moore and Edward Aveling, trans. from 3d German ed., 3 vols. (New York: International Publishers, 1967), 1:167, 177.

[3]See below page 72 for definitions of top management, department heads, and frontline workers.

[4]"Original Certificate of Incorporation," in the "Charter and By-Laws; Children's Charity Hospital of Hudson," January 1949. Unless otherwise indicated, unpublished sources are from the archives of Children's Charity Hospital, Hudson.

[5]The hospital by-laws in 1949 stated, for example,

> Article 14. The Board of Directors shall have the charge, control, management, and custody of the property, funds and affairs of the Corporation, and provide suitable buildings and appliances for the Hospital, buy property, and direct all other investments. . . . . .
>
> Article 31. . . .[A]n Executive Committee . . . shall have the immediate supervision and control of the affairs of the Hospital, subject to the direction of the Board. The Executive Committee shall examine and approve all Hospital bills, after they have been certified by the Director, or in his absence the assistant director. . . . . .
>
> Article 38. The Director shall have the general, immediate care of the Hospital, subject to the wishes of the Board of Directors or its Executive Committee, and in medical matters, of the Medical Staff; shall have the control of the nurses, employees and patients; shall provide the food and stores needed; keep records of the patients, expenses, stores, linen, etc.; shall engage, contract with and discharge the necesary employees and servants--all subject to the approval of the Board of Directors or its Executive Committee;

> shall in general be responsible for the neatness, order and general efficiency and economy of the Hospital and shall render a monthly report to the Executive Committee; shall hold office during the pleasure of the Board.
> . . . . . .

"Charter and By-Laws; Children's Charity Hospital of Hudson," January 1949.

[6]Annual Report of Children's Charity Hospital, 1964, 1980. Figures for other years are not available but hospital records and other documents substantiate this. Throughout the period, a larger portion of children who were treated as outpatients than who were admitted lived in the city.

[7]Children's Charity Hospital admitted children up to thirteen years of age until 1957 when the limit rose to 19 years. I assume that trends in the population growth of these age groups resembled the trends in the total population.

[8]This relationship resulted from the social and economic development of Hudson, which won't be discussed here but which (as in other U.S. cities) exhibited racial divisions that fortified divisions among and within income strata, and vice versa.

[9]The study also noted that between 1957 and 1963, more new physicians set up practices in the suburbs than in the central city. Cecil G. Sheps, M.D., M.P.H., and Associates and MacNicol, Johnson & Co., "Study of Medical Care, Education, Research and Fiscal Management at Children's Charity Hospital of Hudson," 1965, (Xerox).

[10]Ibid.

[11]I assume that the number of beds adequately shows trends in market size and market shares. The number of pediatric beds in Hudson area hospitals imperfectly shows market shares because rates of occupancy of pediatric beds (that is, the proportion of the beds that, on average during a year, had patients in them) varied among the hospitals. Generally, the number of pediatric beds in a hospital changed as the occupancy rate for its pediatric beds changed, but with a several-year lag. Comparing total pediatric patient days per year in different hospitals would give a closer picture of relative market shares in that year but, because the medical need for hospitalization varied erratically from year to year, annual figures for the area total pediatric patient days for years at intervals apart might give an inaccurate picture of the trend in market size.

[12]The American Hospital Association defined adjusted patient days as

> . . .an aggregate figure reflecting the number of days of inpatient care plus an estimate of the volume of outpatient services,

expressed in units equivalent to an inpatient day in level of effort. Derived by multiplying the number of outpatient visits by the ratio of outpatient revenue per outpatient visit to inpatient revenue per inpatient day, producing the number of equivalent patient days attributable to outpatient services. The number of inpatient days plus the number of equivalent patient days equals the number of adjusted patient days.

See Hospitals, the Journal of the American Hospital Association 45 (August 1, 1971, pt. 2): 446 (Hereafter cited as Hospitals, JAHA).

The available data did not show the inpatient and outpatient components of Children's Charity Hospital's revenues. This paper estimates adjusted days at Children's using the assumption that one inpatient day is equivalent to five outpatient visits. This approximates the average equivalency ratio for all nonfederal short-term general hospitals in the United States during the second half of the period, as shown in appendix B.

Chapter 2

[1]Karen P. Davis, "A Theory of Economic Behavior in Non-Profit, Private Hospitals," (Ph.D. dissertation, Rice University, 1969), p. 160, in reference to Paul J. Feldstein, An Empirical Investigation of the Marginal Cost of Hospital Services (Chicago: University of Chicago, 1961). S. J. Axlerod assessed the conference in The Economics of Health and Medical Care, The University of Michigan, (Ann Arbor, Michigan: The University of Michigan, 1964), p. v. The conference was jointly sponsored by the Bureau of Public Health Economics in the School of Public Health and the Department of Economics at the University of Michigan.

[2]Martin J. Feldstein noted in 1971 that "most discussions of hospital cost inflation have focused on how inflation has occurred (e.g., more staff, higher wages, more equipment, etc.) rather than why it has," in "Hospital Cost Inflation: A Study of Nonprofit Price Dynamics," American Economic Review 61 (December 1971):853.

[3]Discussions of the multiproduct nature of hospital output appear in Martin J. Feldstein, Economic Analysis for Health Service Efficiency (Amsterdam: North-Holland Publishing Co., 1967) and in Judith R. Lave and Lester B. Lave, "Hospital Cost Functions," American Economic Review 60 (June 1970):379-80.

[4]Joseph P. Newhouse, "Toward a Theory of Nonprofit Institutions: An Economic Model of a Hospital," American Economic Review 60 (March 1970):64-75; Feldstein, Health Service Efficiency; Feldstein, "Hospital Cost Inflation," pp. 853-72; Mark Pauly and Michael Redisch, "The Not-for-Profit Hospital as a Physicians' Cooperative," American Economic Review 63 (March 1973):87-99; Carson W. Bays, "Prospective Payment and Hospital Efficiency," Quarterly Review of Economics and Business 20 (Spring 1980):76-86.

[5]Bays, "Prospective Payment," p. 84n.

[6]Richard A. Elnicki, "Hospital Productivity, Service Intensity, and Costs," Health Services Research 9 (Winter 1974):271-73; David P. Baron, "A Method for the Measurement of Hospital Output, Service Intensity, and Costs," Northwestern University, 1975, pp. 1, 6, 12 (Xeroxed).

[7]Melvin W. Reder, "Some Problems in the Economics of Hospitals," American Economic Review 55 (May 1965):477-79; Davis, "A Theory of Economic Behavior," ch. 3; Karen Davis, "Economic Theories of Behavior in Nonprofit, Private Hospitals," Economics and Business Bulletin 24 (Winter 1972):5; Maw Lin Lee, "A Conspicuous Consumption Theory of Hospital Behavior," Southern Economic Journal 38 (July 1971):49.

[8]Newhouse, "Nonprofit Institutions," p. 66.

[9]Edward M. Kaitz, Pricing Policy and Cost Behavior in the Hospital Industry (New York: Frederick A. Praeger, Inc., 1978):78.

[10]Ibid., p. 64.

[11]Davis, "A Theory of Economic Behavior," ch. 4.

[12]John P. McDaniel, "Baltimore's Lutheran Hospital: Case History of the Role for Survival of an Inner-City Hospital," Urban Health 8 (July/August 1979):32.

[13]Reder, "Some Problems," p. 477; Kaitz, Pricing Policy, p. 66; Lave and Lave, "Hospital Cost Functions," p. 381n.; Lee, "Conspicuous Consumption", p. 54; David P. Baron, "A Study of Hospital Cost Inflation," The Journal of Human Resources 9 (Winter 1974):35.

[14]Lave and Lave, "Hospital Cost Functions," p. 381n.; David S. Salkever, "Competition Among Hospitals," in Competition in the Health Care Sector: Past, Present, and Future, Proceedings of a conference sponsored by the Bureau of Economics, Federal Trade Commission, ed. Warren Greenberg, (Germantown, Md.: Aspen Systems Corp., 1978), pp. 150-55, 157.

[15]Davis, "A Theory of Economic Behavior," ch. 2; Newhouse, "Nonprofit Institutions;" p. 66; Feldstein, "Hospital Cost Inflation," p. 854; Pauly and Redisch, "Physicians' Cooperative," p. 89.

[16]Lee, "Conspicuous Consumption," p. 54; Salkever, "Competition," pp. 151-53; Davis, "A Theory of Economic Behavior," pp. 10-16; Feldstein, "Hospital Cost Inflation," pp. 862-66.

[17]Reder, "Some Problems," p. 477; Lave and Lave, "Hospital Cost Functions," p. 382; Davis, "Theories of Behavior," p. 4; Salkever, "Competition," p. 157.

[18]H. M. Somers and A. R. Somers, Doctors, Patients and Health Insurance (Washington, D.C.: Brookings Institution, 1961), pp. 413-421; W. J. McNerney et al., Hospital and Medical Economics, 2 vols. (Chicago: Hospital Research and Educational Trust, 1962), 2:1297-1309.

[19]K. G. Bauer, "Hospital Rate Setting--This Way to Salvation?" Millibank Memorial Fund Quarterly 55 (Winter 1977):117. She cites as her source U.S. Department of Health, Education and Welfare, "An Analysis of State and Regional Health Regulations," Health Resource Studies, HRA No. 75-611:2-4.

[20]Reder, "Some Problems," p. 479; Davis, "Economic Theories," p. 4; Newhouse, "Nonprofit Institutions," p. 64; Lee, "Conspicuous Consumption," pp. 48-50; Bays, "Prospective Payment," pp. 77-78.

[21]R. G. Evans, "'Behavioral' Cost Functions for Hospitals," Canadian Journal of Economics 4 (May 1971):198-200; Pauly and Redisch, "Physicians' Cooperative," p. 88.

[22]Baron, "Measurement of Hospital Output," pp. 6-11.

[23]Davis, "Economic Theories," p. 4. The quote is from Reder, "Some Problems."

[24]Davis, "Economic Theories," p. 4.

[25]Feldstein, "Hospital Cost Inflation," p. 857; Newhouse, "Nonprofit Institutions," p. 64; Bays, "Prospective Payment," pp. 77-78; Reder, "Some Problems," p. 479.

[26]Feldstein, "Hospital Cost Inflation," pp. 856-57; Newhouse, "Nonprofit Institutions," pp. 64-67; Bays, "Prospective Payment," p. 78; Reder, "Some Problems," p. 477.

[27]Pauly and Redisch, "Physicians' Cooperative," pp. 88-90.

[28]Lee, "Conspicuous Consumption," pp. 48-50.

[29]Lave and Lave, "Hospital Cost Functions," pp. 379-98; Evans, "'Behavioral' Cost Functions," pp. 198-216.

[30]Davis, "Economic Theories," pp. 5-12.

[31]Ronald G. Ehrenberg, "Organizational Control and the Economic Efficiency of Hospitals: The Production of Nursing Services," Journal of Human Resources 9 (Winter 1974):21-32.

[32]Davis, "Economic Theories," pp. 3, 6.

[33]The firm is the entity in the conventional microeconomic model that turns inputs of labor, raw materials, and intermediate products into outputs of consumption goods and services and other intermediate products. The model assumes that for every bundle of inputs (x_{i1}, x_{i2},...x_{in}) that can produce some output Q, there exists a technically-determined maximum amount, Q*, that can be produced by a particular organization of production (that is, a process of physical and chemical manipulations of the x_{ij}s.

An input bundle with a maximum output Q* is defined to be 'technically efficient' if no other input bundle (a) can produce Q* and (b) contains no more of any input and less of at least one input. The model assumes that technical efficiency depends solely on the development of human scientific and technological knowledge; the firm's production choices stand independent of social and legal structures. The corresponding organizations of production can be thought of as a set of blueprints, one for every technically-efficient input bundle.

In order to mathematically analyze a firm's input and output possibilities, microeconomists almost always assume that technically-efficient input bundles are neatly related to output. They postulate a production function, usually a continuous single-valued function with continuous first- and second-order partial derivatives, to depict the maximum output the firm can obtain from inputs.

Because the production function is continuous and differentiable, output increases in a regular fashion as small amounts of any one input are added to the original bundle and as the physical and chemical manipulations are correspondingly reorganized; the output gained by adding $\bar{x}_j$ of input j is called the 'marginal physical product' of $\bar{x}_j$.

The firm's goal is to maximize profits. In the simplest case it is assumed to sell output and purchase inputs in perfectly competitive markets. The firm's "problem" of organizing production does indeed have a precise "solution" under these circumstances: it will use the input bundle such that for each input, the marginal physical product of the last unit of the input times the output price of exactly equals the input price. The mathematical properties of the production function guarantee that an input bundle exists for which the equalities hold; the firm employes the corresponding organization of production.

The firm will change the organization of production only in response to a change in an input price, demand, or the production function. Sample production functions and constraints are specified and the mathematics worked out in, for example, James M. Henderson and Richard E. Quandt, Microeconomic Theory: A Mathematical Approach (New York: McGraw-Hill Book Co., 1971), pp. 52-69; and E. Malinvaud, Lectures on Microeconomic Theory, trans. Mrs. A. Silvey (Amsterdam: North Holland Publishing Co., 1972), pp. 43-59.

[34]Lave and Lave, "Hospital Cost Functions"; Evans, "'Behavioral' Cost Functions."

[35]Feldstein, Health Service Efficiency, ch. 4; Feldstein, "Hospital Cost Inflation," pp. 853-72.

[36]Bays, "Prospective Payment," pp. 76-86.

[37]Davis, "Economic Theories," pp. 1-13.

[38]Pauly and Redisch, "Physicians' Cooperative," pp. 87-99.

[39]Davis, "A Theory of Economic Behavior," ch. 4. Baron in "A Study of Inflation" and Carson W. Bays in "Specification Error in the Estimation of Hospital Cost Functions," Review of Economics and Statistics 62 (May 1980):302-5, used the same approach.

[40]Carson W. Bays, "Relative Cost and Efficiency among Short Term General Hospitals," (Ph.D. dissertation, University of Michigan, 1975), ch. 2.

[41]Oliver E. Williamson, Markets and Hierachies: Analysis and Antitrust Implications (New York: The Free Press, A Division of Macmillan Publishing Co., 1975).

[42]Williamson cited several lines of economic thought built on this perception. Ibid., pp. 1, 2, 8.

[43]The discussion of Williamson's argument is based on Markets and Hierarchies, ch. 4.

[44]Ibid., pp. xi, xii and ch. 4. His examples of features that increased labor intensity encompassed a relatively small number of evaluating, rewarding, punishing, and training activites.

Chapter 3

[1]Examples of non-critical writings are Leland Jenks, "Early Phases of the Management Movement," Administrative Science Quarterly 5 (December 1960):421-47; Joseph A. Litterer, "Systematic Management: The Search for Order and Integration," Business History Review 35 (Winter 1961):461-76; Joseph A. Litterer, "Systematic Management: Design for Organizational Recoupling in American Manufacturing Firms," Business History Review 37 (Winter 1963):369-91; Daniel Nelson, "Scientific Management, Systematic Management, and Labor, 1880-1915," Business History Review 48 (Winter 1974):479-500.

[2]Where they can be intuitively understood, I use the terms and concepts of my labor systems model in this chapter. I define the terms in chapters 4 and 5. Harry Braverman, Labor and Monopoly Capital: The Degredation of Work in the Twentieth Century (New York: Monthly Review Press, 1974); Richard Edwards, Contested Terrain: The Transformation of the Workplace in the Twentieth Century (New York: Basic Books, 1979). Other political economy writings include Stephen A. Marglin, "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production," The Review of Radical Political Economics 6 (Summer 1974):60-112; Katherine Stone, "The Origins of Job Structures in the Steel Industry," The Review of Radical Political Economics 6 (Summer 1974):113-73; Francesca Maltese, "Notes for a Study of the Automobile Industry," in Labor Market Segmentation, ed. Richard C. Edwards, Michael Reich, and David Gordon (Lexington, Mass.: D. C. Heath, 1975); Rosalyn Baxandall et al., "Technology, the Labor Process, and the Working Class," Monthly Review 28 (July-August 1976); Joan Greenbaum, "In the Name of Efficiency: A Study of Change in Data Processing Work," (Ph.D. dissertation, Antioch University, 1977).

[3]Braverman's and Edwards's books did much more than this, but my review is limited to their theories of labor systems. Braverman described monopoly capitalism as follows: "Monopoly capital had its beginnings, it is generally agreed, in the last two or three decades of the nineteenth century. It was then that the concentration and centralization of capital, in the form of the early trusts, cartels, and other forms of combination, began to asset itself; . . . Monopoly capitalism thus embrances the increase of monopolistic organizations within each capitalist country, the internationalization of capital, the international division of labor, imperialism, the world market and the world movement of capital, and changes in the structure of state power." Braverman, Labor and Monopoly Capital, p. 252.

[4]Ibid.

[5]Ibid., p. 252.

[6]Ibid., pp. 59-64.

[7]Ibid., pp. 59-64.

[8]Ibid., p. 66, 79, 90.

[9]Ibid., pp. 257-69, 312.

[10]Braverman tended to lump together the history of management theory and the history of management practices, as if capitalists implemented Taylor's system simultaneous with publication of his works. Ibid., pp. 85-121.

[11]Ibid.

[12]Ibid., pp. 86, 267, 293-356.

[13]Ibid., pp. 86-87, 139-45.

[14]Braverman said, "The concept of control adopted by modern management requires that every activity in production have its several parallel activities in the management center: each must be devised, precalculated, tested, laid out, assigned and ordered, checked and inspected, and recorded throughout its duration and upon completion. Ibid., pp. 125, 306; Litterer, "Organizational Recoupling," pp. 376-383; Nelson, "Scientific Management," pp. 480-81.

[15]Litterer, "Order and Integration," pp. 469-74; Litterer, "Organizational Recoupling," pp. 372-73, 385-87; Nelson, "Scientific Management," pp. 480-81.

[16]Braverman attributed the classification scheme to a professor at the Harvard Business School, James R. Bright. Braverman, Labor and Monopoly Capital, pp. 155-67, 213-23.

[17]Braverman did not define mechanical control by a particular number on Bright's scale or by any other measure. However it is apparent that mechanical control presupposed at least a moderate level of mechanization. Ibid., pp. 155-67, 191.

[18]Ibid., pp. 185-223, 324-38.

[19]Ibid.

[20]Ibid., pp. 109, 201-6, 326-47.

[21]Stone, "Job Structures in the Steel Industry."

[22]Ibid.

[23]See below pp. 84-85. Edwards, Contested Terrain, pp. 11-22, 112-29.

[24]Ibid., pp. 11-22, 48-67, 126-29, 142-52.

[25]Not all firms in monopoly capitalism used structural control; simple control often persisted in firms outside the oligopolistic core of the economy. Ibid., pp. 18-21, 34-35.

[26]Ibid., pp. 23-27.

[27]Ibid., pp. 25-26, 31.

[28]Ibid., pp. 27-30.

[29]Ibid., pp. 30-34.

[30]Ibid., pp. 39-65, 91-110.

[31]Litterer and Nelson did not discuss possible changes in labor intensity. Litterer, "Order and Integration," pp. 469-74; Litterer, "Organizational Recoupling," pp. 372-73, 385-87; Nelson, "Scientific Management," pp. 480-81; Edwards, Contested Terrain, pp. 53-55.

[32]Edwards, Contested Terrain, pp. 112-21.

[33]Ibid., pp. 116-19.

[34]Ibid., pp. 117-20.

[35]Ibid., pp. 127-29.

[36]Ibid., pp. 131-39, 149.

[37]Ibid., pp. 139, 142-52.

[38]Ibid., pp. 131-32, 137, 145, 147-52.

[39]Ibid., p. 12, 90, 127.

[40]Ibid., p. 131.

[41]Stratification and specialization in the division of labor, and installation of production and inventory control systems and cost accounting surely should be included as elements of the formalization of the directing function. Edwards found that very few firms adopted the entire Taylorian system so he dated the beginnings of structural control much later than Braverman dated systematic control.

Chapter 4

[1]Table 4 also lists an intermediate output that might be used for each department to measure service intensity. This model abstracts from the fact that use of a few intermediate outputs declined, for example, "therapeutic" x-rays, one method of treating ringworm in the early years of the period. To adapt this model for statistical analysis it would be necessary to devise a means to allow ordinal measurement of service intensity. Such precision is unnecessary for my purposes. See note 12 chapter 1 for the definition of adjusted patient day.

[2]The medical staff also preferred a larger to a smaller amount of research and teaching. For evidence see, in addition to chapter 2, Charles A. Saunders, "Technology and the Hospital" in U.S. Department of Health, Education, and Welfare, Public Health Service, Medical Technology: The Culprit behind Health Care Costs?, Proceedings of the 1977 Sun Valley Forum on National Health, ed. by Stuart H. Altman and Robert Blendon (Washington, D.C.: U.S. Government Printing Office, 1975), pp. 57-76; and Harvey V. Finebery, "Clinical Chemistries: The High Cost of Low-Cost Diagnostic Tests," in the same book, pp. 144-65.

[3]A number of medical departments and other facilities affiliated with the hospital functioned independently of the managers at Children's. A unit of output from these facilities in time period t can be designated $I_t = (y_{1t}, y_{2t}, \ldots, y_{nt})$ where n equals the number of independent facilities and y_{jt}, for $j = 1, \ldots, n$, is defined similarly to x_{it}. The maximum service intensity of output from the independent departments and facilities is assumed to increase as their number and complexity increase.

[4]No heavy manufacturing took place in Hudson; it was a city of service industries and its few unions were weak. Conflict played a secondary role in setting area wage rates during most of the period. See "Hudson Area Workers: A Beginning Analysis and Research Guide," Source Collective (Eve Geissinger, Bob Lederer, Ken Packman), (Hudson: Alliance for Labor & Community Action, May 1977).

[5]The board abolished the top management position of superintendent in 1947 when it created that of director.

[6]The assumptions drastically simplify several phenomena. Standards for acceptable and ideal pay, progress, working conditions, and work relationships varied from person to person. More important, standards varied systematically across racial, sexual, and income categories because socialization differed across categories. In addition, standards were not fixed. Experiences in production and actions by coworkers and "superiors" could modify an individual's standards.

The paper abstracts from these difficulties because of the limits of the study and my academic background, and formulates personal economic goals as imprecise, relative, and changeable standards. Herbert Gintis summarized several academic investigations that bear on the issues in "The Nature of the Labor Exchange and the Theory of Capitalist Production," March 1975 (Xeroxed), pp. 41-47.

[7]The racial, sexual, and educational makeup of the three groups differed. Objectives in production probably differed across the groups even before relative authority entered the picture. Again, I make a rather unsatisfactory assumption: that differences in production objectives arose solely from unequal authority. See Gintis, "Labor Exchange," pp. 41-47.

[8]See Karl Marx, Capital, chapter 24.

[9]In fact, input prices rose throughout the period and top management tried to keep unit costs from rising proportionately. Stated precisely, top management's objective was to reduce unit costs deflated for input price increases, or to contain the increase in unit costs, but I will usually speak of this simply as reducing unit costs.

[10]In reality, pricing at Children's occurred in a rather "shot in the dark" fashion. Top management did not know the unit costs of intermediate outputs with any accuracy until near the end of the period; outsiders were not privy to cost information until Medicaid reports became mandatory. Also, if Children's followed common practice, the markup over costs probabily differed across departments. (See Davis, "Theories of Behavior," p. 2, and Kaitz, Pricing Policy, pp. 38, 39). However, the evidence shows (a) top management was concerned that large price increases would cause adverse publicity; (b) top management watched prices at other area hospitals; and (c) in the 1950s top management considered 80 percent occupancy the breakeven point. My assumptions capture the basic elements of pricing decisions.

[11]Michael J. Piore interviewed over 150 engineers and personnel and industrial relations specialists in manufacturing firms. He noted in "The Impact of the Labor Market upon the Design and Selection of Productive Techniques within the Manufacturing Plant," Quarterly Journal of Economics 82 (November 1968):602-604, that he found it impossible in practice to distinguish between an innovation that applied a new invention and one that simply introduced a pre-existing technique to a particular plant. This paper similarly uses the term 'innovation' to refer to all changes in production arrangement at the hospital.

[12]In Labor and Monopoly Capital, Braverman suggested that managements relied heavily on type B constant-intensity innovations. Cost reduction occurred if the wages for the new low-skilled positions were less, by a definite amount, than wages for the eliminated positions; the amount depended on the number of low-skilled positions necessary to

replace each high-skilled position and costs of necessary new supplies and equipment.

[13]"Statement of Income and Expenses, Month of December 1958."

[14]This discussion sidesteps the complex phenomenon of legitimacy: how it is established and how it is shaken. Gintis also discussed issues of legitimacy and summarized the findings of a number of researchers in "Labor Exchange," pp. 25-47.

[15]This discussion inadequately captures the situation in primary services departments where the department head derived income and status primarily as a physician rather than as a manager. These department heads enjoyed some independence from top management since they, as individuals, influenced demand. However, they also benefitted from medical accumulation.

[16]The production objectives (as well as the personal economic goals) I attribute to the three groups at Children's are, of course, simplifications. I believe the postulated objectives capture the main motives behind the decisions and behavior of people in the groups. One test of the simplifications is whether they illuminate why top management actions so frequently provoked frontline workers (and sometimes department heads) to "get by," look for other jobs, or react angrily.

[17]It is apparent that the concept of a labor system is very close to the 'system of control' developed by Richard Edwards in Contested Terrain.

[18]What I call the broad connotation of social relations of production is implied in the following well-known passage from Marx:

> In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. . . .At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or--this merely expresses the same thing in legal terms--with the property relations within the framework of which they have operated hitherto.

A Contribution to the Critique of Political Economy (New York: International Publishers, 1970), pp. 20-21.

[19]This is consistent with Marx's use of the same term and his alternative designations: productive forces, material forces of production, and instruments of production. See ibid., pp. 20, 21, 190, 201, 215.

[20]Floor nursing is designated a primary service department. While much of my analysis applies to the nursing department, a complete study of the department would examine its autonomy and its authority with regard to other departments. Nursing has a longer history than other non-physician hospital professions, nurses constituted the largest single occupation at the hospital; and during much of the period the head of nursing exercised authority somewhat independent of top management. For an analysis of the development of the nursing profession, see Kathleen Cannings and William Lazonik, "The Development of the Nursing Labor Force in the U.S.: A Basic Analysis," International Journal of Health Services 5 (Spring 1975):185-216.

[21]Terms are precisely defined in chapter 5.

Chapter 5

[1]Carol S. Brown pointed out that the turfs staked out by new organizations of health care "professionals" in addition to guidelines set by outside groups somewhat constrained the choice of a division of labor, but she suggests that hospitals often staffed below guidelines. Carol A. Brown "The Division of Laborers: Allied Health Professions," International Journal of Health Services 3 (1973):440.

[2]In a few cases the job ladders to higher skill levels also stepped to higher authority levels, but the authority structure evolved relatively independent of production skill considerations.

[3]'Standardizing' a task--whether it involves direct production by frontline workers or directing, inspecting, evaluating, rewarding, and punishing by department heads--means declaring one particular way of performing it to be the only acceptable way. 'Codifying' procedures means systematically recording the standard ways of doing them in an official policy.

[4]The union's name has also been changed.

[5]Prices fell for some potential inputs that were available in 1947 and for some that were first marketed after that year. It is likely that relative prices of some dropped sufficiently that their use can be partly explained as price-induced input substitutions. Changes made to substitute low for high-priced inputs often were confounded with the continual introduction of new inputs in conjunction with higher service intensity and with changes that brought constant-intensity innovation.

The lack of input price data makes it difficult to identify changes in the labor system that are primarily explained as price-induced input substitutions.

[6]The possibilities cannot be ruled out that top management also (a) accepted that curtailing expenditures would to some extent reduce output quality and quantity, or (b) believed that waste would be reduced.

[7]Racism undoubtably influenced the form of the divisions of labor and authority that top management chose as well as the allocation of blacks and whites into the structures, although I have no evidence of the specific ways this happened.

[8]The direct relationship between an administrator's vigilance in policing rules and the conformance of frontline workers' and department heads' behavior to them was also noted by John G. Kausch with respect to position control systems in "A Survey of the Operational

Practices of Hospital Administrations that Appear to be Associated with Low Costs," unpublished report submitted to the George Washington University in partial fulfillment of the course Health Care Administration 295 (September 1973).

[9]Writing personnel policies without taking steps to enforce them could alternatively be explained as a cosmetic action, a precaution against worker challenges.

Chapter 6

[1]DR Feb 1947; EC May 1947; AnRpt FVP 1947; AnRpt Dir 1947, 1949; AnRpt ChMS 1947; History of Children's Charity Hospital of Hudson, [1969], (Mimeographed). See page 336 for abbreviations in footnotes.

[2]Therefore the marginal cost of a hospital day on an unfilled ward was very low. EC May 1947; Edith Punch, Memorandum from the administrative secretary to the director, July 10, 1949.

[3]DR Jun 1947, Jun 1948; Elliott Tift, Jr., M.D. Memorandum to the board concerning reorganization, [October] 1947.

[4]Gifts that carried no restrictions on their use were accounted separately from gifts designated for buildings or equipment purchase. DR May 1947, Jun 1947.

[5]This pattern of reporting to the board by a hired top manager occurred after each succession in top management personnel. BOD Apr 1947.

[6]Among the 1940 standing committee were the finance, ways and means, building and grounds, and nurses' committees. "Handbook of the Children's Charity Hospital of Hudson," [1940]; Richard MacKensie, "Report of Study of the Children's Charity Hospital of Hudson," 1940 (hereafter cited as MacKensie report); EC Mar 1940; AR Dec 1961.

[7]EC Aug 1948, Oct 1948, Nov 1948; AnRpt FVP 1948.

[8]Records do not indicate whether the board or the director took the initiative in 1949 to redraw lines of authority. DR Mar 1947; EC Feb 1948, Jun 1948, Sep 1949; BOD Jun 1948; DH Jan 1949; AnRpt Adm 1949.

[9]The following equations illustrate, in accounting terms, the elements of annual net income:

$$\text{NET INCOME} = \text{OPERATING GAIN OR LOSS} + \text{GIFTS} + \text{INVESTMENT INCOME}$$

$$= [\text{OPERATING INCOME} - \text{EXPENSES}] + \text{GIFTS} + \text{INVESTMENT INCOME}$$

$$\text{OPERATING INCOME} = \left[\begin{array}{c}\text{AVERAGE DAILY}\\ \text{INPATIENT CHARGE}\end{array} \times \text{OUTPATIENT VISITS}\right]$$

$$+ \left[\begin{array}{c}\text{AVERAGE OUTPATIENT}\\ \text{CHARGE}\end{array} \times \text{OUTPATIENT VISITS}\right]$$

[10]Wage increases (discussed below) also prompted output price increases. In the 1950s top management's definition of free or charity care included hospital days rendered to (1) children whose parents could not afford the bills, (2) children whose parents did not pay the bills, and (3) children covered by area health departments because the government did not reimburse the full cost of hospital days or outpatient visits. EC Jan 1951; BOD Aug 1954; Jerome Burroughs, Memorandum from the president to the board concerning appointment of a special committee, [1954]; EC-BOD Apr 1956, Aug 1958; AnRpt Pres 1957; Board of directors, Resolution concerning payments for indigents, May 28, 1958; "Children's Charity Hospital Cites Rising Deficits," Hudson Post, December 2, 1958; Board of lady visitors, Minutes of a meeting, October 1959.

[11]If fund-raising is conceived as a quasi-production process, the board aimed to maximize (for a constant outlay) the total of unrestricted plus restricted gifts. DH Dec 1953; AnRpt Pres 1957; "Hospital Opens Drive to Finish Research Unit," Hudson Post, November 16, 1958; Ways and means committee of the board, Minutes of a meeting, January 16, 1958; R. B. Poppert, Memorandum from the president to the executive committee concerning finances, April 29, 1959; EC May 1959; Board of lady visitors, Minutes of a meeting, October 1959.

[12]EC Dec 1952; BOD Oct 1952, May 1954, May 1955, Jul 1955; Burroughs, Memorandum concerning special committee, [1954]; AR Jul 1954, Jul 1955; AnRpt Adm 1954; AnRpt Pres 1954, 1955; DH Nov 1957, AnRpt PhysCh 1957.

[13]The average annual occupancy rate, which equals (total inpatient days) divided by (maximum possible inpatient days) in a year, directly affects annual operating income (other factors held constant):

$$\text{OPERATING INCOME} = \left[\begin{matrix}\text{AVERAGE DAILY}\\ \text{INPATIENT CHARGE}\end{matrix} \times \text{BEDS} \times 365 \times \text{OCCUPANCY RATE}\right] + \left[\begin{matrix}\text{AVERAGE OUTPATIENT}\\ \text{CHARGE}\end{matrix} \times \text{OUTPATIENT VISITS}\right]$$

Children's top management reported to the American Hospital Association that it had 225 beds during most years between 1948 and 1962 although the number dropped in several years. Hospitals, JAHA, Guide issues 1949-1963. DH Oct 1952, Mar 1955, Jan 1957; BOD Jun 1954; Elliott Tift, Jr., M.D., Memorandum to the president concerning medical staff reorganization, June 23, 1954; EC Jul 1954; G. P. Graham & Company, letter from the auditor to the board, July 15, 1954.

[14]Tift, Memorandum concerning medical staff reorganization, June 23, 1954; AnRpt PhysCh 1956; AnRpt Pres 1957; History of Children's Charity Hospital, [1969].

[15]AnRpt PhysCh 1956, 1957; AnRpt Pres 1957; Poppert, Memorandum concerning finances, April 29, 1959; EC May 1959.

[16]AnRpt Pres 1947, 1948, 1949, 1950, 1951, 1952; AnRpt Dir 1947, 1948; AnRpt MDir 1949; AnRpt ChMS 1947, 1948, 1949, 1950, 1951, 1952; AnRpt Adm 1949.

[17]AR Jul 1954; EC Jul 1954, May 1959; AnRpt Pres 1954, 1955; BOD May 1955, Jul 1955; EC-BOD Jan 1956, Mar 1956; Children's Charity Hospital, "Balance Sheet as of December 31, 1958"; "Children's Charity Hospital Cites Rising Deficits," Hudson Post, December 2, 1958.

[18]AnRpt PhysCh 1957; BOD Feb 1959; DH Apr 1959; EC May 1959.

[19]The archives contained Sutton's recommendations but not the entire ninety-page report. EC-BOD Feb 1959, May 1959; American College of Hospital Administrators, Directory 1974 (Chicago: American College of Hospital Administrators, 1974); Harold Sutton, M.D., Recommendations, 1959, (Mimeographed, hereafter cited as Sutton recommendations); Harold Sutton, M.D., Letter to the president, September 19, 1959.

[20]A.B. Cash, Memoradum from the assistant treasurer to the board, [October] 1959; EC-BOD Oct 1959, Sep 1959; DH Oct 1959, Jan 1960, Mar 1960, May 1962; BOD Jan 1960, Feb 1960, Apr 1960, Mar 1961; EC Jun 1960, Apr 1961, Sep 1961.

[21]EC-BOD Nov 1959; BOD Jun 1960.

[22]MacKensie report; Board of directors, "Hattie Benson Upon Her Retirement as Superintendent of the Children's Charity Hospital of Hudson After 27 Years of Active Service--1920-1947, Inclusive," January 24, 1947.

[23]BOD Dec 1946, Apr 1947; DR May 1947, Jul 1947, Nov 1947, Apr 1948; AnRpt Dir 1948; DH Jan 1949; AnRpt Adm 1949.

[24]See table 4 page 67 for a list of departments in each of the four categories. "Payroll," October 1947; Ella Mae Hawkins, Interview in her apartment, Hudson, January 15 and February 16, 1981, (Hereafter cited as Hawkins interview); Harold Kelly, Interview in his home, Hudson, October 6, 1980.

[25]"Payroll" October 1947; DR Apr 1948; Hawkins interview; Kelly interview.

[26]Ibid.

[27]BOD May 1947; Tift, Memorandum concerning reorganization, [October] 1947; AnRpt Dir 1947; Punch, Memorandum to director, July 10, 1949.

[28]BOD Jun 1947; DR Jul 1947; Tift, Memorandum concerning reorganization, [October] 1947.

[29]Ibid.

[30]Tift, Memorandum concerning reorganization, [October] 1947; DR Nov 1948; AnRpt Dir 1948.

[31]DH Apr 1947; BOD May 1947; Tift, Memorandum concerning reorganization, [October] 1947; AnRpt FVP 1948; AnRpt Dir 1948.

[32]SR Feb 1946, Oct 1946; G.P. Graham & Company, letter from the auditor to the president, May 2, 1946; DR May 1947; Tift, Memorandum concerning reorganization, [October] 1947.

[33]DR May 1947, Nov 1947, Feb 1948, Mar 1948; DH Nov 1948, Jan 1949.

[34]MacKensie report; AnRpt Pres 1940; Report of the chief engineer, Scattered through archives, 1940-1945.

[35]No references to budgeting while Berkmeyer was administrator were found. DR May 1947, Nov 1947, Nov 1948; AnRpt Dir 1947.

[36]SR Feb 1946, Oct 1946; AnRpt Dir 1948; DH Jan 1949; AnRpt Adm 1949.

[37]AnRpt Adm 1950, 1953, 1954, 1955; A.B. Cash, Memorandum from the assistant treasurer, January 17, 1961.

[38]This eulogy alluded to a phenomenon that seldom appeared after 1947: the inseparability of a job and the person who performed it. The 1940 MacKensie report mentioned another case: "The administration is characterised by the energy and personality of Miss Benson, the Superintendent." The retirement and death of old timers opened the way for and made apparent the need for structures and procedures, which eroded traditional management patterns. AnRpt Adm 1952.

[39]AnRpt Adm 1952; DH Oct 1952, Nov 1952.

[40]AnRpt Pres 1954, 1955; AR Jul 1955, Dec 1955; BOD May 1955, Jul 1955; Kelly interview.

[41]DH Oct 1952, Dec 1953, Oct 1954, Oct 1956, Nov 1957, Jan 1958, Apr 1958.

[42]Ethyl Berkmeyer, Report to the board about a Children's Hospitals Executive Council meeting, June 13, 1957; DH May 1958.

[43]Several of Sutton's recommendations also implied that certain formal directives were not being followed. DH Apr 1952, Dec 1953, Jan 1954, Mar 1955, Oct 1956, Jan 1958, Nov 1958; Sutton recommendations.

[44]DR May 1947; Tift, Memorandum concerning reorganization, [October] 1947; Hawkins interview; Kelly interview.

[45]American Hospital Association, Hospital Accreditation References: 1964 Edition, (Chicago: American Hospital Association, 1964).

[46]DR May 1947; Tift, Memorandum concerning reorganization, [October] 1947.

[47]"Handbook of the Children's Charity Hospital of Hudson," [1940]; Elma Phillipson, Annual report of the director of social service, 1948.

[48]"Hospital Head Feted on Her 25th Anniversary," Hudson Post, October 19, 1945; DR Jul 1947; EC Mar 1953; DH Dec 1953; Hawkins interview.

[49]White Americans held fast to beliefs, rooted in slavery, that black Americans were less capable and worthy than themselves, and biased their institutions to treat blacks as subordinates. In 1947 virtually all U.S. social institutions exhibited and reinforced racism. (See Stokely Carmichael and Charles V. Hamilton, Black Power (New York: Random House, 1967) and Harold Baron, "Racial Domination in Advanced Capitalism: A Theory of Nationalism and Divisions in the Labor Market," in Labor Market Segmentation, ed. Richard C. Edwards, Michael Reich, and David Gordon (Lexington, Mass.: D. C. Heath, 1975) for discussion and analysis of racism in the U.S.) G. P. Graham & Company, Letter from the auditor to the chairman of the finance committee, August 10, 1946; Personal conversation with a unit clerk, July 1980; Hawkins interview.

[50]The hospital archives contain little evidence about usual criteria for favorable evaluations or about differences in practices among departments during the 1947 to 1962 period. Payroll reports state reasons that department heads gave for firing workers--that is, for evaluating them as unacceptable. This is discussd below. BOD Dec 1946; Gladys McGrady, Notes on tasks done November 29 and December 1, 1948; Leaflet for new employees stating rules and benefits, April 1952, (Mimeographed); Hawkins interview; Kelly interview.

[51]DH Mar 1952, Apr 1952, Nov 1955, Oct 1960, Apr 1963; AnRpt Adm 1952; Sutton recommendations.

[52]SR Feb 1946, Oct 1946; DR Jul 1947; AnRpt FVP 1947.

[53]MacKensie report.

[54]EC-BOD Jan 1956, Mar 1956; Chart of dietary department revenues and expenses for the year ending April 30, 1957.

[55]Department heads turned in data for the payroll reports and Punch compiled it. Understaffing and high turnover in the business offices meant that even the most essential records--of receipts, patient charges, and purchases--were usually days or months behind. G. P.

Graham & Company, Letter, August 10, 1946; Edith Punch, Memoranda from the administrative secretary, August and September 1948; EC Aug 1948, Oct 1948; AnRpt Dir 1948; AnRpt FVP 1948; Punch, Memorandum, July 10, 1949; "Yearly Report as of October 31, 1955--Personnel other than doctors or nurses," (hereafter cited as "Yearly Personnel Report, 1955"); DH Mar 1959; A.B. Cash, Report from the controller to the executive committee concerning accounting, January 17, 1961.

[56]G. P. Graham & Company, Letter, August 10, 1946; Elliott Tift, Jr., M.D., Letter to the board, June 22, 1948.

[57]The president questioned in 1947 whether other workers might want increases if the nurses received one; his expectations proved correct. G. P. Graham & Company, Letter, August 10, 1946; EC Sep 1947, Feb 1948, May 1948, Jun 1948; Tift, Letter, June 22, 1948.

[58]AnRpt Adm 1949; EC Sep 1949; AR Jun 1952, Nov 1955.

[59]EC Oct 1952; BOD Jul 1952, Jun 1954, Sep 1954; EC-BOD May 1956; AR Jul 1960; EC Dec 1960, Apr 1961.

[60]Sutton recommendations; DH Jan 1964, Sep 1964; Hawkins interview.

[61]G. P. Graham & Company, Letter, May 2, 1946; EC May 1946, Jan 1954, Jan 1959; BOD Dec 1951; EC-BOD Jun 1958; AR Aug 1958.

[62]It is probable that a forty-eight-hour workweek was the norm in the 1940s for low-skilled workers. Chapter 8 describes the incident that led to a forty-hour workweek in the housekeeping department. AnRpt Adm 1949; Leaflet for new employees stating rules and benefits, April 1952; DH Mar 1952, Dec 1953, Nov 1954; Sutton recommendations.

[63]SR Feb 1946, Oct 1946; DR Mar 1947, Jul 1947; AnRpt Dir 1948; AnRpt Adm 1949; DH Jan 1949; Sutton recommendations.

[64]BOD Dec 1946; DH Mar 1948, Sep 1958; Leaflet for new employees stating rules and benefits, April 1952.

[65]AnRpt Adm 1945; Hawkins interview; Kelly interview.

[66]"Payroll," Selected months October 1947 to August 1962; "Yearly Personnel Report, 1955."

[67]"Under the rose" means in private or in secret so the department head probably meant the maid was not married to the children's father. DH Mar 1952, Apr 1962, Nov 1955, Oct 1960, Apr 1963; "Payroll," Nov 1956; Sutton recommendations.

[68]DH Apr 1958, May 1958, May 1962.

[69]Evidence about training practices during this period is sparse. A woman who began as a housekeeping maid in 1955 received no training. (See chapter 8 below.) Top management singled out the costs of training as a component of the costs of turnover, which indicates that a large share of new hires received training. AnRpt Dir 1947; AnRpt Adm 1955.

[70]G. P. Graham & Company, Letter, May 2, 1946; DR Nov 1947.

[71]DH Oct 1947, Jan 1949, Mar 1952, Dec 1953, May 1955, Nov 1955, Mar 1956, Oct 1956; Memorandum to department heads about work schedules, December 6, 1950.

[72]DR Nov 1948; DH Jun 1952, Apr 1953, Dec 1953, Mar 1955, Mar 1959, Sep 1959.

[73]American Hospital Association, Letter to the administrator, February 26, 1948; Annual report of the president of the board of lady visitors, 1950; DH May 1955, Sep 1958.

[74]Sutton's recommendations corroborated and supplemented the account of the labor system drawn from other sources. For example, the recommendation "that the authority and responsibility and the essential functions of each assistant administrator and department head be defined in writing and made available for reference to each individual involved" confirmed that no accurate job descriptions existed for them. Sutton recommendations.

[75]"Non-educational" patients were those with common and therefore medically-uninteresting illnesses. Ibid.

[76]Ibid.

[77]Evidently all workers did not earn four days of sick leave per year as hospital leaflets stated. Sutton made no specific recommendations about the form that punishing procedures should take. Ibid.

[78]Sutton recommendations; Sutton, Letter, September 19, 1959.

[79]DH Sep 1959, Nov 1959, May 1962; EC-BOD Oct 1959.

[80]Jones had to ask department heads for memoranda on policies and procedures in December 1962. DH Mar 1960, Dec 1962.

[81]G. P. Graham & Company to Ethyl Berkmeyer, Letter from the auditor, September 22, 1959; DH Mar 1960, Oct 1960, Apr 1963.

[82]BOD Aug 1959; DH Feb 1960, Mar 1960, Oct 1960, Nov 1960; EC Aug 1960, Oct 1964; Charles Gilchrist, M.D., Memorandum to the president about benefits, April 6, 1966.

Chapter 7

[1]BOD Jun 1962; DH Jul 1962, Jan 1963; AnRpt Dir 1962; AnRpt Pres 1962.

[2]DH Jul 1962, Oct 1962, Feb 1963; AnRpt Dir 1962, 1964.

[3]Ronald Jones and A. B. Cash, Memorandum from the administrator and the controller to the executive committee, [January] 1963.

[4]EC Jan 1963; Jones and Cash, Memorandum, [January] 1963; [Ronald Jones], "Some Reflections on the Financial Situation," [1963]; Horatio Hunt, Memorandum from the president to the board about demand and finances, May 26, 1965; EC Nov 1966.

[5][Jones], "Some Reflections on the Financial Situation"; DH Feb 1963, Feb 1967; BOD Feb 1964.

[6]Hunt, Memorandum about demand and finances, May 26, 1965; EC Nov 1966, Sep 1969; DH Feb 1967, Apr 1968; BOD Sep 1967, Oct 1967; E. D. Goldstein Associates Inc., "Community Needs, Program and Functional Considerations for Long Range Development, November 1967 (hereafter cited as Goldstein report).

[7]It is possible that certain top managers had decided a new building was necessary and brought in a consultant to make their case; EC Nov 1966, May 1967, Sep 1969; Goldstein report.

[8]EC Mar 1964, Apr 1964, Aug 1966; [Jones], "Some Reflections on the Financial Situation"; DH Sep 1964; A. B. Cash, Memorandum from the controller to the board, December 1964; Horatio Hunt, Memorandum from the president to the executive committee, June 20, 1966; Horatio Hunt, Memorandum from the president to the board, September 21, 1970; "Children's Chatter," July 27, 1979.

[9]DH Feb 1963, Sep 1964, Dec 1964, Mar 1965; EC Apr 1963, Jun 1963; DR Jun 1963; [Jones], "Some Reflections on the Financial Situation"; AnRpt Adm 1963; BOD Feb 1964, Mar 1965; Congressional Record (Senate) 110(1964):pages withheld; Congressional Record (Appendix) 111(1965):pages withheld; Report of the director and administrator to the board, January 1965, May 1965; Hunt, Memorandum about demand and finances, May 26, 1965.

[10]EC Mar 1964, Aug 1966.

[11]DH May 1966, Dec 1966; EC May 1967, Dec 1967; BOD Sep 1967; George Hansen, Memorandum from the controller concerning Comprehensive Health Care program, 1967; Preliminary financial statements and auditor's report, June 30, 1976 and 1977.

[12]EC May 1967, Sep 1969, Apr 1971; History of Children's Charity Hospital, [1969], (Mimeographed).

[13]DH Dec 1964, Mar 1965, Oct 1965; "Commentary on Financial Situation--August 1969"; EC Sep 1969.

[14]AR Jan 1963, Feb 1963, Jun 1963, Mar 1964; AnRpt Adm 1963; EC Oct 1964; DH Feb 1965, May 1967.

[15]DH Oct 1964; Dec 1964; Mar 1965; MacNicol, Johnson & Co., "Fiscal Management Study of the Children's Charity Hospital of Hudson," Part 2 of Cecil G. Sheps,M.D., M.P.H. and Associates and MacNicol, Johnson & Co., "Study of Medical Care, Education, Research, and Fiscal Management at Children's Charity Hospital of Hudson," 1965 (Xeroxed, hereafter cited as MacNicol Johnson report); Hudson Department of Public Health, News release about the consultants' study, April 2, 1965; "Auditor's Report," Hudson Post, editorial, April 12, 1965; Memorandum from the president to the board about MacNicol Johnson, May 26, 1965; AnRpt Pres 1965.

[16]EC Apr 1964; BOD Oct 1967, Jul 1969.

[17]Henry Wilmington III and Charles Gilchrist, M.D., Memorandum from the president and director to the executive committee, February 8, 1971.

[18]The fiscal year ended June 30. George Hansen, Memorandum from the controller about the 1967 budget, [November] 1966; Financial summary and projection, fiscal years 1966 to 1970, [August] 1969; "Commentary on the Financial Situation--August 1969"; EC Sep 1969.

[19]EC Sep 1969.

[20]EC Nov 1966, May 1967, Sep 1969; "Commentary on Financial Situation--August 1969."

[21]Hunt, Memorandum about demand and finances, May 26, 1965; EC Nov 1966, May 1967, Sep 1969, "Commentary on Financial Situation--August 1969"; Horatio Hunt, Memorandum from the president to the board concerning the meeting September 23, 1970.

[22]There is no definitive evidence that Jones left under pressure but in view of his expressed doubts about medical accumulation it is likely an uncomfortable situation had developed. Horatio Hunt, Comments following the election of officers, December 17, 1969; A.O. Fisher, Memoradum from the controller, March 31, 1970; Hunt, Memorandum, September 21, 1970; Hunt, Memorandum about the meeting September 23, 1970; Arthur Anderson & Company, "Children's Charity Hospital of Hudson: Summary of Financial and Accounting Matters for Consideration," January 1971, (Xeroxed, hereafter cited as Arthur Anderson report).

[23]DH Jun 1970, Dec 1970; Arthur Anderson report, EC Apr 1971.

[24]AnRpt Dir 1971, 1972; EC Apr 1971, Nov 1971; BOD Sep 1971, Mar 1972, Jul 1973, Apr 1974; Board of directors, "Proposed Statement of Goals," [March 1972].

[25]BOD Sep 1971, EC Apr 1971, Nov 1971, Apr 1972, Oct 1972, Mar 1973, Sep 1974; "Position Paper on the Hudson Post Article of November 2, 1972"; Preliminary financial statements and auditor's report, June 30, 1976 and 1977; "Children's Chatter," July 27, 1979.

[26]The auditor's report also suggested that prices be marked up by a "development factor" so that third-party payments would provide for future capital outlays. It is not known if this was done. Arthur Anderson report; AnRpt Dir 1971; BOD Jan 1973; EC Mar 1973; Aug 1974, Sep 1974.

[27]BOD Sep 1971, Mar 1972; AnRpt Dir 1971; Steering committee of the objectives and goals committee of the board of directors, Minutes of a meeting, January 11, 1972; Planning committee of the board of directors, Minutes of a meeting, November 17, 1980.

[28]AnRpt Dir 1971; BOD Mar 1972; EC Mar 1973; Sep 1974.

[29]Chapter 8 also discusses Jones's goals, particularly regarding the housekeeping department. American College of Hospital Administrators, Directory 1974; Personal conversation with a licensed practical nurse, February, 1980.

[30]DH Oct 1962, Nov 1962, Jan 1963.

[31]DH Oct 1962, Feb 1963, Mar 1963; "Monthly Personnel Turnover Report: Month Ending August 31, 1963"; AnRpt Adm 1963, 1964; AR Jan 1964; MacNicol Johnson report.

[32]More and more minute parceling of authority occurred between 1962 and 1977 (see below page 192). Data is insufficient to determine the extent of this trend before 1970. Chapter 8 details this and other changes in the housekeeping labor system. EC Nov 1966.

[33]AR Jun 1963, Mar 1964, Dec 1964; DH Feb 1963, Dec 1963; AnRpt Adm 1963.

[34]The composition of the budget committee is unknown. BOD Nov 1962; AR Feb 1963, Jun 1963; Hunt, Memorandum about demand and finances, May 26, 1965; DH Feb 1963, Feb 1966, Mar 1966, May 1966, Nov 1966; EC Aug 1966.

[35]DH Feb 1963, Mar 1963, Feb 1966, Mar 1966, Nov 1966; Hunt, Memorandum about demand and finances, May 26, 1965. When adding supervisory positions increased the total workforce, constant-intensity costs rose.

[36]DH Nov 1962, Dec 1962; Jones and Cash, Memorandum, [January] 1963; [Jones], "Some Reflections on the Financial Situation"; DR May 1964, Dec 1964.

[37]AnRpt Dir 1947; DH Feb 1963; "Commentary on Financial Situation--August 1969."

[38]DH Oct 1964, Dec 1964; MacNicol Johnson report.

[39]DH Dec 1964, Mar 1965, Oct 1965; Hunt, Memorandum about hiring MacNicol Johnson, May 26, 1965; Memorandum about actions taken to implement MacNicol Johnson recommendations, [March 1966].

[40]Ibid.

[41]MacNicol Johnson report.

[42]A chronic lack of hot water reduced the output of the automatic film processor. Goldstein report; George Hansen, Memorandum from the controller to the board concerning electronic data processing, March 13, 1968; Fisher, Memorandum, March 31, 1970.

[43]The share of wages in total expenses remained relatively constant between 1960 and 1968. Goldstein report.

[44]U.S. Department of Labor, Bureau of Labor Statistics, Technological Change and Manpower Trends in Six Industries, (Washington, D.C.: Bulletin 1817, 1974), pp. 54-65; Greenbaum, "In the Name of Efficiency: A Study of Change in Data Processing Work."

[45]DH Oct 1962, Nov 1962, Dec 1962, Feb 1963, Nov 1963; AR Jan 1963; [Jones], "Some Reflections on the Financial Situation"; EC Nov 1966.

[46]Ibid.

[47]AR Mar 1964; MacNicol Johnson report; "Auditor's Report," Hudson Post, Editorial, April 12, 1965; DH Mar 1965; Hunt, Memorandum about hiring MacNicol Johnson, May 26, 1965; AnRpt Pres 1965; Memorandum about actions taken to implement MacNicol Johnson recommendations, [March 1966].

[48]In 1963 top management ran a police and credit check on everyone employed at the time. DH Oct 1960, Apr 1963.

[49]The supervisors' manual codified all personnel procedures. I did not find the first edition of the manual; the description is drawn partly from 1968 revisions in the manual. AnRpt Adm 1963; AR Mar 1964; DH Oct 1964, "Personnel Policies and Procedures Manual," April 30, 1968; Nellie Fields, Interview at Children's Charity Hospital Medical Center, Hudson, October 11, 1980.

[50]Ibid.

[51]The section below on punishments further discusses the divergence of written directives and department heads' practices.

[52]Hawkins interview; Agenda for executive committee meeting, March 1972; EC Apr 1972.

[53]Wilmington and Gilchrist, Memorandum, February 8, 1971; EC Feb 1971.

[54]A rule that the department heads must sign payroll sheets helped Jones to evaluate their staffing practices. By her or his signature, a department head assumed responsibility for "overstaffing" or "excessive" overtime. [Jones], "Some Reflections on the Financial Situation,"; DH Nov 1966; Memorandum about actions taken to implement MacNicol Johnson recommendations, [March 1966]; Hawkins interview; Fields interview.

[55]Top management had previously encountered the principle of basing relative wages on a classification of jobs. In 1945 the Council of Social Agencies of Hudson suggested a wage structure for the hospital's social services department that classified jobs by skills and set rates, taking into account average Hudson rates for comparable jobs. The board had approved the plan, but never extended the method of setting rates to other departments. BOD Jun 1945; DH Jan 1964, Sep 1964, Apr 1968; MacNicol Johnson report.

[56]Chapter 4 explains the assumption that the board had leeway to set rates within the area wage bands. DH Nov 1962, Mar 1966, May 1967; [Jones], "Some Reflections on the Financial Situation"; AR Mar 1964, Dec 1964.

[57]Jones also argued that "good personnel" attracted by the high wages would please private doctors and increase the number of paying patients they referred. Ibid.

[58]DH Oct 1962, Nov 1962, May 1963; AR Jan 1964, Mar 1964; "Personnel Policies and Procedures Manual."

[59]EC Apr 1961, Apr 1964, Nov 1964, Nov 1965, May 1967, Oct 1970.

[60]DH Dec 1965.

[61]Serious offenses were generally actions that diminished labor intensity or challenged management authority. "Personnel Policies and Procedures Manual."

[62]"Personnel Policies and Procedures Manual"; Richard Ziff, "Dual Department Head Sets Trend for Future Managers," Institutional

Laundry and Linen, (date withheld); Hawkins interview; Fields interview; Roosevelt Baylor, Interview in a friend's apartment, Hudson, September 12 and September 22, 1980.

[63]Evidence on rewarding and punishing practices in departments other than housekeeping is sparse. I inferred that some department heads commonly disregarded official procedures from the fact that Jones later instituted and emphasized a grievance procedure, and from knowledge that the situation still existed to some extent in 1977 and later.

[64]Gilchrist, Memorandum, October 6, 1966; DH May 1967; EC May 1967, Jun 1967, Oct 1967; Ronald Jones, Memorandum to the director about benefits, June 21, 1967; Charles Gilchrist, M.D., Memorandum to the board about benefits, October 19, 1967.

[65]Chapter 8 gives examples of Jones's investigations and decisions. DH May 1967, May 1968, "Personnel Policies and Procedures Manual."

[66]DH May 1967; EC May 1967, Jun 1967.

[67]AR May 1960; EC Oct 1964, May 1967, Jun 1967; DH May 1967; Gilchrist, Memorandum about benefits, October 19, 1967.

[68]EC Mar 1964, Apr 1964; BOD Jul 1969.

[69]Chapter 8 details the anti-union campaign. BOD Jul 1969; Personal conversation with the president of Local 3; American Arbitration Association, "Certification of Results In the Matter of International Brotherhood of Railway Workers, Local 3 and Children's Charity Hospital," August 22, 1969.

[70]EC Feb 1970, Sep 1970; DH Jun 1970; Hunt, Memorandum about the meeting September 23, 1970.

[71]AR Jan 1964; Memorandum about actions taken to implement MacNicol Johnson recommendations, [March 1966]; Hunt, Memorandum about MacNicol Johnson, May 26, 1965.

[72]DH Feb 1963, Mar 1963, Oct 1964; AR Feb 1963.

[73]DH Nov 1962, Mar 1963, Apr 1963, May 1963, Sep 1964, Mar 1965, Feb 1966, May 1967, May 1968.

[74]DH Jul 1962, Jan 1963, Feb 1963, Sep 1964, Mar 1965, Oct 1965, Feb 1967, Apr 1968.

[75]"Commentary on Financial Situation--August 1969"; EC Sep 1969.

[76]Hunt, Memorandum about the September 23, 1970 meeting; Fisher, Memorandum, March 31, 1970; EC Nov 1971; AnRpt Dir 1971; American College of Hospital Administrators, Directory 1974; "Children's Chatter," December 14, 1979.

[77]American Hospital Association, Hospitals, JAHA, Guide issue, 1970; EC Apr 1971; Arthur Anderson report; American College of Hospital Administrators, Directory 1974; "Children's Chatter," December 14, 1979.

[78]EC Nov 1971; AnRpt Dir 1971, 1972; DH Mar 1972, Apr 1972.

[79]DH Mar 1972, Apr 1972, Mar 1973, Dec 1974; AnRpt Dir 1972.

[80]In 1963 a surgeon had made and won similar demands for expansion of the operating room. EC Aug 1963; BOD Mar 1972, Mar 1974; DH Mar 1973, Sep 1974.

[81]AnRpt Dir 1971, 1972.

[82]This dynamic is documented for the housekeeping department in chapter 8. Evidence for other departments was uncovered between 1978 and 1981 during various personal conversations, meetings concerning union grievances, and meetings concerning potential organizing efforts.

[83]Arthur Anderson report; AnRpt Dir 1974; "Children's Chatter," January 10, 1980.

[84]See note 97 chapter 8. DH Apr 1972; "Children's Chatter," January 10, 1980.

[85]Henry Wilmington III and Charles Gilchrist, M.D., Memorandum from the president and the director to the board, February 18, 1972; EC Mar 1972; Agenda for executive committee meeting, March 1972.

[86]Board of directors, "Proposed Statement of Goals," [March 1972]; BOD Mar 1972; EC Apr 1972.

[87]DH Mar 1972, Apr 1972; American Hospital Association, Hospital Accreditation References: 1964 Edition (Chicago: AHA, 1964); Joint Commission on Accreditation of Hospitals, Accreditation Manual for Hospitals (Chicago: JCAH, 1971); Joint Commission on Accreditation of Hospitals, Program on Hospital Accreditation Standards Manual, (USA: JCAH, 1979).

[88]Chapter 8 describes this phenomenon in the housekeeping department.

[89]Berkmeyer often asked department heads to keep down expenditures but did not make budget constraint a criterion for satisfactory evaluations. In November 1957, for example, she told department heads that the audit report had been received and anyone wishing an explanation of her or his department's direct expenses should please come to her office. Explanations surely would have been mandatory if the administration used the figures to rate department head performance. The budget procedure under Jones designated the controller to monitor expenses and note excess spending, but top management did not use the information to rate or reprimand department heads. DH Oct 1957, Nov 1957, Mar 1959, Nov 1966, Sep 1974, Dec 1974; AnRpt Dir 1948, "Commentary on Financial Situation--August 1969," A.O. Fisher, Monthly report from the controller to the director and administrator, May 15, 1973.

[90]"Personnel Policies," Employee handbook, April 1972; "Children's Charity Hospital Medical Center Employee Handbook," [1978]; Fields interview; Rosa Newsome, Interview in her home, Hudson, September 5, 1980; Leatha Sprague, Interview in her home, Hudson, September 27, 1980.

[91]Chapter 8 documents this dynamic in one of its most extreme forms.

[92]EC Jan 1973, DH Sep 1974; B.S.W.U., "National Labor Relations Act Coverage of Healthcare Institutions," Bulletin, [1975]; Personal conversation with a pharmacy technician, October 1978; Personal conversation with a radiology technician, November 1978; Conversation with a staff member of the International Brotherhood of Railway Workers, October 1979; Personal conversation with a second pharmacy technician, January 1980; Organizing materials from various unions, Files of Local 1000, B.S.W.U., Hudson.

[93]Guidelines for the job categories classified as service and maintenance were established by the National Labor Relations Board. Under the new pension plan, which began in 1976, the hospital matched worker contributions up to 5 percent of gross wages. Henry Wilmington III, Memorandum from the president to the board, January 19, 1971; Charles Gilchrist, M.D., and Robert Morrell, Memorandum from the director and assistant director to the executive committee, [November] 1971; EC Jul 1972, Apr 1974, May 1974; "Children's Chatter," January 5, January 26, February 2, and June 8, 1973; DH Mar 1973, Sep 1974, Dec 1974; BOD Apr 1974, Oct 1974; B.S.W.U. "National Labor Relations Act Coverage of Healthcare Institutions," Bulletin, [1975]; "Children's Charity Hospital Medical Center Employee Handbook," [1978].

[94]Chapter 8 describes anti-union tactics in the housekeeping department. An emergency room technician said that union organizers inadequately explained the facts of bargaining and policing contracts, and that workers did not understand how a union could help them. "B.S.W.U. News Bulletin #1," [1975], Files of Local 1000, B.S.W.U.

Hudson; Brandon Rankey, Memorandum to workers, September 19, 1975, Files of Local 1000, B.S.W.U., Hudson; Brandon Rankey, Letter to workers, October 20, 1975, Files of Local 1000, B.S.W.U., Hudson; National Labor Relations Board, Certification of results, October 24, 1975, Files of Local 1000, B.S.W.U., Hudson; Brandon Rankey, Memorandum to workers, May 3, 1977, Files of Local 1000, B.S.W.U., Hudson; Personal conversation with an emergency room technician, November 1981.

[95]"Children's Chatter," April 20, 1979; Personal conversation with a pharmacy technician, October 1978; Personal conversation with a radiology technician, November 1978; Personal conversation with a library technician, November 1979.

[96]Brandon Rankey, Letter to workers, April 1, 1977, Files of Local 1000, B.S.W.U., Hudson; Brandon Rankey, Letter to workers, April 2, 1977, Files of Local 1000, B.S.W.U., Hudson; National Labor Relations Board, Certification of results, May 6, 1977, Files of Local 1000, B.S.W.U., Hudson.

[97]Colleges and technical schools began training people to produce recently-developed intermediate outputs and the hospital could hire them directly into high-skilled positions, eliminating costly on-the-job training. The schools offered training courses of various lengths, producting an array of labor power inputs compatible with and contributing to the stratified division of labor that was developing in most U.S. hospitals. Little data was available on positions that required certification by year; the trend towards more certification emerges from a comparison of training practices in 1962 and 1977. See note 1 chapter 4. JCAH, Program on Hospital Accreditation Standards Manual.

[98]Wilmington and Gilchrist, Memorandum, February 18, 1972; "Children's Chatter," January 10, 1980.

[99]Not all the classes were mandatory for all supervisors. "Supervisory Skills Training Program: Overview of Curriculum," Fall 1979, (Xeroxed); Hawkins interview; "Children's Chatter," January 19, 1980.

[100]DH Apr 1972, Mar 1973, Sep 1973.

[101]"Children's Chatter," December 14, 1979; Tom Bevey, "The Director of the Hospital Had a Vision," Hudson Post, November 19, 1981.

[102]"General Information for CCHMC First Floor," [1975], (Xeroxed); "Children's Charity Hospital Medical Center: The Challenge of a New Beginning," [1977].

[103]The 1967 Goldstein report stated that greater storage space would allow the hospital to cut costs by purchasing in bulk.

[104]Personal conversation with a library technician, November 1979; "Children's Chatter," January 10, 1980.

[105]Clive Alexis, Letter from the secretary-treasurer of Local 1000 to the administrator, June 16, 1977, Files of Local 1000, B.S.W.U., Hudson; Clive Alexis "Contract Negotiations Bulletin 1," Files of Local 1000, B.S.W.U., Hudson; Clive Alexis, Summary of negotiations, [November 1977], (Handwritten), Files of Local 1000, B.S.W.U., Hudson; Brandon Rankey, Letter to workers, December 20, 1977, Files of Local 1000, B.S.W.U., Hudson.

[106]"Agreement by and between Children's Charity Hospital Medical Center and Building and Service Workers Union, Local 1000, AFL-CIO, June 1, 1978 to May 31, 1980.

[107]Ibid.

[108]Grievances filed by workers at Children's, Files of Local 1000, B.S.W.U., Hudson; "Supervisory Skills Training Program: Overview of Curriculum."

[109]A 'union shop' clause requires all workers covered by the contract to join the union. A 'maintenance of membership' clause requires workers who choose to join to remain members (and pay dues) for the duration of the contract.

Chapter 8

[1]Hawkins interview.

[2]The environmental health services department was commonly called "environmental services" and environmental aides and assistants were referred to as "aides" and "assistants." Petition from a group of environmental aides and assistants, December 8, 1978, Files of Local 1000, B.S.W.U., Hudson.

[3]Housekeeping department, List of duties of maids and orderlies, [1950]; Environmental health services department, Booklet of cleaning procedures, rules, and job descriptions, [1977].

[4]Chapter 2 reviews how conventional economic studies dealt with the hospital's multiproduct output.

[5]The department head was called the executive housekeeper at the beginning of the period. The title later changed to director of laundry and housekeeping, director of housekeeping services, and then director of environmental health services.

[6]As in chapter 4, I use the term 'cut costs' or 'reduce costs' to also stand for 'contain cost increases.' See note 9 , chapter 4.

[7]Quotations and facts in this section are from the Hawkins interview. Facts in the text are in most cases corroborated by one or more other sources, the best of which is cited. Hawkins interview; McGrady, Notes November 29 and December 1, 1948.

[8]Ibid.

[9]In 1947 McGrady did a large part of inspecting herself. Ibid.

[10]The hours story is not corroborated. Management did not say why it suddenly reduced hours, but workers pieced together an explanation from the events that occurred.

[11]By the end of the period new hires may have been trained in isolation techniques. Fields interview.

[12]SR Feb 1946, Oct 1946; AnRpt Adm 1959; DH Feb 1964; Fields interview.

[13]"Payroll," Selected months from October 1947 to September 1962; "Monthly Personnel Turnover Report: Month ending August 31, 1963."

[14]Housekeeping department, List of duties of maids and orderlies, [1950]. Neither the documents nor interviews made clear the distinction

between the porter and the orderly job. The terms were used interchangeably in the early part of the McGrady period. Payroll records after 1953 listed the jobs separately. Eventually (the year is unknown) management transferred orderlies to the nursing department and they did direct patient care.

[15]BOD May 1947; EC Jul 1948; Punch, Memorandum, July 19, 1949; AnRpt Adm 1949; "Some Problems in Hospital Housekeeping," Address describing Children's housekeeping department, [1949]; "Yearly Personnel Report," 1955.

[16]The chairman of the oxygen company, who sat on Children's board and later became its president, arranged the oxygen therapist training. McGrady, Notes November 29 and December 1, 1948; AnRpt Adm 1949; "Some Problems in Hospital Housekeeping" [1949]; "Yearly Personnel Report," 1955; AR Oct 1958, Nov 1958.

[17]"Payroll," Selected months from October 1947 to September 1962; "Yearly Personnel Report," 1955.

[18]EC Sep 1949.

[19]The particular "insubordinate" behavior was specified in detail only in the more exciting cases. For example, in April 1956 a maid hit her supervisor on the nose. The next month a porter caused "dessension [sic] among employees." It is impossible to estimate the number of firings for race rule violations. Hawkins interview; McGrady, Notes November 29 and December 1, 1948; "Payroll," Selected months from October 1947 to September 1962.

[20]Table 11 lists quits in 1955 by job title and reason. Just as for firings, the reliability of reasons for quits is questionable. All three maids who left because they "felt work too difficult" worked in the laboratory. Interviews with workers who were familiar with the McGrady and the Jones system (which had comparable workloads) indicate that workers did not find the work demanding or unpleasant. No mention of organized challenge appeared in minutes of board meetings prior to 1964.

[21]Chapters 4 and 6 explain the connection between medical accumulation and minimization of operating costs, and describe product market conditions and management strategies.

[22]Chapter 6 above describes Berkmeyer's cost-cutting forays. There is no evidence that Berkmeyer, McGrady, or the other housekeepers held goals (other than segregation) that clashed with cost-cutting objectives. Racist goals were not explicitly stated in the sources, but their existence is unmistakably implied by Hawkins's anecdotes, comments recorded in the archives, and the absence of steps to loosen racial constraints.

[23]Baylor interview. Quotations and facts in this section are from the Baylor interview. Facts in the text are in most cases corroborated by one or more other sources, the best of which is cited.

[24]Housekeeping department, List of duties of maids and orderlies, [1950].

[25]Housekeeping department, "The 'Checked-Out' Room of a Patient" and "Directions for Housekeeping Personnel: Isolation Daily Cleaning," Descriptions of procedures, [1972], Files of Local 1000, B.S.W.U., Hudson.

[26]In the McGrady system, department heads did frontline tasks when staffing fell very low. In the Jones system, especially when Barnes was department head, teamwork more commonly appeared. McGrady, Notes November 29 and December 1, 1948; Hawkins interview.

[27]The origin of the award is recounted in an industry journal article, which says the department head chose only one monthly winner. The article describes another award scheme that began at the same time, which frontline workers did not mention. Ziff, "Dual Department Head Sets Trend"; Fields interview; Personal conversation with a licensed practical nurse, February 1980.

[28]Fields interview; Personal conversation with a group leader, August 1981.

[29]Fields interview; Annie Richards, Interview in her home, Hudson, October 9, 1980; Robert N. Davis, "Effect of Fogging on Microbiol Contamination," Hospitals, JAHA, 42(March 1, 1968):69-72.

[30]Alvin W. Gouldner documented a tendency of workers to romanticize a previous manager in Patterns of Industrial Bureaucracy (New York: The Free Press, 1954) pp. 70-80.

[31]Mitchell told this account of the decision to combine the laundry with housekeeping to a reporter for an industrial journal. An investigation of the laundry department was unnecessary for the purposes of this paper. The laundry and housekeeping operated independently; the administrative merger did not affect the labor process of housekeeping workers. Ziff, "Dual Department Head Sets Trend."

[32]See chapter 7 above.

[33]For example, in September 1966 there was one assistant director, one head supervisor, and five other supervisors; in January 1969 there was one assistant executive housekeeper, one acting assistant executive housekeeper, one supervisor, four group leaders, and one porter who held a supervisory assignment. Housekeeping department, "Addresses and Telephone Numbers of Supervisory and Pack Aide Personnel in Housekeeping and Laundry Services," September 16, 1966; Victor O'Neal, Memorandum

from the assistant administrator concerning reassignment of housekeeping supervisors, May 5, 1967; Dennis Barnes, Memorandum from the department head to group leaders, supervisors, and assistant housekeepers concerning holiday schedules, January 18, 1969; Fields interview.

[34]Several deficiencies in the data make it difficult to determine the precise increase in frontline employment or the decrease in average floorspace per worker. First, monthly employment and turnover reports no longer appeared with the minutes of board meetings. I could not calculate average employment for any year, which, due to turnover, is more reliable than the monthly counts. Figures compiled from time to time for the board showed total housekeeping employment. I derived frontline employment in 1970 from such a report by Arthur Anderson & Co. by assuming six supervisory personnel. Second, all employees who performed housekeeping services were transferred to housekeeping department jurisdiction prior to 1967, but the exact date is unknown. Third, as mentioned above, the division of labor between orderlies and porters is unclear. "Monthly Personnel Turnover Report: Month Ending August 31, 1963"; MacNicol Johnson report; Charles Gilchrist, M.D., Memorandum to housekeeping workers about unionization, August 7, 1969; Arthur Anderson report.

[35]AR Mar 1964; Hawkins interview; Fields interview; Richards interview; Newsome interview.

[36]Hawkins interview; Fields interview; Richards interview.

[37]Hawkins interview; O'Neal, Memorandum, May 5, 1968; Richards interview; Hargraves interview; Daniel Mattia, Memorandum from the department head to housekeeping personnel concerning phone calls, March 6, 1972, Files of Local 1000, B.S.W.U., Hudson; Daniel Mattia, Memorandum from the department head to housekeeping personnel concerning break time and lunch periods, June 6, 1972, Files of Local 1000, B.S.W.U., Hudson.

[38]Hawkins interview; Fields interview.

[39]Hawkins interview.

[40]No top management data on firings in the Jones system are available. All frontline workers interviewed who worked in both the Jones and the Rutman systems said firings and other punishments occurred more often in the Rutman system; turnover data for the Rutman and the McGrady systems implies that firings occurred more often in the McGrady system. Information is insufficient to determine the relative frequency of warnings and suspensions in the McGrady and Jones systems. See note 63 chapter 8. Fields interview; Baylor interview; Richards interview; Newsome interview; Sprague interview.

[41]All of these incidents are uncorroborated. Fields interview; Richards interview; Herman Ware, Memorandum from a supervisor to the department head concerning a maid's "defiance," January 4, 1973, Files of Local 1000, B.S.W.U., Hudson.

[42]AR Jan 1964; Hawkins interview; Fields interview; Richards interview; Baylor interview.

[43]Hawkins interview; Fields interview; Richards interview; Newsome interview; Sprague interview; Personal conversation with a group leader, August 1981; Petition, December 8, 1978.

[44]Management data on quit rates was not available. Hawkins interview; Fields interview; Richards interview; Baylor interview; Newsome interview; Sprague interview.

[45]The name of the union has been changed. Gilchrist, Memorandum, August 7, 1969; American Arbitration Association, "Certification of Results In the Matter of International Brotherhood of Railway Workers, Local 3 and Children's Charity Hospital," August 22, 1969; Personal conversation with a group leader, August 1981.

[46]Ibid.

[47]See chapters 4 and 7.

[48]Jones's concern with frontline worker goals was relative, of course. He did not envision a system designed to equally develop the mental and manual abilities of all workers. An argument can be made that people's economic well-being ultimately depends on their ability to participate in decisions affecting them and that workers have a right to decide questions concerning their labor. Jones did not advocate this. For example, he did not provide for unresolved grievances to be taken before an elected panel or a neutral arbitrator; he was the final judge of fairness. Explanation of why he held his personal goals falls outside the scope of this paper. AR Jan 64, Mar 1964; DH May 1967; Hawkins interview, Fields interview; Richards interview; Baylor interview; Personal conversation with a licensed practical nurse, February 1980; Personal conversation with a group leader, August 1981.

[49]Only the sketchiest evidence is available on the other department heads or on assistant department heads other than Hawkins and Henderson. Ziff, "Dual Department Head Sets Trend"; Hawkins interview; Fields interview; Richard interview; Baylor interview.

[50]Management intended these changes to increase labor speed as well as accuracy, for Jones expected to eliminate seven positions in housekeeping. Such a large reduction in force never occurred.

Generalizations concerning labor intensity are tentative assessments based on all available evidence. Trends in housekeeping labor intensity at Children's defy cardinal measurement.

[51]Quotations and facts in this section are from the Sprague interview. Facts in the text are in most cases corroborated by one or more sources, the best of which is cited. The environmental health services department was commonly called environmental services, and environmental aides and environmental assistants were usually referred to as aides and assistants.

[52]Fields interview; Richards interview; Baylor interview.

[53]Newsome interview.

[54]Baylor interview; Personal conversation with a group leader in the sterile processing and distribution department, August 1981; Personal conversation with a library technician, November 1979.

[55]Although the union represented workers at Children's when this incident occured, it had not made much headway against the Rutman system. I will cite other incidents that occurred after 1977 when as in this case they are typical illustrations of the system during the pre-union years.

[56]See chapter 7. The information came from a secondary, reliable source who spoke to a person in a management position; Hawkins interview; "Children's Chatter," November 21, 1974.

[57]See chapter 7 above.

[58]See note 34 chapter 8 for derivation of the 1970 figure. The 1977 figure was derived from a July 1978 list of union-eligible workers (all full-time aides, assistants, and group leaders and part-time workers who worked more than twenty hours per week) and from lists that the hospital sent to the union of hires and terminations. Hudson, Files of Local 1000, B.S.W.U.; Fields interview; Baylor interview; Dora Carruthers, Interview in her apartment, Hudson, September 12 and September 22, 1980.

[59]Fields interview; Richards interview; Baylor interview.

[60]Baylor interview; Environmental health services department, Booklet, [1977].

[61]Personal conversation with Baylor, August 1981; Personal conversation with a group leader, September 1980.

[62]Hawkins interview; Fields interview; Richards interview; Baylor interview; Sprague interview.

[63]Forty aides and assistants separated (resigned or were fired) from Children's between June 22, 1977, and June 30, 1978. I assumed the 1955 ratio of firings to total separations, 32.6, still obtained and estimatd thirteen firings in 1977-78. Nineteen of the forty who left worked less than ninety days, the length of the probationary period. No top management data for other years is available. Richards interview; Baylor interview; Newsome interview; Carruthers interview; Grievances filed by environmental health services workers at Children's. Files of Local 1000, B.S.W.U., Hudson.

[64]Of course this type of incident occurred sporadically in the Jones and McGrady systems but it now became a recognizable pattern. Personal conversation with Baylor, May 1980; Grievances filed by environmental health services workers at Children's.

[65]Reports on Rutman's treatment of supervisors came down through several branches of the department grapevine and was passed on in guarded statements. Hawkins interview; Richards interview; Newsome interview; Baylor interview; Carruthers interview.

[66]Hawkins interview; Petition, December 8, 1978; Fields interview; Richards interview; Baylor interview; Newsome interview; Sprague interview; Carruthers interview.

[67]Petition, December 8, 1978; Richards interview; Baylor interview; Carruthers interview.

[68]No top management data was available on the number of quits. Several interviewees and the petition maintained that quits increased. Fields interview; Richards interview; Baylor interview; Sprague interview; Carruthers interview; Personal conversation with an aide, September 1981.

[69]Several interviewees said that the abuses of the Rutman system were the single strongest factor propelling the workers in environmental services to form a union. Petition, December 8, 1978; Richards interview; Baylor interview; Newsome interview; Sprague interview; Personal conversation with a group leader, August 1981; Representation cards signed by employees at Children's, Files of Local 1000, B.S.W.U., Hudson; Barbara Carter, Handwritten affidavit concerning the 1975 union election at Children's, November 7, 1975, Files of Local 1000, B.S.W.U., Hudson.

[70]Rankey, Memorandum, September 19, 1975; Rankey, Letter, October 20, 1975; Carter, Handwritten affidavit concerning the 1975 election; Newsome interview.

[71]Representation cards signed by employees at Children's; Victor Whitman, Letter from union organizer to the National Labor Relations Board naming organizing committee members, March 29, 1977, Files of Local 1000, B.S.W.U., Hudson.

[72]See chapter 7 above.

[73]As for Jones, explanation of why Rutman held the goal falls outside the scope of this paper.

[74]To the extent that supervisors were successful in assigning new hires bigger-than-usual workloads, speed did not fall as turnover increased, although accuracy was affected.

[75]It is interesting but ahistorical to ask to what extent labor intensity could have been increased (a) by positive incentives rather than Rutman's method, and (b) without provoking frontline challenge.

[76]Charles R. Goulet, "Annual Administrative Reviews: Housekeeping," Hospitals, JAHA, 32 (April 16, 1958):48-49; Robert M. Jones, "Annual Administrative Reviews: Housekeeping," Hospitals, JAHA, 34 (April 16, 1960):80-82; Davis, "Effects of Fogging on Microbiol Contamination"; Charles T. Uyeda, Ph.D., "Annual Administrative Reviews: Environmental Sanitation," Hospitals, JAHA, 40 (April 1, 1966):57-62; Hawkins interview.

[77]Mildred L. Chase, "How to Make the Most of Night Housekeeping," Modern Hosital 110(January 1968):128-30; Baylor interview.

[78]Fields interview; Richards interview; Baylor interview; Newsome interview; Sprague interview.

[79]Theresa Price, Letter from the union legal assistant to Children's director of personnel about Rutman, November 30, 1978, Files of Local 1000, B.S.W.U., Hudson; Fields interview; Richards interview; Baylor interview; Newsome interview; Sprague interview; Carruthers interview.

Chapter 9

[1]Short-term hospitals are those in which over 50 percent of patients admitted stay less than thirty days. In 1946 short-term hospitals employed 71 percent of the total workers in private hospitals and in 1978, 86 percent. Long-term hospitals such as psychiatric and tuberculosis hospitals are excluded from the generalizations in this conclusion: it is reasonable to assume that because long-term hospitals mainly provided chronic and rehabilitative care, their decision makers felt a relatively weak impetus for medical accumulation.

[2]I reviewed secondary sources that primarily described labor processes in short-term private and public hospitals. Since private, nonprofit hospitals made up the bulk of the short-term hospital industry (state and local government hospitals accounted for 31 percent of short-term hospitals and 22 percent of beds in 1978), I will assume that in every production period, the prevailing labor system in nonprofits was identical to the labor system indicated by the secondary sources. Temple Burling, Edith M. Lentz, and Robert N. Wilson, The Give and Take in Hospitals (New York: G.P. Putnam's Sons, 1956); Luke Birky, "New Approaches to Attracting and Keeping Personnel," Hospitals, JAHA 38 (June 1, 1964):63-68; Leo B. Osterhaus, "The Effect of Unions on Hospital Management, Part 3: A Survey of Ten Policies and Practices in Four Metropolitan Areas," Hospital Progress 48 (August 1967):90-130; Leo B. Osterhaus, "Union-Management Relations in 30 Hospitals Change Little in Three Years," Hospital Progress 49 (October 1968):72-77; Charles S. Bunker, "How Unions Have Changed the Personnel Function," Hospital Progress 50 (June 1969): 59-96.

[3]A further difficulty in ascertaining the features of the industry labor system arose because few case histories or prescriptive pieces specified the prevailing structures and practices management used to accomplish the management functions with which the articles were concerned. However, I assume the appearance of many articles on a particular feature indicates that it was not widely incorporated and that journal editors had reason to believe the prevailing ways of performing the function under discussion were inadequate. Beginning in 1956, Hospitals, JAHA, solicited and published "annual administrative reviews," each of which summarized the prior year's articles about one department or area of management concern.

[4]E. Dwight Barnett, "A New Program? Sell It First to the Department Heads," Hospitals, JAHA 20 (September 1946):65-66; Ray E. Brown et al, "The Technical Aspects of a Hospital's Departments," Hospitals, JAHA 24 (February 1950):47-52; Ray E. Brown, "Staffing at the Administrative Level," Hospital Management 77 (February 1954):33-102; Edith M. Lentz, "Patterns of Supervision in Hospitals," Hospitals, JAHA 26 (February 1952):74-158; Burling et al, Give and Take in Hospitals.

[5]Helen M. Bryan, "Ways and Means to Ease the Labor Shortage," Hospitals, JAHA 26 (November 1952):60-61; Brown, "Staffing at the Administrative Level"; Barnett, "Hospital and Community Needs"; Ralph F. Miller, "Low-Cost Machine Accounting for Hospitals," Hospitals, JAHA 30 (July 16, 1956):52-54; Millie E. Kalsem, "Our Remodeling Program Paid Dividends," Hospitals, JAHA 30 (March 16, 1956):92-96; Sidney Lewine, "Annual Administrative Reviews: Personnel," Hospitals JAHA 32 (April 16, 1958):76-81; Doris Gleason, "Annual Administrative Reviews: Medical Records," Hospitals, JAHA 32 (April 16, 1958):56-59; S. Earl Thompson, "Annual Administrative Reviews: Laundry," Hospitals, JAHA 34 (April 16, 1960):86-90.

[6]Charles B. Womer, "Annual Administrative Reviews: Methods Improvement," Hospitals, JAHA 34 (April 16, 1960):106-109; Mortimer W. Zimmerman, "Annual Administrative Reviews: Personnel Administration," Hospitals, JAHA 36 (April 16, 1962):127-30; Paul W. Kempe, "Annual Administrative Reviews: Engineering and Maintenance," Hospitals, JAHA 36 (April 16, 1962):61-64; Richard L. Johnson, "Effecting Organizational Change Through a Formal Budget," Hospitals, JAHA 37 (October 1, 1963):32-34; Birky, "Keeping Personnel"; Virginia F. Harger, "Annual Administrative Reviews: Food Service and Dietetics," Hospitals, JAHA 38 (April 1, 1964):67-74; Onalee M. Laird, "Annual Administrative Reviews: Medical Records," Hospitals, JAHA 40 (April 1, 1966):109-112; Fern Mannhalter and Gary Michael Silman, "Making Housekeeping Man-Hours Count: Training Program and Staffing Policies," Hospitals, JAHA 40 (December 16, 1966):82-90; Leo B. Osterhaus, "The Effect of Unions on Hospital Management, Part 4: Conclusions and Recommendations," Hospital Progress 48 (September 1967):72-78.

[7]George L. Deschambeau, "Annual Administrative Reviews: Industrial Engineering," Hospitals, JAHA 42 (April 1, 1968):89-93; Ross Laboratories, "Automated Materials Handling," Hospital Administration Currents (August 1969):1-4; American Hospital Association, The Management of Hospital Employee Productivity: An Introductory Handbook (Chicago: AHA, 1973); J. Robert Copenhaver and Roger Morris, "Training, Job Enrichment Reduce Costs," Hospitals, JAHA 47 (February 1, 1973):118-26; "Special Report on Contract Services," Modern Healthcare 7 (July 1977):39-57; Walter Danco, "Hospital Managers Seek Ways to Cope with Change," Hospitals, JAHA 51 (April 1977):133-36; Alan J. Goldberg, "Annual Administrative Reviews: Managerial Engineering: Branching Out to Many Areas of the Hospital," Hospitals, JAHA 53 (April 1, 1979):168-71; Barbara Caress, "Health Manpower: Bigger Pie, Smaller Pieces," Health/PAC Bulletin, no. 62 (January/February 1975), pp. 7-10; Cannings and Lazonik, "Development of the Nursing Labor Force."

[8]Robert Crawford and Lester M. Bornstein, "Controlling Personnel Costs Through a Man-Hour Program," Hospitals, JAHA 30 (January 16, 1956):40-42; Johnson, "Change through a Budget"; Osterhaus, "Union-Management Relations Change Little"; Danco, "Managers Cope with Change."

[9]Edward F. Grube, "Here Is How Work Measurement Works," Modern Hospital 108 (May 1967):118-21; Danco, "Managers Cope with Change"; Goldberg, "Management Engineering."

[10]Malcolm T. MacEachern, Hospital Organization and Management (Berwin, Illinois: Physician's Record Co., 1962):961-1003; Birky, "Keeping Personnel"; Lawrence W. Benedict, "Annual Administrative Reviews: Personnel," Hospitals, JAHA 40 (April 1, 1966):117-22; Osterhaus, "Conclusions and Recommendations"; Norman Metzger, "Annual Administrative Reviews: Personnel Administration," Hospitals, JAHA 42 (April 1, 1968):121-26; Bunker, "How Unions Have Changed the Personnel Function"; Robert Brams and Paul Peterson, "St. Luke's, Milwaukee, Makes Its Managers Accountable," Modern Hospital 122 (March 1974):98-99; Richard L. Hacker, "Organizational Systems for Change Offer an Alternative to Unions," Hospitals, JAHA 50 (April 1, 1976):45-57.

[11]E. J. Rizos, "Establishing Modern Wage and Salary Plans," Hospitals, JAHA 30 (September 1, 1956):34-38; Sidney Lewine, "Annual Administrative Reviews: Personnel," Hospitals, JAHA 34 (April 16, 1960):19-24; Zimmerman, "Personnel Administrator"; Benedict, "Personnel"; Osterhaus, "Union-Management Relations Change Little."

[12]Lewine, "Personnel [1960]"; Leo B. Osterhaus, "The Effect of Unions on Hospital Management, Part 2: Factors Stimulating and Inhibiting Unions," Hospital Progress 48 (July 1967):76-95; Osterhaus, "A Survey in Four Metropolitan Areas"; Osterhaus, "Union-Management Relations Change Little"; Metzer, "Personnel Administration"; Hacker, "Alternative to Unions."

[13]Sister Mirium Eveline, "Profitable Results of Employee Training," Hospitals, JAHA 26 (November 1952):107-108; Harger, "Food Service and Dietetics"; Laird, "Medical Records"; Mannhalter and Silman, "Housekeeping Man-Hours"; Osterhaus, "Factors Stimulating and Inhibiting Unions"; Osterhaus, "Union-Management Relations Change Little"; Metzger, "Personnel Administration"; Copenhaver and Morris, "Training, Job Enrichment."

[14]Edward J. Connors, "Annual Administrative Reviews: Paramedical Education," Hospitals, JAHA 38 (April 1, 1964):125-28; Metzger, "Personnel Administration"; Robert C. Gronbach, "Annual Administrative Reviews: Manpower," Hospitals, JAHA 43 (April 1969):141-44; Hacker, "Alternative to Unions."

[15]Lentz, "Patterns of Supervision"; Lewine, "Personnel [1958]"; Zimmerman, "Personnel Administration"; Kempe, "Engineering and Maintenance"; Benedict, "Personnel"; Harvey Machaver, "Hospital Supervisors Learn Management Techniques in a 12-Week Course," Hospitals, JAHA 40 (July 1, 1966):40-42; "AUPHA Studies Formal Accreditation Plan for Hospital Administration Programs," Hospitals, JAHA 40 (August 1, 1966):115; Matthew Goodfellow, "If You Aren't Listening to Your Employees, You May Be Asking for a Union," Modern Hospital 113 (October 1969):88-90; Copenhaver and Morris, "Training, Job Enrichment."

[16]In any production period, differing market conditions and strategies of hospital managements meant that the service intensity of output necessary for survival and prosperity varied among hospitals. So, therefore, did the intensity of the pressure for medical accumulation and cost cutting. Such variations account for much of the differences in labor system evolution among hospitals. For example, Children's was a specialty hospital, so to maintain the same annual occupancy as an equal-sized general hospital, it had to draw patients from a larger geographical area. The board decided that to attract patients the service intensity ceiling at Children's in all production periods must compare with that of a much larger general hospital, which led to a relatively stronger drive for medical accumulation and (if economies of scale existed) relatively higher average costs at Children's. Both factors tended to increase the pressure for cost cutting--to allow more rapid medical accumulation without causing output prices to spiral up. Charles Perrow, "Goals and Power Structures: A Historical Case Study," in The Hospital and Modern Society, ed. Eliot Friedson, (New York: The Free Press of Glencoe, a division of the Macmillan Publishing Co., 1963), pp. 112-46; Dan Feshbach, "The Dynamics of Hospital Expansion," Health/PAC Bulletin, no. 64 (May/June 1975), pp. 1-21.

[17]Barnett, "Sell It to Department Heads"; Bryan, "Ease the Labor Shortage"; Rizos, "Wage and Salary Plans"; Kalsem, "Remodeling Program"; Miller, "Machine Accounting"; Crawford and Bornstein, "Controlling Personnel Costs"; Ray Brown, "The Nature of Hospital Costs," Hospital, JAHA 30 (April 1, 1956):36-41; Gleason, "Medical Records"; Womer, "Methods Improvement"; Thompson, "Laundry"; Kempe, "Engineering and Maintenance"; Birky, "Keeping Personnel"; Harger, "Food Service and Dietetics"; Laird, "Medical Records"; Mannhalter and Silman, "Housekeeping Man-Hours"; Grube, "How Work Measurement Works"; Deschambeau, "Industrial Engineering"; Ross Laboratories, "Automated Materials Handling"; American Hospital Association, Management of Employee Productivity; David M. Ambrose, and Jack J. Purdum, "Physicians Rank Hospital Characteristics," Hospitals, JAHA 48 (June 1974):95-100; Grams and Peterson, "Makes Managers Accountable"; Danco, "Managers Cope with Change"; Goldberg, "Management Engineering"; Rita Fritz, "Technology: Future Challenge is Information Gathering and Coordination," Hospitals, JAHA 53 (April 1, 1979):181-84.

[18]Lewine, "Personnel [1960]"; Osterhaus, "A Survey in Four Metropolitan Areas"; Osterhaus, "Conclusions and Recommendations"; Osterhaus, "Union-Management Relations Change Little"; Metzer, "Personnel Administration"; Goodfellow, "Asking for a Union"; Bunker, "How Unions Have Changed the Personnel Function"; Hacker, "Alternatives to Unions."

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APPENDIX A

ASPECTS OF MEDICAL ACCUMULATION AT CHILDREN'S CHARITY HOSPITAL 1946-1979

Year	Physical Plant Expansion and Renovation	Medical Services, Facilities, Research, and Education Development[a]
1946	New building to replace original 1879 structure planned	Mental health clinic
1947		Research foundation incorporated
1948		Full-time director hired for psychiatry department, which was established 1945
1949	Operating rooms renovated and re-equipped	Better x-ray equipment purchased Full-time director of pediatric education assigned to hospital by two Hudson medical schools
1950	Demolition begins for new building	Well baby clinic of Child Welfare Society affiliates with hospital Ophthalmology, cardiac, orthopedic programs planned
1951	Building plans revised to add fifth floor and auditorium	
1952	Building completed Renovation on east and west wings continues	Tuberculosis service Blind and visually-handicapped clinic Research fellowship program for resident physicians

1953	Emergency room and outpatient departments renovated	Hearing clinic Cardiac catheterization, first in area hospitals Allergy clinic expansion planned Graduate physician teaching program planned Premature nursery Electroencephalography laboratory
1954	Auditorium completed	Speech clinic Full-time occupational therapist hired Poison control center Full-time radiologist hired Diagnostic tissue pathology laboratory
1955	Five-year remodeling program completed Parking lots Maintenance shop	Dental clinic certified by American Dental Association Periodontia residencies New equipment purchased for allergy clinic
1956	Laboratories renovation and expansion planned	Follow-up clinic Diagnostic clinic Pica clinic (lead poisoning and ingestion) Adolescent inpatient unit
1957	"Little house" remodeled for hearing and speech clinic Annex remodeled for psychiatry department Annex remodeled for research foundation	Premature nursery re-established
1958	Research center construction begins	Outpatient adolescent services with full-time medical fellow School for aphasic children

1959	Research center opens Library enlarged Parking lot "Little house" demolished	Medical clinics closed on Saturday East 3 ward closed Hearing and speech department incorporated and affiliates with hospital
1960	Main 5 remodeled Central 3 remodeled into semi-private isolation rooms East 3 remodeled into private rooms	Psychiatry department upgraded
1961	Diagnostic and treatment center remodeled Hearing and speech center construction begins Medical records, radiology, laboratories, and library remodeled	Inhalation therapy department Formal affiliation agreement negotiated with two medical schools Hiring of full-time neurologist, endocrinologist, child development specialist, and genetics specialist planned
1962	Nurses' residence remodeled and adolescent clinic relocated in its first floor	Medical center development approved by board and medical staff Department of neurology with full-time neurologist Second electroencephalography machine purchased Hilldale Center for emotionally disturbed children affiliates with hospital
1963	Child welfare department remodeled Outpatient department remodeled Hearing and speech center completed Histopathy lab expanded and refurbished West 2 converted into medical staff offices	Full-time surgeon hired Hiring of specialist in abnormalities of newborns planned
1964	New diagnostic and treatment center built Parking lot	Cardiologist hired

1965	Operating rooms remodeled	Infant heart diagnosis service Open heart surgery facilities planned Child neurology training approved by American Board of Neurology
1966	Psychiatry department building opened	Social services department expansion planned
1967	Central 2 remodeled West wing remodeled to add office space, nurses' resident, laboratories, classrooms Board voted to build new hospital	Comprehensive health care program Clinical research center planned
1968	Consultants and contractors for new hospital hired	Full-time chiefs of orthopedic surgery and neurosurgery departments hired Negotiated for affiliation with medical schools
1969	East 2 remodeled to add medical staff offices	
1970	Excavation, piling, and construction of foundation and garage of new building begins	
1971	Sewer, gas, electricity connections installed at new site	Transplant and cleft palate programs planned Inpatient psychiatry
1972		Hiring of renal specialist planned Child life program Upgrading of orthopedics, radiology, anesthesiology, and possibly urology departments planned
1973	New building closed in	Office of child health advocacy

1974	Psychiatry department quarters expanded and renovated	Nephrology department (first pediatric dialysis and transplant center in area) Pediatric nurse-practitioner program co-sponsored with nearby university
1975		Child abuse program Chaplaincy program
1976		Patient representative program
1977	New building completed Move to new building	Sex abuse program
1978		
1979		Full-time director for arts program hired Total primary nursing card established

SOURCE: Archives of Children's Charity Hospital of Hudson

[a]Naming of a service or department without further explanation indicates it was established during the year.

APPENDIX B

OUTPATIENT VISIT TO INPATIENT DAY EQUIVALENCY RATIOS IN U.S. HOSPITALS

Year	Equivalency Ratio[a]
1965	4.5
1970	5.8
1978	5.4

SOURCE: Calculated from figures in American Hospital Association, Hospital Statistics, 1979 Edition (Chicago: AHA, 1979).

[a]The equivalency ratio, x, is the number of outpatient visits such that x multiplied by the average revenue per outpatient visit in all nonfederal short-term general hospitals equals the average revenue per inpatient day for those hospitals.

APPENDIX C

SPECIALIZATION AND STRATIFICATION

Jobs in the Laboratories		
1947	1962	1978[a]
typist	orderly	lab assistant
student technician	maid	phlebotomist/lab assistant
technician	clerk/typist	lab technician
	secretaries	senior medical technician
	chief hematologist	data entry clerk
	technician	administrative assistant
	chief technician	computer operator
	assistant director	computer supervisor
	director	blood drawing supervisor
		coordinator
		technologist, clinic chemistry
		chief technologist, hematology
		chief technologist, special hematology
		chief technologist, microbiology
		chief technologist, blood bank
		associate director, clinical lab
		assistant director, blood bank
		assistant director, microbiology
		director, cytogenetics
		director, microbiology
		co-director, clinical chemistry
		director, clinical laboratories

APPENDIX C - Continued

Jobs in the Radiology Department		
1947	1962	1978[a]
typist	orderly	radiology assistant
technician	x-ray librarian	film processing technician
	secretary	senior radiology assistant
	senior secretary	radiology technician
	darkroom technician	radiology technologist
	x-ray technician	radiology technologist/CT scanner
	assistant chief technician	special procedures technologist
	chief x-ray technician	senior radiology technologist
		ultra sound technologist
		senior nuclear medician technologist
		receptionist
		administrative secretary
		assistant chief technologist
		chief technologist
		radiologic administrator
		chairman

APPENDIX C - Continued

Jobs in the Pharmacy		
1947	1962	1981[a]
maid	orderly	pharmacy technician IV
pharmacist	maid	pharmacy technician III
	assistant pharmacist	pharmacy technician II
	pharmacist	I.V. technician supervisor
		unit dose technician supervisor
		evening technician supervisor
		night technician supervisor
		office coordinator
		pharmacist
		clinical pharmacist
		resident
		quality assurance supervisor
		pharmacist supervisor
		evening pharmacist supervisor
		inpatient pharmacist supervisor
		I.V. room pharmacist supervisor
		assistant director of clinical services
		assistant director of operating services
		director

APPENDIX C - Continued

Jobs in the Medical Record Department

1947	1962	1978[a]
assistant medical records librarian	clerk/typist file clerk index clerk insurance clerk statistical clerk coding clerk transcribing secretary medical records librarian	medical records clerk I medical records clerk II patient index operator I senior medical records clerk senior patient index operator medical secretary medical secretary - PAS coding medical records transcriptionist medical records technician correspondence secretary coordinator medical records practitioner for class systems medical record analyst patient record coordinator clerical supervisor evening and weekend supervisor utilization review and microfilming supervisor transcription, review, and processing supervisor correspondence supervisor assistant director, outpatient director

APPENDIX C - Continued

Jobs in the Maintenance and Engineering Department

1947	1962	1980[a]
watchman	clerk/typist	general maintenance mechanic
fireman	guard	carpenter
engineer	gardener	central dispatcher/sign maker
painter	parking lot attendant	electrician
carpetner, electrician, etc.	maintenance man	maintenance mechanic
	fireman	medical equipment technician
	engineer	painter
	building superintendent	preventative maintenance mechanic
		shift mechanic
		senior carpenter
		senior electrician
		senior medical equipment mechanic
		senior painter
		senior preventative maintenance mechanic
		senior roving maintenance mechanic
		senior shift mechanic
		administrative assistant
		supervisor
		construction supervisor
		director

APPENDIX C - Continued

Jobs in the Respiratory Therapy Department		
1947	1962	1978[a]
none	assistant therapist chief therapist	respiratory therapy equipment technician respiratory therapy technician (CRRT eligible) respiratory therapy technican (CRRT) respiratory therapist (AART eligible) respiratory therapist (ARRT) senior respiratory therapist
		administrative assistant day supervisor evening supervisor night supervisor quality control supervisor assistant technical director technical director medical director

SOURCES: Archives of Children's Charity Hospital, Hudson; "Agreement by and between Children's Charity Hospital Medical Center and Building and Service Workers Union, Local 1000, AFL-CIO, June 1, 1978 to May 31, 1980"; Children's Charity Hospital Medical Center, Telephone Directory, [1978].

[a]Positions above the horizontal line fell in the bargaining unit of Local 1000. Some clerical positions in each department that came under the jurisdiction of the administration may have been omitted.

LIST OF ABBREVIATIONS

AnRpt Adm, Annual report of the administrator (followed by the year of the report)

AnRpt ChMS, Annual report of the chairman of the medical staff

AnRpt Dir, Annual report of the director

AnRpt FVP, Annual report of the first vice-president of the board of directors

AnRpt MDir, Annual report of the medical director

AnRpt PhysCh, Annual report of the physician-in-chief

AnRpt Pres, Annual report of the president of the board of directors

AR, Report of the administrator to the board of directors (followed by the month and the year of the report)

BOD, Minutes of a meeting of the board of directors

DH, Minutes of a meeting of the department heads

DR, Report of the director to the board of directors

EC, Minutes of a meeting of the executive committee of the board of directors

EC-BOD, Minutes of a joint meeting of the executive committee and the board of directors

"Payroll," Report to the board titled "Classification of Employees on the Payroll"

SR, Report of the superintendent to the board of directors