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**Birth Doctors and Death Doctors:  
Materials Complexity and the  
Development of Obstetrics, Pediatrics and  
Geriatrics**

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# Birth Doctors and Death Doctors

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# Birth Doctors and Death Doctors

## Introduction

Is professional power the special power of knowledge or merely the ordinary power of vested economic, political and bureaucratic interest? (Friedson, 1986)

This paper will compare the development of medical specializations around birth and death, and attempt to sketch some of the interactions of technology, knowledge, and interests in the evolution of these specializations. Most social scientific analyses of professional specialization assume that these sub-divisions of labor are necessary and inevitable responses to the accumulation of "bodies" of knowledge and technological procedures. From this functionalist view, the division of labor can be adequately explained by the inter-relatedness of tasks, tools, and knowledge.

Over the last thirty years, however, various critical perspectives have challenged this functionalism. It has been suggested that the structure of the division of labor was shaped to the service of exploitation and social control, and that whole occupations and professions have arisen in the service of these social control functions (Carchedi, 1977; Willis, 1983).<sup>1</sup> Others, in turn, have articulated ways in which workers, individually and collectively, have shaped the contours of their laboring life, the nature of the tasks and the tools used, and their work relations.

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<sup>1</sup>Marxist medical sociologists of a more "realist" epistemological persuasion, such as Vincente Navarro (1976, 1986), take the division of medical labor for granted just as the functionalists do, and focus on the role of medicine in reproducing labor power.

In the study of professions, critical non-functionalist analyses generally focus on the common interests that develop among individuals related within the division of labor, who then face more or less facilitating conditions for collective organization around their common interests (Starr, 1982). If these workers with common interests are able to collectively organize they begin a struggle for "collective mobility" (Larson, 1977), which involves regulating competition among the profession's members; establishing "professional autonomy" from employers and over clients; legislating specialized higher education and state certification as pre-requisites of practice; and securing the ability to punish members who violate the code of conduct of the profession (Hughes, 1958; Ben-David, 1963; Friedson, 1970; Starr, 1982). These critical materialist analysts of the professions emphasize that for a body of knowledge to develop, a body of concrete individuals must learn, discuss and practice similar things, building connections among facts, tools and practices. Their innovation of these connections, investigations, tools and practices are motivated by financial and political interests, individual and collective, not by the inherent laws of an autonomous knowledge-creation, technological advance, or structural differentiation (Parsons, 1951).<sup>1</sup>

This politico-economic analysis is in sharp contrast to the traditional Marxist critique of medicine, which, like the functionalists, assumes the naturalness of the medical division of labor, while criticizing the distribution of the access to this technology. For the critical materialists, on the other hand

modern medical care, contrary to the assumptions of the more traditionally radical political economy critique, does not consist of the administration by doctors of a group of morally neutral, essentially benign and effective techniques for curing disease and reducing pain and suffering. The techniques themselves are frequently useless and all too often actually physically harmful. The "scientific" knowledge of the doctors is sometimes not knowledge at all, but rather social messages (e.g. about the proper behavior of women) wrapped up in technical language. And above all, both the doctor-patient relationship and the entire structure of medical services are not mere technical relationships, but social relationships which express and reinforce the social relations of the larger society, e.g. class, racial, sexual and age hierarchy; individual isolation and passivity; and dependency on the social order itself in the resolution of both individual and social problems. (Ehrenreich, 1978).

The current social-constructionist trend in medical sociology (Bury, 1986) can be seen as a natural outgrowth of these critical theories. For the social-constructionists, the professions that grow out of an initial functional division of labor not only build

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<sup>1</sup>The profession of obstetrics did not result from technological imperatives or the accumulation of scientific advances It was a strategic success. (Arney, 1982, p.19-22)

themselves, their practices, their social relations, and the ideologies that support them, but they create themselves with virtually no material determinants, as part of the reproduction of the systematizing rationality of modernity, or whatever. While the functionalists assume that the structure of the division of labor is linearly determined by the autonomously evolving "functional differentiation of applied science," the social constructionists take a relativist position and underestimate the degree to which there actually are material reproduction requisites of a social system, and material constraints on the divisions of labor. For instance, it is very unlikely that a profession could organize that claimed exclusive competence over toilet training and tort law, or only lung cancer and fungal diseases of the foot. The politico-economic perspective, on the other hand, assumes that while there actually are some material determinants of the division of labor, that once collective interests form around the division of labor, social, economic and political factors, including the interests and social action of the workers themselves, determine whether and how collective organization forms.

This paper will attempt to illustrate that all three of these perspectives point to important factors in the development of medical specialization. There are "material" constraints on the possible divisions of labor; the pre-existing division of labor and the organization of technical knowledge and tool use provide a material base for the possibility of new collective boundaries, but they do not determine where those boundaries should be. Cultural, economic and political structures also influence the shape of the division of labor, when and if tasks will be differentiated, and where collective boundaries will be formed. Once formed, collective organization also enters as a factor in the construction of the division of labor. Professionals do make history, but not under conditions of their own choosing.

The knowledge, skills, and job characteristics may cluster like the population of a city, but the decision of when, and how to incorporate the city is strongly influenced by politics. Should the suburbs be incorporated into a greater metropolitan area, for instance? Suburbanites and inner-city dwellers may choose to join if there are mutual interests to be served. On the other hand, political and economic forces may gerrymander the boundaries of the city so that they bear little resemblance to either population distribution or common interests.

In a discussion of smallest space analysis of citation networks in scientific journals, Kelly (1984) paints a graphic picture of the interconnected web of knowledge of the scientific disciplines (also Durack, 1978 and Goffman, 1980). His imagery of a

geography of knowledge, with its own topography and texture, conveys some of the ambiguity in the development of separate specializations:

An experimenter's neighborhood is bounded by the clan of all those who wave to him and everybody he waves to, that is, the set of people who have acknowledged his ideas in their work...Nearness means a commonness of ideas. An individual scientist may be on the fringe of hundreds of communities, and near the heart of a few. In the center of every neighborhood is a nucleus of influential people who set the tone and pace. In scientific communities these are the core people others concede as being personal donors of important ideas...Sweeping outward from the nucleus (one) would have to cast (one's) net wider and wider, over more and more papers, to haul in the same catch of useful news. The hinterlands of one place, of course, could be the backyard of a different neighborhood.

The maps show only the major landmarks- folks everybody in town knows, and who know everybody else. The "empty"background is, in reality , a solid mass of other smaller neighborhoods, hangout spots, quiet workers, a few hermits, and people moving around all the time...The ground is not static, but an undulating throb.The tissue stirs, the pattern swirls...

It took zillions of citations reckoned by a hi-tech computer to verify what my neighbor scientists had been trying to tell all along. The texture of scientific information, that is, the terrain of what we know, they kept saying, is a little thick in places, a little thin in others...like lumpy gravy. (Kelly, 1984, p.103)

Just as the world of scientific knowledge is a lumpy gravy, rich with possible boundaries, so also, it would seem, are skills, tools, and labor practices.

The following section will attempt to point to some of the "material" characteristics of medicine that appear to be places of lumpy gravy, around which professional specializations might be expected to grow. Comparing cases where specializations did grow to those where they didn't, some political and cultural factors will be suggested which may have facilitated or inhibited specialization.

# 1. Birth, Youth, Dying and Death as Material Bases

"Social constructionists" and the alternative health care movement have often critiqued modern medicine for having a mechanistic and atomistic approach to the cure of isolated pathologies, rather than a comprehensive perspective on the maintenance of psycho-social, as well as physical, health. Marxists and social democrats, on the other hand, have critiqued the American health system for its commodification of a basic "right," and the increasingly corporate organization of delivery. It is perhaps unsurprising then that theories from Western industrial sociology appear to be relevant to the study of the medical division of labor.

A central concern of industrial sociology has been the division of labor processes on a "rational" or "natural" basis, and many studies have examined the material correlates of the divisions of labor and general theories for "socio-technical" design. One of the differences between the theories of professionalism and those of industrial work organization, however, is that the physician enjoys an unusual degree of autonomy in her work, and is not subject to the same degree of hierarchical management and externally mandated division of tasks. But the industrial sociology literature does make predictions about when a job will functionally "require" hierarchical control or, conversely, decentralization and job autonomy. Since job autonomy is one of the defining characteristics of a specialized profession, then we can extrapolate predictions from some of these theories of when and where professional specialization will occur.<sup>1</sup>

As outlined by Scott (1987, p. 214) there are two central hypotheses of the literature on technology and the division of labor:

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<sup>1</sup>There is a literature on the relationship of technology and the development of medical bureaucracies, and as physicians' autonomy is increasing compromised by salaried labor, bureaucratic oversight, and computerization the industrial sociological models may be directly applicable. But there is still little point in attempting to apply a model developed to explain the division of labor between a manager and assembly-line workers to a medical bureaucracy manager and the doctors he supervises. (Anderson, 1985; Breiger, 1976; Coleman, 1966; Counte & Kimberly 1974; Fennell & Warnecke, 1988; Greer, 1981; Kimbely & Evanisko, 1981; Malvey, 1981; Mechanic, 1977; Roberts, 1987, 1981, 1974)

1. The greater the technical complexity, the greater the structural complexity. The structural response to technical diversity is organizational differentiation (or specialization).
2. The greater the technical uncertainty, the less formalization and centralization (the greater the autonomy of the laborer).<sup>1</sup>

In other words, the more complex the overall body of tasks, the more numbers of tasks or occupations they will functionally differentiate into. Also, the greater the technical uncertainty involved in any particular process, and the greater the number of task-rules that must be learned from experience to perform the required operation on the raw material, the more likely is the development of professional autonomy. Diverse and unpredictable raw materials increase the technical uncertainty, and thus complex raw materials would also be related to the development of autonomy.

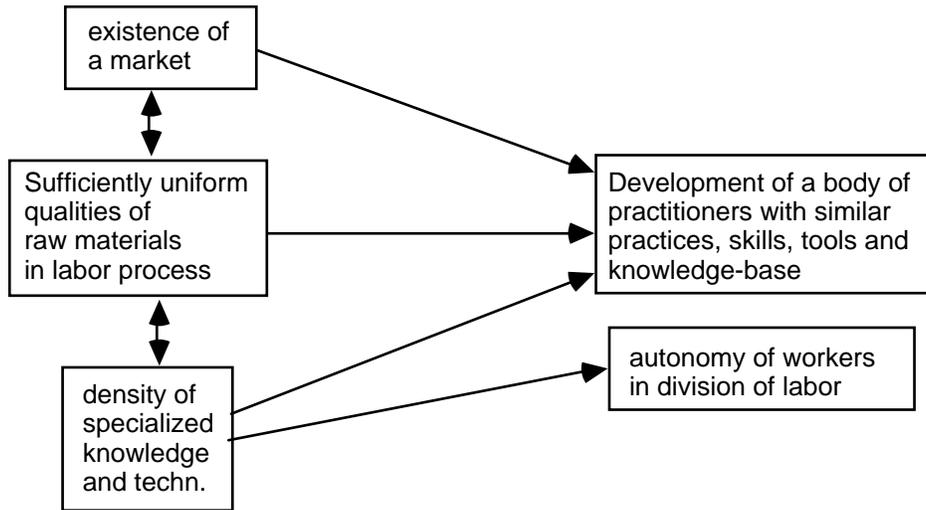
Highly uniform raw materials being transformed by a highly routinized set of knowledge, tools and practices will tend to lead to a sub-division of tasks and de-professionalization (as is happening to mammography, for instance). On the other hand, the development of a profession also requires *sufficient* uniformity of materials, tools, skills, and knowledge. Otherwise, as in social science, the material diffusion of the skills and knowledge makes the defense of boundary claims extremely difficult. It is difficult for a social scientist to explain what exactly that one set of relatively uniform tasks it is that we do so well that others do not have equal claims to being able to do them. Demographers and survey researchers do, on the other hand, have relatively uniform tasks, knowledge and skills, around which boundary claims can be defended and complexity can develop.

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<sup>1</sup>Scott schematizes the studies of relationships between technology, materials and differentiation, from which the two axioms above are drawn:

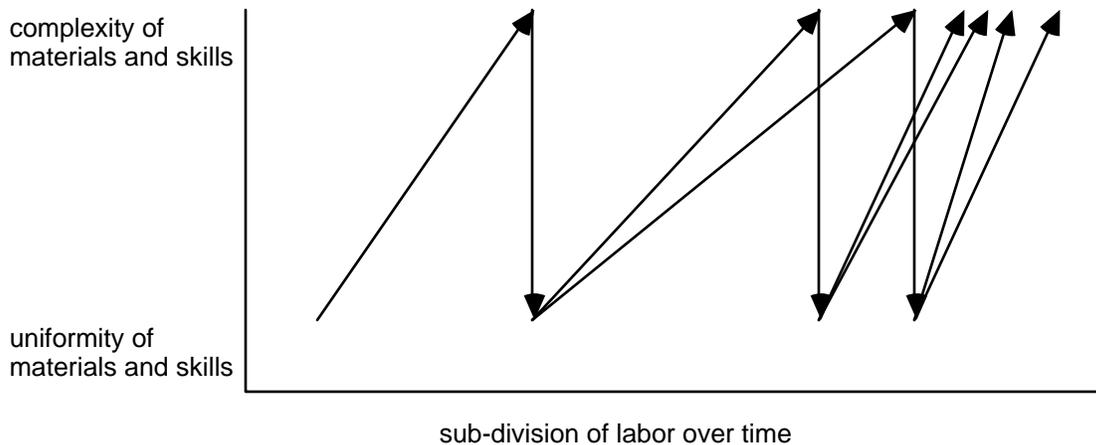
	<u>Inputs</u>	<u>Throughputs</u>
Materials	Uniformity of inputs (Litwak, 1961)	Number of exceptions (Perrow, 1970; Lynch, 1974)
Operations	Preprocessing, coding, smoothing of inputs (Thompson, 1967) (Hage and Aiken, 1969)	Complexity of processes (Udy, 1956; Woodward, 1965) Routineness of work
Knowledge	Predictability (Dornbusch & Scott, 1975)	Knowledge of cause-effect relations (Thompson, 1967) Analyzability of the search process (Perrow, 1970, Van de Ven and Delbecq, 1974)

**Figure One: Material Factors in the Professional Division of Labor**



In other words, for boundary creation to occur in the first place, the distribution of task characteristics must be narrow and uniform enough, and not so broad and complex, that the tasks wouldn't better be sub-divided into a number of other occupations. Once the boundary has been formed, then the complexity can develop internally. This indivisible complexity, then, as the industrial theories suggest, will be a powerful determinant of the autonomy of the occupation, and thus of "professionalization." As will be discussed later, the power that the workers have developed over the labor process and the market, their autonomy, will have also give them some power to determine the consequences of further sub-division and sub-specialization .

**Figure Two: Divisions of Labor and Characteristics of Materials and Skills**



The particular materials examined in this paper are the features of the human body at the two ends of life, birth-youth and aging-death. The features of bodies at the two ends of life are the "material" independent variables in the development of medical specializations around them. Operations need to be performed on these materials on the basis of specific bodies (lumps) of technical knowledge. We would expect, on the basis of the above hypotheses, that as the medical system and medical knowledge grew in size and complexity that specialization would occur. Within this growing complexity there would be lumps of relative uniformity of the characteristics of bodies, and distinct sets of knowledge and tools necessary to treat these sets of characteristics. Beyond a further degree of complexity sub-specialization would occur. The fact that the treatment of the health of bodies is sufficiently different from the treatment of other things, and thus that bodies are relatively uniform unto themselves, explains the origin of a profession of medicine in the first place. That there are sets of ways of the treating bodies which are relatively different from other sets, and relatively uniform unto themselves, explains the material basis of specialization.

The problem with fetuses, infants, the dying and the dead, like all raw materials, is that there are many ways in which they are the same and standardizable, and many ways in which they are different. The treatment of a breech birth and a tumor are pretty much the same for a surgeon, but quite different for a therapeutic radiologist. The question must be, *in what ways are these materials the same or different in regard to the procedures which we would like to perform on them?*

### **1a. Birth as Raw Material**

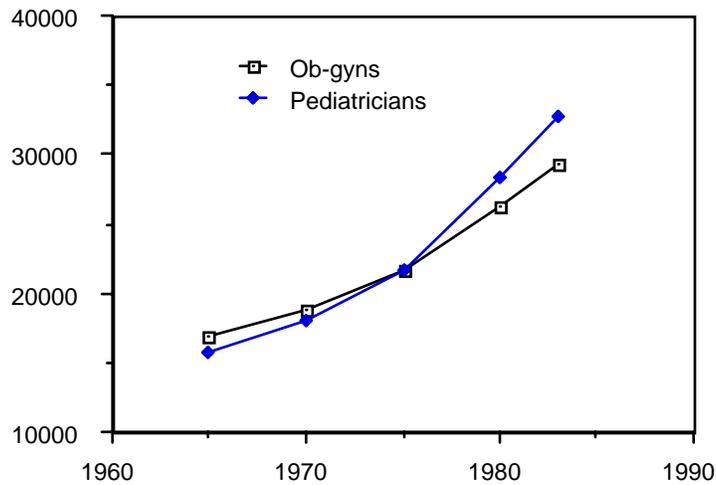
The majority of births are uncomplicated and follow a relatively predictable modal course, with a clearly delimited knowledge base relevant to the occupation. Until recently, the attendant's task was simply the easing of the mother's pain, hastening the birth, and attending to the mother's and new-born infant's health. Given the state of medical knowledge and tools, there was a great deal of uniformity in the attendance of birth before the 19th century. This would predict the early development of one occupational specialization around it, i.e. midwifery or obstetrics.

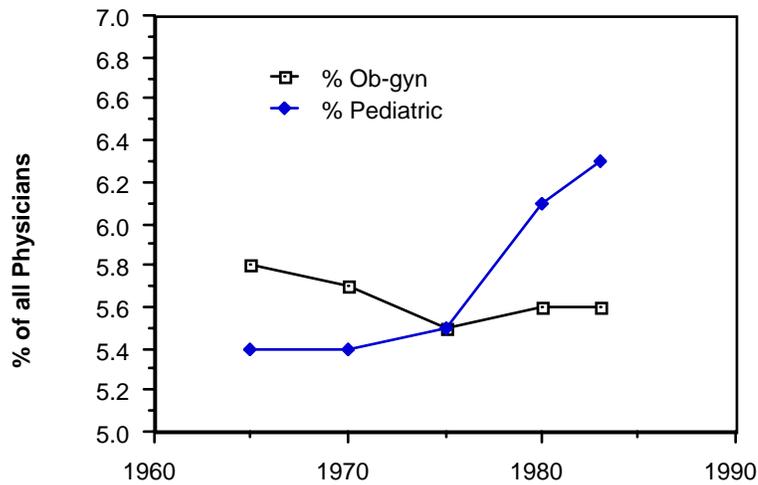
Though birth customs vary considerably, midwives seem to be cross-culturally ubiquitous. In pre-nineteenth century Euro-American tradition, births were classified into

two groups, normal and abnormal; midwives dealt with the majority of normal births, and barber-surgeons were called in to surgically deal with the abnormal births. This division of labor fits our "material" model.

Why, then, did birth come to be performed solely by obstetricians? According to Arney's (1982) history of obstetrics, because the social view of the predictability of birth, of birth's normality, was replaced by a view of birth as unpredictable and dangerous. In particular, early obstetricians, the descendents of the barber-surgeons, sought to portray all births as pathological, legitimating their claim to exclusive competence; if a woman only needed a midwife for a normal birth, then there were no normal births. Though this supports an idea of material causation, it also points to the social construction of the qualities of the raw materials, as will be discussed at great length below.

**Figure Three: Numbers of Ob-gyns and Pediatricians 1965-1983**

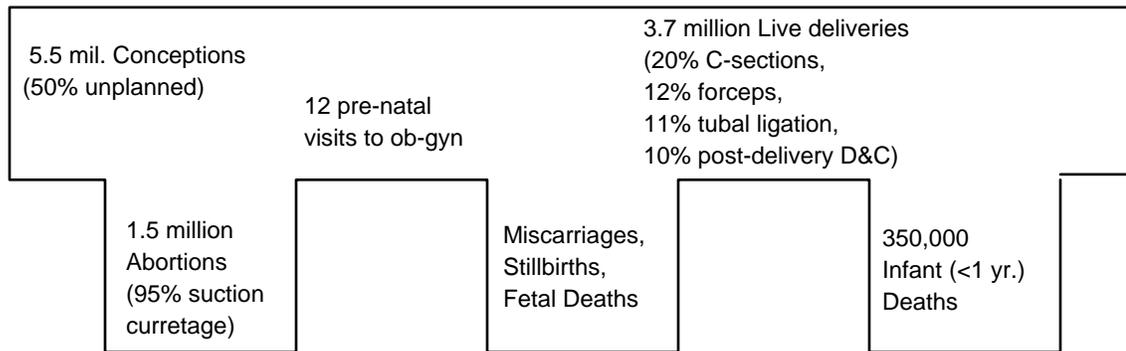


**Figure Four: Ob-gyns and Pediatricians as % of all Physicians**

From a nineteenth century norm of no medical prenatal care and home deliveries with midwives, obstetricians have significantly medicalized child-birth, and they have almost complete hegemony over it. There are approximately 2000 women of child-bearing age per each of America's nearly 30,000 ob-gyns. In 1985, 75 percent of all new mothers had begun prenatal care in the first trimester, with only 6 percent of mothers waiting till the last trimester or receiving no care at all. Pregnant women visited their ob-gyns an average of 12 times during pregnancy (10 times for black mothers), or roughly once every three weeks. In 1985, 99% of all births occurred in hospitals, and 97% of all births were attended by ob-gyns.<sup>1</sup>

<sup>1</sup>The critique of obstetrics and the return of midwifery as a countercultural fashion has had a noticeable impact. In recent years, the use of midwives in hospital births has grown rapidly among whites, and slowly among blacks. In 1985, 2% of white births, and 3% of black births were attended by midwives. Of the one percent of all births not in a hospital (37,000 in 1985), half were attended by midwives and a quarter by physicians. The number of whites recorded as using midwives in home births grew from 5000 in 1975 to 15,000 in 1985, while the numbers of blacks using midwives in home births declined from 4,600 to 570 in the same period (NCHS/MVSR).

### Figure Five: Modal Course of American Pregnancy (1985)



Source: Monthly Vital Statistics

Today obstetricians-gynecologists have branched out to perform many other procedures, both gynecologic and birth-related. In fact, gynecological procedures are the most frequently performed of all invasive procedures. Thus, the complexity of their labor has increased, as has the complexity of medicalized *labor*.

**Table 1: Number of obstetric-gynecologic procedures in 1980<sup>1</sup>**

D&C (abortions) "diagnostic"	813,000
Caesarian-sections	610,000
Hysterectomy	538,000
Low forceps delivery w/ & w/o episiotomy	457,000
Tubal ligation (tubes tied)	383,000
D&C after delivery or miscarriage	273,000
Repair of current obstetric laceration	244,000

### 1b. Death as Raw Material

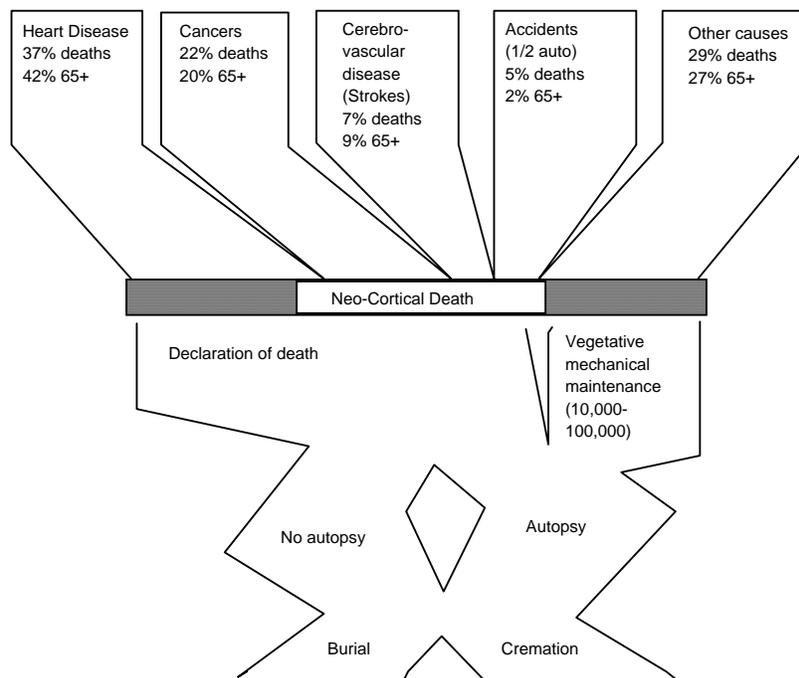
In the absence of war or plague, there are usually a number of modal courses of dying in a society. In the last one hundred years, the leading causes of death in the U.S. have changed much more than the modal birth-courses. At the turn of the century,

<sup>1</sup> Most frequent non-obstetric-gynecologic invasive procedures:

Repair of hernia	497,000
Excision of lesions	494,000
Biopsy	434,000
Open heart surgery	167,000

infectious disease was the leading cause of death in all age groups, while now the modal causes of death are heart disease and cancer for adults, and accidents for children. As might be predicted by the materials-technology theory articulated above, the specializations that relate to the dying are of a great variety, generally being based around the particular effected biological systems or syndromes, such as internal medicine, oncology, cardiology, surgery, and therapeutic radiology. But there is no specialization claiming a general competence in dealing with "dying people" comparable to obstetrics' claim to be able to deal with all "birthing people."

**Figure Six: Modal Courses of American Death (1985)**



Source: Monthly Vital Statistics

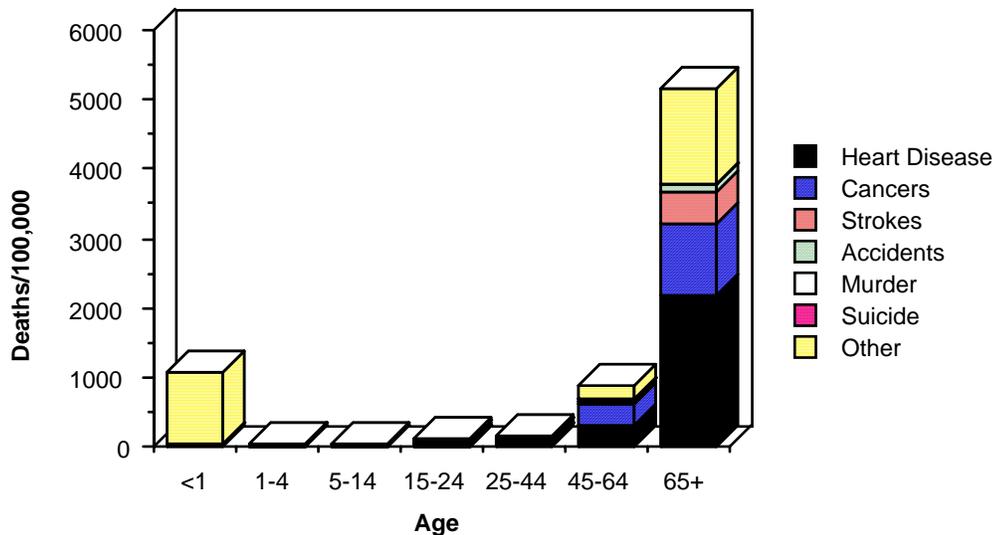
The leading causes of death have remained fairly stable over the last twenty years, with heart attacks and other heart diseases accounting for nearly 40% of all deaths, cancers for more than 20%, strokes and other cerebrovascular diseases for 8%, and accidents, for the most part auto accidents, for 5% of deaths.

**Table Two: Leading Causes of Death by Age Group (1985)**

<u>Yrs</u>	<u>&lt; 1 Yr</u>	<u>1-4 Yrs</u>	<u>5-14 Yrs</u>	<u>15-24 Yrs</u>	<u>25-44 Yrs</u>	<u>45-64 Yrs</u>	<u>65+</u>
Deaths per 100,000	10	51	26	96	160	897	5153
Heart Disease		4%	4%	3%	13%	32%	42%
Cancers		7%	13%	6%	17%	34%	20%
Strokes		--	--	--	3%	4%	9%
Accidents		39%	48%	51%	22%	4%	2%
Murder		5%	5%	13%	8%	4%	--
Suicide		--	3%	13%	9%	--	--
Cong. Anom.s	21%	11%	5%	1%			
SIDS	13%						
Resp. distress	9%						
Prematurity	8%						
Mother's comp.s	3%						
Others	45%	33%	23%	24%	28%	22%	27%

Source: Monthly Vital Statistics

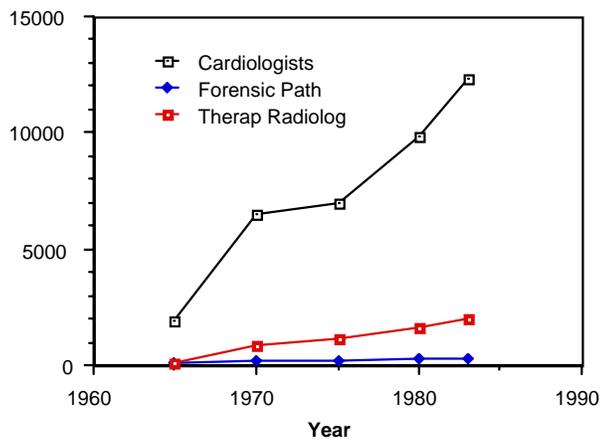
**Figure Seven: Death rates per 100,000 of population in age groups (1985)**

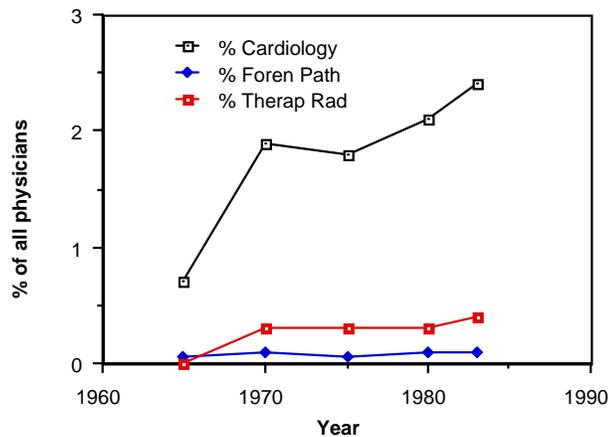


More than 70% of all the people who die every year in the U.S are over 65 years old. The leading cause of death in the U.S. as a whole is heart disease, and the majority of

cardiologists' and cardiac surgeons' patients are over 55 years old, the age group with the highest heart disease and mortality rates. Heart attacks, strokes and cancer account for 75% of the deaths of those over 55, with heart disease steadily increasing its proportionate share across the life-span, and over the last twenty years (HHS, 1986). Therefore, we might define cardiology as a "death-specialty" or a "geriatric" medical specialty. Our other two candidates for "geriatric" or "death" specialties, oncology and cerebrovascular medicine, are much smaller and less institutionalized as sub-specialties relative to cardiology (or other non-lethal syndromes, such as allergies, for that matter) though they are distinct specializations. Below the figures are displayed for therapeutic radiologists, who generally provide radiation therapy for cancer, and forensic pathologists, who perform autopsies.

**Figure Eight: Numbers of Death-related Specialties 1965-1983**



**Figure Nine: Death-related Specialties as % of all Physicians**

Obstetricians also have much more control over the care of the birthing people than the death-related physicians have over those who die. While today the great majority of Americans die in the hospital, one-quarter of all Americans die in nursing homes, attended by nursing staff, with another 5% dying soon after discharge from a nursing home to a hospital. Roughly 45% of those over 85 years old die in nursing homes, with another 10% dying soon after discharge (HHS, 1986). Obviously the nursing home worker is another attendant to the dying and the dead, but one whose professionalization is much more difficult because the knowledge base of changing a bed-pan is so much more restricted than that of performing a colostomy. As long as the patients aren't defined as "dying" or "suffering from a disease of old age," they can be cared for as "elderly" by non-medical professionals and just receive the attentions of those specialized to fix their different biological systems when they are sick.

Unlike the "dying," the corpse, and the knowledge and procedures applied to it, are very standard. Cross-culturally, the "preparer of the dead" is as ubiquitous as the midwife, though again the preparations of corpses vary tremendously. What doesn't vary cross-culturally is the uniformity of corpses with respect to what must be done with them, and the cross-cultural desire to have something done with them. In a simpler society, the corpse might be attended by a religious professional, who performs required rites, as well as a physical attendant, who dresses and burns or buries the body, or these two roles might be performed by the same professional.

In modern industrial societies, there are several specialties which deal with the corpse as a raw material, and a developed set of legal and economic structures which govern the disposal of bodies. Forensic pathologists perform autopsies or not and morticians prepare the corpse for viewing, burial or cremation. Ministers, of course, also perform the required rites, though funerals are generally only a small part of the ministerial work load, and so ministers can not really be said to be "death-professionals."<sup>1</sup>

### **1c. Differences Between Birth and Death**

There are several possible "material" or "technological" differences between American birth and death for the differences in medical specialization around them. First, the diversity of death and the relative uniformity of birth would seem to provide some support for the "materials" hypothesis. While older people do have a higher mortality rate, death still comes to a much broader spectrum of people than birth. Birth only comes to one age of infant, and a limited set of women. Dying for the elderly is more varied in its causes, and the tools required to treat it, than is birth. When we examine the leading causes of death across the life-span we see even more diversity. While heart disease accounts for nearly half the mortality of the elderly; accidents, murder and suicide account for 45% of the mortality of toddlers, 55% of the mortality of pre-adolescents, and 77% of the mortality of adolescents and young adults.

On the other hand, the demographic shift of the last century has expanded the numbers of people who survive to die in old age, and consequently the uniformity of the causes of death. While the distribution of death over the life span was fairly even at the turn of the century, it is now highly concentrated around old age with its characteristic syndromes. Median age at death has shifted from the mid-fifties at the turn of the century, to the 73 for men and 81 for women today.

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<sup>1</sup>In Japan, on the other hand, the ministerial division of labor has developed such that the bulk of Buddhist priests' professional duties are funeral and memorial rites, while most Japanese weddings are performed by Christian ministers, and Shinto priests tend to the shrines and popular folk rites.

**Table Three: Age at Death and % Surviving to Age 65 by Sex (U.S. 1900-80)**

<u>Sex</u>	<u>1900</u>	<u>1940</u>	<u>1980</u>
<u>Median age at death</u>			
Males	55	67	73
Females	58	72	81
<u>Proportion surviving to age 65</u>			
Males	37%	55%	70%
Females	41%	65%	84%

(Olshansky and Ault, 1986)

The shift can largely be attributed to the control of infectious and parasitic diseases, particularly those responsible for high infant and child mortality. The causes of death have increasingly shifted toward the degenerative syndromes characteristic of old age, such as cancer, strokes, and heart attacks, a shift referred to as epidemiologic transition (Omran, 1971; Olshansky and Ault, 1986). These changes have been particularly dramatic in the last 30 years, as the elderly won major expansions of social benefits and access to health care. Thus, the increasing numbers of elderly, and the increasing homogeneity of their morbidities and mortalities, would be "material" causes for geriatric and death-related specialties to grow more rapidly in the current period than in the past. <sup>1</sup> We also would expect obstetrics to have grown rapidly during the years of the Baby Boom, are at least after a five-year lag while the doctors were getting trained for the growing market.

These changes also take place in the context of a rapid increase in the numbers of physicians per person in the United States, and a growing disparity between the material benefits enjoyed by specialties versus general practice. In Parsonian terms, the growth of the system is accompanied by increasing functional specialization. Even if the materials had not become more uniform, and the market for the labor grown, the growing size of the system and the pressures to specialize would tend to encourage the growth of a geriatric or thanatologic specialties now. We do see the growth in a whole range of medical sub-specializations.

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<sup>1</sup>Rice and Feldman (1983) have projected some of the effects that the demographic shift toward advanced age will have on medical services. They predict that the increases in the numbers of elderly between 1980 and 2040 will account for a 350 percent increase in the total number of nursing home residents, a five-fold increase in the number of nursing home residents aged 85 and over, and a 103 billion dollar increase in the health care budget for those 65 and over (in constant 1980 dollars).

Heinz and Laumann's (1982, p.46) JUG theory of functional specialization in law is an example of the "material" and market structuration of specialization. If the skills necessary for a task are those generally acquired in the course of training, such as giving shots, the physician will be less likely to develop his or her practice around these, unless there is a narrowly defined market for the service that the physician can depend on for a major portion of his her practice, such as pre-adolescent children. If on the other hand, the skills require extraordinary training but the market is broadly dispersed, such as the treatment of the elderly, specialization is still unlikely. Finally, if the skill is both one that requires extraordinary training, and has a narrowly defined market, such as obstetrics, those who practice this specialty will be much more likely to have it make up a majority of their practice.

Dying is a social process which is guided by expectations of appropriate behavior. These expectations delimit a range of "dying trajectories" (Glaser and Strauss, 1968) which define various forms of normal and abnormal dying. These expectations are particularly concerned with the degree to which the person is convinced that the patient will in fact die and with the appropriate duration of dying...the aim of the hospital setting is to establish a regular and routine pattern of death for large numbers of patients (Sudnow, 1967; Wright, 1981). (Turner, 1987:126)

Another technological difference between birth and death is the certainty of the prognosis. The predictability of the outcomes of a pregnancy have always been greater than when, and how, someone would die. Today an ob-gyn can predict with 95% certainty, within a one-month window, that a woman will give birth to a healthy baby. The varying prognostic certainty of death, on the other hand, could be predicted to discourage death-related specializations (Davis, 1960). Potentially fatal diseases or syndromes are clearly different in how inevitably terminal they are, and how meaningful and sophisticated the armamentarium is to deal with the syndrome. Strokes and heart attacks aren't inevitably fatal, and when they are they are usually immediately fatal; cardiologists and cerebrovascular specialists don't usually have long relationships with "dying" patients. Many forms of cancer, on the other hand, are fairly predictable and protracted, which would suggest the distinctness of oncology.

Before the twentieth century, when virtually all severe illness was terminal, and infectious disease predominated as the cause, there were specializations of "death-attendants," such as the religious and nursing staff at hospices and hospitals. Today, we see again the growth of death-attendant specializations in hospices, catering to those who have resigned themselves to the terminal nature of their condition, putting themselves in the uniform category of "the dying" rather than that of the "cancer patient" or "victim of suppressed immune system." But if one is in a hospice setting and dealing with all

cancer patients, there would seem to be little incentive to also study up on cardiology and cerebro-vascular medicine.

Also in the marketing of one's specialization, claiming an exclusive competence in old age or, even worse, fatal diseases sounds quite difficult. If the average health-care consumer had to choose between a physician who specialized in knowing everything about their syndrome or organ system in question and how to fix it, versus a physician who had helped many old people die from it, the former would seem to have the advantage. The midwife or obstetrician is generally trying to successfully deliver a child, while the attendant to a dying patient is generally attempting to prevent the death. Since the knowledge required to keep people alive is so much more diverse and specialized around syndromes and physiologic systems than the skills required to help people die, these specialists are the ones who mainly deal with the dying rather than the encompassing geriatrician.

The (un)willingness of the patient to put themselves in one or another category ("dying" or "sick"), and thus to construct their own "material" characteristics vis-a-vis the technology appropriate to treat them, again suggests the importance of the social construction of the materials and technologies. The next chapter will begin to examine the factors that socially construct the raw material, its labor process, its market and the ability of those engaged in the labor process to develop collective interests and identity.

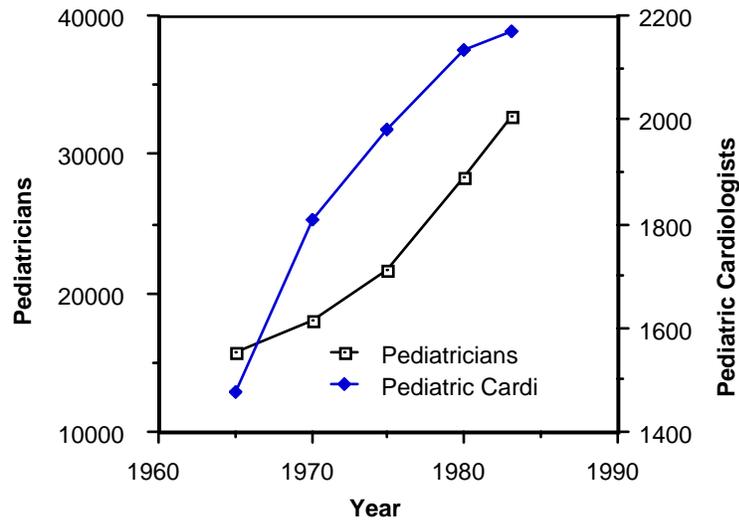
## 2. The Social Construction of Medical Specialization

Aging possesses a definitive group of clinical manifestations or symptoms; a clear-cut etiology of structural changes at both the macroscopic and microscopic levels; a significant measure of impairment, discomfort, and suffering; and, if we are willing to grant the same tolerance to current theories of aging as we grant theories in other domains of medicine, an explicit set of precipitating factors. Aging has all the relevant markings of a disease process. (Caplan, 1981:734)

Even if there were more babies and children than elderly, and thus there was a smaller market for ob-gyn and pediatric services than there was for geriatric or death specialties, this is not a fully adequate explanation for the lack of development of these specialties. After all, specialists with much smaller markets, and with skills that could conceivably have been learned and subsumed by other existing specialties, did develop. Today there are only 800 colon/rectal surgeons, 700 specialists in aerospace medicine, and 5000 pulmonary disease specialists. Granted that these practices have distinct tools, skills, bodies of knowledge and markets, it nonetheless seems plausible that these could have been performed by other related specialties, and the markets of each of these are clearly smaller than the potential market for "old-age doctors."

When we focus on pediatrics we again see specialties that are insufficiently different from others that they violate a pure model of "material" or functional determination. We have the growth of a number of pediatric sub-specialties that are pediatric versions of "adult" specializations: pediatric allergy, child psychiatry, pediatric cardiology. While the syndromes specific to children's heart problems are certainly different from those of adults why shouldn't adult cardiologists and cardiac surgeons simply take courses in the syndromes peculiar to children? Why do they need a specialty? Even though the majority of children's mortality is do to accidents, murder and suicide we do not see a struggle to establish a pediatric emergency medical specialty, even though emergency medicine is currently attempting to institutionalize.

**Figure Ten: The Growth of Pediatrics and Pediatric Cardiology**



Similarly, infant mortality and morbidity is both completely different from mortality and morbidity in other age groups, and twice as diverse. The fetus/infant's interaction with the doctor is largely non-morbid (they aren't sick), that is their medical attention is mostly routine check-ups, but the sick minority are troubled with a whole range of very diverse infancy-specific syndromes (see Table Two). After infancy, and especially after adolescence, the average persons' visits to a physician are largely morbid (they are sick). If any pediatric specialization would be expected to develop it would be "infant medicine" separate from non-infant. But "pediatrics" covers every phase of the life course from birth to late adolescence, and thus clearly violates the predictions of the "materials" model.

The division of labor between ob-gyn and pediatrics can be explained "materially" by the fact that it was not until recently that the fetus/neo-nate became a treatable person, a processable material. Obstetrics centered around ferrying a woman through pregnancy to delivery, and pediatrics on treating the child-product. Arney (1982) points out that obstetricians "discovered" the fetus in the 1940's, and only began to perceive themselves as physicians to the fetus in the 1950's and 1960's, as fetal monitoring and fetal interventions developed.

The following overview of the history of obstetrics, and especially pediatrics, will attempt to describe some of the social and political factors that enabled them to develop and claim exclusive competence over pregnancy and birth, and infancy and childhood.

## **2a. The Origins of Obstetrics and Pediatrics**

The functionalist ascribes the advance of the professions to the growing importance of professional skills and technical knowledge, while the power theorist cites the monopolistic practices of the professions. In the case of medicine, the former sees the growth of valid medical knowledge as the key to the advance of the profession, while the latter finds an explanation in the profession's monopolization of that knowledge.

(But) the advance of science, while vitally important, could not explain the comparative and historical variations in the position of the professions. Science may improve the efficacy and productivity of a profession without making it rich or revered; knowledge must be transformed into authority, and authority into market power, before the gains from scientific advance can be privately appropriated by a physician. On the other hand, monopolistic practices alone are an insufficient explanation. Many occupations seek monopolistic power; to cite the impulse is no explanation of why some succeed and others fail. The exponents of the monopolization thesis tend to presume the capacity of a group to articulate its collective interest over its competing interests. What must first be explained is how the group achieves consensus and mobilization. (Starr, 1982:144)

Given that there is a greater probability of a "collective mobility project" arising around existing technologies, dealing with materials with sufficient uniformity and complexity, the success or failure of professionalization depends on many enabling ideological, political and cultural factors. There must be a demand for the product of the labor, a market. The laborers must develop sufficient commonality of interests to overcome competition, factionalism and sectarianism. They must develop means of viable means of intra-professional communication and organization. Finally, they must struggle for autonomy in the labor process and the political power to guarantee their professional monopoly.

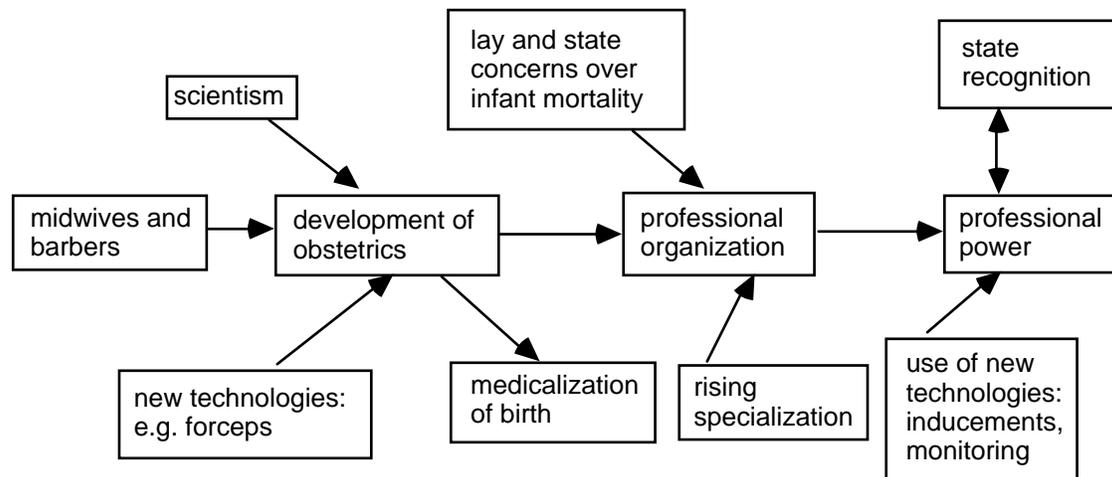
As Starr so ably documents, during most of the nineteenth century "physicians" as a whole had few collective interests and no means of collectively organizing. It took increased homogeneity among their ranks, concentration in the cities, and more effective forms of organization, such as referral networks and an AMA that provided real sanctions and rewards to membership, before they became effective as a social force.

Starr also stresses the importance of the growth of scientism, which legitimated the professionalization of the "scientific doctors" over the "non-scientific" practitioners.

He argues convincingly, for instance, that American obstetrics was in ascendance at the expense of midwifery long before the obstetricians had organized to suppress midwives, and that this ascendance was the result of the perceived sophistication of the obstetricians' medical knowledge and tools.

Finally, in line with a growing literature on the importance of the State in the development of professions, and of the professions in the growth and shaping of the State (Stone, 1980; Rueschmeyer, 1983; Johnson, 1982), Starr documents how political movements, such as the Progressives and their middle-class muckraking reformism, spurred physicians' collective organization by both threatening and legislating their professional autonomy. Predictably, all these dynamics can be seen in the development of obstetrics and pediatrics.

### Figure Eleven: The Origins of Obstetrics



In addition, however, the radical critique of the interdependence of social power relations and the development of medicine is particularly salient. Obstetrics and pediatrics are inseparable from the power relations between male physicians and mothers (Oakley, 1984, 1986). Feminist social history identifies these professions as interwoven with, and reproducing, not only professional power, but the structure of power of men over women, or "patriarchy."

Feminist historians have written of women healers and midwives of the pre-modern era who enjoyed large powers, and also were the occasional victims of persecution (Ehrenreich and English, 1972; Donnison, 1977). With the rise of obstetrics as a "scientific discipline," males invaded and criminalized the medical practices of

midwives, and asserted their hegemony over women's bodies (Arms, 1975; Luker, 1984; Sullivan and Weitz, 1988). This medicalization of women's reproduction is seen as part of the struggle over the control of women's reproductive choice, the patriarchal restriction of reproductive choice to the male physician, the priest, the father and the husband. For instance, the American proto-ob-gyns lobbied for the criminalization of birth control and abortifacients, and attendance at births, by midwives.

After male "scientifically-trained" obstetricians invaded the market and suppressed the midwives, they reincorporated women into case management as subordinant nurses, performing many of the same tasks. The division of labor between a dominant male doctor, detached, analytical and only briefly present, a constantly present, subordinant, and nurturant nurse, and a dependent patient can be seen as having been legitimated by the patriarchal structure of the family (Devereux and Weiner, 1950; Thorner, 1955; Haire, 1978). The development of these medical specialties, as opposed to those around the elderly and dying, would be facilitated by the sexual power structure, or even "required" as a part of the medical control of women's bodies.

On the other hand, the elderly and the dying are also much more likely to be in dependent power relations with their physicians. In fact, because of the differential mortality rates of men and women, two-thirds of the elderly are women. There is for instance a growing apprehension today about the Medicare mill doctor who exploits his, largely female, elderly clients. There have always been a sub-set of physicians whose patients were mostly elderly females. These physicians may not have been as numerous as those dealing with birth, infants and children, but they were there. While patriarchal social relations undoubtedly shaped the rise of obstetrics and pediatrics, and are more centrally involved in these practices than in any others, "patriarchy" provides little to explain the rise of these specializations and not those around the elderly and dying.

An explanation in line with the "social constructionist" perspective is that the life cycle itself has undergone differentiation over time, with society recognizing increasing numbers of stages, and treating them differently. The medieval European life cycle appears to have recognized only childhood and adulthood as distinct, and unequal, periods of life. In particular, until the eighteenth century, infancy and childhood were not recognized as equally valuable periods of human development, but were treated as necessary stages in the development to adulthood (Kessen, 1965; Aries, 1962; Laslett, 1972; Cone, 1979). Kessen (1965) speculates that this lack of valuation of childhood as

special and valuable was related to the high fertility rate and children's high rate of mortality. Only one European child in three reached the age of five before 1750.

From the nineteenth to the twentieth centuries there was a profound inflation in the valuation of children, as superbly documented by Zelizer (1984). Parents had few incentives to control their fertility when many of their children would die, and they would have to depend on their children's support in old age. In the move from an agrarian society, where each child was another pair of hands on the farm, to early industrialization, where children labored in the factories, parents were directly dependent on children's income. But after child labor laws were enacted, and the extended family structure began to break down, each child was simply another mouth to feed, and the valuation of children shifted from quantity to quality. Urban parents' few children were precious, "priceless," and of course required special health care<sup>1</sup>.

While Zelizer elaborates a micro-economic explanation for the special valuation of children and children's health, a parallel orthodox Marxian perspective in medical sociology, associated with Vincente Navarro, holds that the medical system does what is functional for the reproduction of an exploitable labor force. For instance, it is suggested, that since fetuses, babies and children have no direct exploitable labor market value of their own, the value accorded the fetus and infant would be determined by the bourgeoisie's current requirements for women of child-bearing ages in the labor force (value goes down), or its requirements for the infants as future laborers (value goes up). As Starr (1982) notes ironically, in reference to Marxist critics of medicine who see the limitations of American public health as being functional for the reproduction of capitalism, it would appear to equally plausible that a public health campaign to reduce the mortality and improve the health of future workers would be functional for the reproduction of capitalism.

Conversely, in Marxist gerontology (Dowd, 1980; Turner, 1987:117), the elderly's access to health care and other valued resources in a capitalist society is restricted by their lack of labor market exchange value. In simpler societies, even though they couldn't do most kinds of work, the elderly were venerated for their wisdom. But the value of the knowledge of the elderly to society, and in particular on the labor market,

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<sup>1</sup>The new reproductive technologies herald the commodification of sperm, eggs, the fetus and motherhood, just as sex was commodified by the "sexual revolution." Genetic engineering, sperm banking, sex selection, and abortion of defective fetuses are the "quality control" technologies, and the upper class no longer even has to bear the burden of "labor" but can exploit the labor of others through surrogate motherhood, for a fee of \$1.50 an hour.

quickly deflates in rapidly changing, rationalistic societies, both capitalist and communist. To the extent that the elderly have maintained access to social welfare guarantees, such as Medicare and Social Security, they have been won through social democratic struggle (Fox, 1981).

This version of a Marxist perspective would be that pre-Depression American capitalism was more interested in the health of their future working class than they were in the health and well-being of those who could no longer be exploited, and were only dead-weights on their families, society and capital. While it was functional for capitalism to beef up the provision of medical services to infants and children, only when capitalism was in a crisis, as during the Depression, could social democratic struggle could break through impose a program that ran against capitalism's short-term interests.

But this doesn't explain why the provision of these services was through physicians, rather than through publicly supported services. As Starr (1982) notes ironically, in reference to Marxist critics of medicine who see the limitations of American public health as being functional for the reproduction of capitalism, it would appear to be equally plausible that a public health service reducing the mortality and improving the health of future workers would be even functional for the reproduction of capitalism. After all, the private provision of medical care restricted care precisely to those working-class families. While the late nineteenth and early twentieth century concern with infant and child mortality, whether of the capitalists, the reformers or the individual families, was an important historical force, the fact that the movement encouraged the growth of obstetrics and pediatrics had a great deal to do with the intervention of professional power.

The founding of the major national pediatric professional association, the American Academy of Pediatrics (AAP), was intimately tied up with the a broad-based child welfare movement that had been pressing for the study of children's high mortality rates. Many of the organizations that were lobbying for the improvement of the lot of children's welfare were lay organizations, and many had a liberal or social democratic orientation. By 1900, there were over two hundred and fifty American child advocacy and protection societies (Cone, 1979), and by 1915 there were 538 baby clinics across the country (Starr, 1982:192). This led to a feeling among physicians with pediatric backgrounds that

the participation of physicians, especially pediatricians, was often not sought. Health aspects of the various programs were being carried out by nurses who were not well trained in pediatrics, or even by lay groups and other non-medical persons. Physicians were being bypassed to a great extent. (Hughes, 1980:9)

Similarly, the obstetricians were given a major impetus to organization by the movement against infant mortality. The American Journal of Obstetrics and the Diseases of Women and Children, founded in 1868, was not only the first ob-gyn journal, but the first American specialty journal. The American Gynecological Society was organized the next year in 1869. But they had not yet achieved the state backing to control their major competitor, the midwives. While the middle classes generally used obstetricians by the turn of the century, albeit in home deliveries, as many as half of rural, black and immigrant babies were delivered by midwives (Arney, 1982: 46). There were schools for midwives, and in response to concern over high maternal mortality rates, states began to get involved in registering midwives and funding their schools.

Public health officials advocated licensing of midwives and used cross-national comparisons of maternal mortality by prevalence of female midwifery-comparisons between, states and inter-county variations within one state- to show that trained midwives seemed to be better birth attendants than men. (Arney, 1982:46)

In 1920, the American Journal of Obstetrics and Gynecology was founded. As urbanization and public transportation increased, the feasibility and incidence of hospital delivery increased. The American Board of Obstetrics and Gynecology was founded in 1930 to certify ob-gyns. By the mid-1930's only midwives from "recognized" schools were allowed to practice, with the oversight of an obstetrician.

Doctors who specialized in children's health care, or attended primarily children's wings of hospitals, had developed in the later nineteenth century. The first pediatric hospitals in the U.S. opened in Philadelphia (1855) and Boston (1869). The first journal, Archives of Pediatrics, was begun in 1884; the second, the American Journal of the Diseases of Children, in 1888; and a third journal, Pediatrics, was founded in 1896. The first professional organization, the AMA Section on Pediatrics, was formed in 1888, and in the same year 43 pediatricians formed the American Pediatric Society, which still exists as a bio-medical research-oriented society. By the turn of the century, these proto-pediatricians began to insist that the medical services available to children, including immunizations, examinations and remedial care, were inadequate. The proto-pediatricians

dreamed of a federal bureau that would serve as a focal point for investigating and reporting facts having a bearing on the problems of child health and welfare. (Hughes, 1980:9)

In 1908, the child welfare movement suddenly had access to the federal government through the new Roosevelt administration. In 1909, Roosevelt called a "Conference on Children and Youth," out of which came the push for a federal Children's Bureau, which was established in 1912. The Children's Bureau, the Progressives' commitment to funding child and maternal health care, and the proto-pediatricians direct interest in expanding their practices, started an "iron triangle" of politico-economic interdependence. In 1922, when Congress was deliberating the Sheppard-Towner Act, a modest program of support for maternal and infant care, the Pediatrics Section of the AMA voted to approve the Act, while the AMA House of Delegates voted against it, and specifically ruled to censure the up-start proto-pediatricians.

As the Academy historian Dr. Marshall Pease put it, "The fat was in the fire with a vengeance." It was now crystal-clear that the AMA was not the organization through which the pediatricians of the United States could work freely to achieve their goals for improving the health of children. The die had been cast, the Rubicon crossed, and the formation of a national pediatric society was inevitable. (Hughes, 1980)

This crystallized the sentiment in regional bodies of pediatrics for a national professional association which would go beyond the American Pediatric Society's scientific focus to "a fusion of the interests of those pediatricians interested in welfare, in education, and in practice" (Hughes, 1980). Many progressive pediatricians were involved in the American Society for the Study and Prevention of Infant Mortality (1910-1919), which pushed for the registration of births and infant deaths, as well as the Child Health Organization of America and the American Child Hygiene Association. These all subsequently merged in 1923 into the American Child Health Organization, which lasted till 1935, and the ACHO was one of the networks through which physicians involved in pediatric medicine stayed in touch with one another, and upon which the American Association of Pediatricians was to be built in 1930. The letter that eventually invited 34 pediatricians to the founding meeting of the AAP in Chicago in 1930 called for the creation of a "united front to influence pediatrics in its various phases: sociologic, hygienic, educational, investigative and clinical (Hughes, 1980)."

During the 1920's, physicians who had studied pediatrics abroad or who had made pediatrics a concern in their practice began to push for the expansion of pediatrics education. By 1930, there were 1500 physicians in the U.S. whose practice was solely pediatric, and another 2000 who professed that they were chiefly interested in pediatrics. Some of these proto-pediatricians had trained in Europe, and many were trained in the U.S. as internists. There were few separate departments of pediatric medicine. As a direct

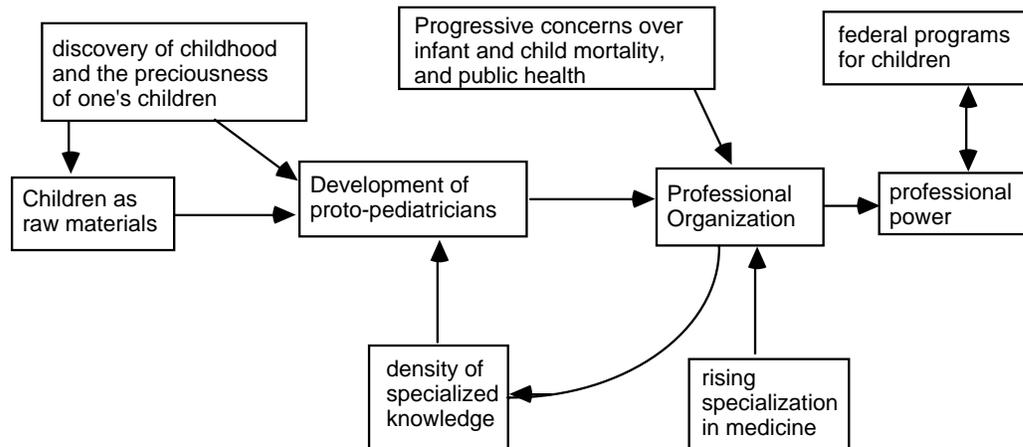
result of recommendations by the White House Conference on Children and Youth, however, and in the context of the Flexnerian reorganizations, many schools in the '20's and '30's began specializations in pediatrics with one year internships in a hospital with a pediatric service, and two additional years as a resident in a children's hospital.

As Starr (1982:223) points out, all the aspiring specialties not only struggled with their non-physician competitors in the provision of service, but also with their general practitioner colleagues. The obstetricians and pediatricians struggled to convince the market and the government not only that the midwives and nurses were unqualified to provide medical care, but that general practitioners were as well. The functional differentiation of the medical system, in other words, depended on the success of a publicity campaign to convince society that only obstetricians had the necessary training to deliver babies, and only pediatricians had the necessary training to treat children.

Ophthalmologists had created the first specialty certification board in 1916, followed by otolaryngologists in 1924, but the great expansion was to come during the Depression. The American Board of Obstetricians-Gynecologists was the third specialty to follow in 1930. Attempting to guard against encroachment by general practitioners, the ob-gyns excluded doctors who did not limit their practice 100% to women.

Explicitly modeling themselves after the ob-gyns, one of the first acts of the American Academy of Pediatricians was to propose the creation of a certification board made up of three pediatricians from the AAP, three from the AMA Section on the Diseases of the Child, and three from the research-oriented APS. The AAP made certification of pediatricians mandatory in 1937.

## Figure Twelve: The Origins of Pediatrics



### 2b. Shaping State Policy and Building the Market

Professions are also organized by a division of authority over the content and organization of professional work. Unlike the crafts, professions have been able to control technological innovation by having their own teacher-researchers to produce and legitimize new knowledge. And they have been able to control working conditions by having some of their own members serve in supervisory and executive positions in work organizations. Their teacher-researchers control the recruitment, training and certification of their members and, as important, formal knowledge itself. Their administrators preserve for them the power to supervise, direct and evaluate the work of practitioners as well as to participate in the determination of organizational policy. Their elites work with their associations to shape social policy. (Friedson, 1986)

In 1938, when the National Health Act (Wagner Bill) was before Congress, the AAP again supported it, citing its maternal and child welfare benefits. This liberalism had from the beginning been tempered, of course, by a general concern, shared by all physicians, about government interference and the socialization of medicine. Predictably they demanded that the government obtain the counsel of the pediatricians in the formation of all maternal and child health care policy. As long as their professional autonomy and prerogatives were protected the pediatricians were strongly in support of the government picking up the tab for poor mothers and babies.

During WWII, however, the pediatricians' early enthusiasm turned to wariness as the Children's Bureau expanded its powers of financial and administrative oversight of pediatricians through the Emergency Maternal and Infant Care (EMIC) program. The EMIC program had originally been an emergency war measure to assure adequate health care for the dependents of military personnel of lower ranks, but was later expanded to all

dependents. The AAP hotly contested the growing financial oversight that this program gave to the government and began voicing, uncomfortably, the familiar complaint against "bureaucracy at its worst."

Ultimately, the pediatrician, and later the whole medical profession, discovered that consultation, when coupled with the powers of the purse, was for practical purposes tantamount to being called upon to endorse programs and policies in the formulation of which the practicing doctor had no honest representation. The doctor in addition soon discovered the discomforts of being forced into a role of seemingly placing his own vested interests ahead of the social needs of the community. (Hughes, 1980:10)

After the war, with the decline of a progressive movement in support of socialized medicine, the AAP and the government reconciled, and the AAP, APS and Children's Bureau cooperated in a Study of Child Health Services, whose findings were released in 1949. Predictably, the study found major deficiencies in the provision of medical service to children, and in the education and numbers of pediatricians. Subsequently, the AAP board recommended that the federal government commit \$5 million a year to upgrading pediatric education. This again led to a sharp rebuke from the AMA which favored private education funding.

The Study of Child Health Services also crystallized the internal polarization between the pediatricians with a social democratic orientation and those with a militantly privatist politics. The pediatricians who were involved in the study, many of them academics, were accused of favoring statist solutions, and the struggle between these two strategies of the profession has continued. As the past President and historian of the AAP, James Hughes, notes, though,

federal aid to medical education did come, it stabilized many medical schools, and permitted an enormous quantitative and qualitative increase in pediatric training and research, and without it the medical schools would hardly be in the favorable position they are today. Fears of the government tampering with and dominating pediatric training proved groundless...(Hughes, 1980:15)

Indeed, if the long-run result of government involvement was beneficial for the profession, vindicating their social democratic strategists, it was only because of a constant effort on the part of pediatricians to maintain control over the shaping of health policy.<sup>1</sup> For instance, when Kennedy established the National Institute of Child Health

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<sup>1</sup>In this, the pediatricians interests became synonymous with other physicians, and the AMA and the AAP reconciled in the 1950's. Laumann and Knoke's (1988) study of the health policy domain of Washington D.C. found the AAP and the ACOG to be among the hundred or so influential health policy actors. In terms of lobbying interests both the AAP and ACOG were classified with the AMA and other professional groups as lobbying mainly for narrow professional concerns, though the AAP was broader than the ACOG. The AAP was also more influential than ACOG, having 29 "influence" votes compared to ACOG's 12, and

and Human Development to concentrate research in genetics, obstetrics, and maturation, the first director was a leading member of the AAP, as has been every subsequent director.

The Academy achieved great prestige at the federal level as the...chief medical spokesmen for the child. It was widely recognized as a highly organized national group willing to collaborate in the development of, and to support, worthwhile programs for children, but equally ready to challenge ill-advised plans. A constant objective of the Academy was to influence governmental child health programs for the welfare of children in the right direction by participating in the planning, acting in an advisory capacity, and later taking part in nation-wide implementation of sound programs. The Academy became increasingly aware of the need to monitor closely the moves of the federal government in the child health field in order to guide them properly for the benefit of children and acceptability by physicians. (Hughes, 1980:34)

Though the AAP started in the 30's with a miniscule number of of all the potential pediatricians, by 1980 more than 3 out of 4 pediatricians were members (22,500 out a total of 29,500, including pediatric cardiologists, pediatric allergists, and pediatricians in administration, teaching and research).

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the AMA's 117. That put the AAP in the middle of the influence range, and the ACOG in the fourth quintile. Both had registered lobbyists and were ranked high in ability to mobilize political support. Based on the network of confidential information exchanges however, ACOG was much closer to the AMA in the center of the information matrix, while AAP clustered nearer the "governmental health mission" organizations, such as the National Institute for Health's Institute for Child Health and Human Development, and Institute for General Medical Services and the lay Coalition for Health Funding. This may reflect both the ongoing commitment of the AAP to collaboration with the government in research on child health, and the historical division between the AAP and the other health professionals.

## 2c. Rising Specialization

In 1940, 76% of all physicians reported themselves to be general practitioners. Today, less than 13% of all physicians are general practitioners.

**Table Four: American Physicians by Medical Specialty in 1980**

	<u>Total # of Physicians</u>	<u>Total Patient-care</u>	<u>Patient Care</u>			<u>Other</u>
			<u>Office-based Practice</u>	<u>Hospital Practices</u>		<u>Teach/Admin/Research</u>
				<u>Residents</u>	<u>Full-time Physician Staff</u>	
<b>Total</b>	467,679	376,512	272,000	62,042	42,470	38,404
General Practice	60,049	58,633	48,020	6,339	4,274	1416
Internists	71,531	62,959	40,617	16,160	6,182	8572
Cardiologists	9,823	7,759	6,729	-----	1,030	2069
Ob-gyns	26,305	25,261	19,513	4,133	1,615	1044
Pediatricians <sup>1</sup>	29,462	26,296	18,210	5,189	2,897	3166

Source: Physician Characteristics and Distribution 1981

<sup>1</sup>including pediatric allergists and cardiologists

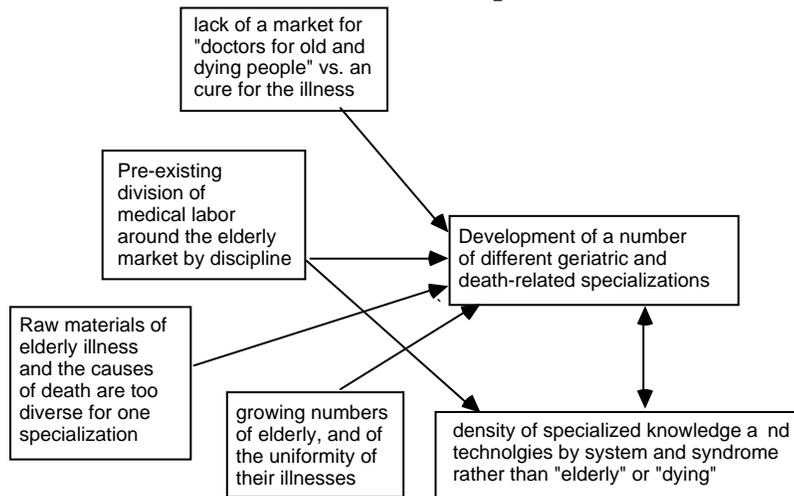
In the 1950's the AAP created Sections to deal with the sub-specialty interests of their members. The first Sections were those of Surgery, Allergy, and Mental Growth and Development. Since the pediatricians had already well colonized children's bodies, made children their "turf," cardiologists, for instance, did not simply study pediatric peculiarities and treat children as part of their practice; rather pediatricians studied cardiology and developed a sub-specialization pediatric cardiology. In other words, they managed the growing complexity of their knowledge and skills by internal sub-divisions rather than the proletarianization of the tasks, as is quite conceivable in pediatric allergy; giving children allergy tests and having medicine prescribed for them seems like a prime candidate for nursing or technician management.

Specialization stepped up dramatically in the 1950's. The knowledge base of the profession, medical school training, began to reflect these specializations as well. In 1952 Case Western Reserve re-organized their discipline-based curriculum by body systems (cardiovascular, respiratory, renal, etc.), and many schools followed suit. On the one hand, the growing specializations represented a "natural" differentiation of the system as the knowledge, technologies and numbers of physicians grew. On the other hand, as Starr (1982:356) points out, if there were no financial incentives provided by the market and the state for specialization "we might need a psychological explanation to understand what other rewards they would gain from entering a specialty." Starr elaborates three "structural" factors to explain the rising rate of specialization:

First, the system for certifying medical specialists that had developed in the 1930's included no regulation of the size or distribution of the specialties. Second, beginning in the war, hospitals (and their associated physicians) had strong incentives to set up training programs for specialists- indeed, to create more openings for specialty training than there were American graduates to fill them. And third, government subsidies, the high returns to specialty practice created by health insurance, and the lack of a corrective mechanism that would have reduced specialist incomes as their numbers increased gave physicians strong, continuing incentives to pursue the training opportunities hospitals created. (Starr, 1982:356)

By the time a market for geriatric services had developed in the post-war period, on the other hand, the aged were already colonized, or medicalized, by the well-developed system- or function-specific specialties, such as cardiology, oncology, and surgery. A majority of these specialties' clients were probably elderly. The ecological niche for geriatric medicine was filled.

**Figure Thirteen: Factors in the Non-development of a Geriatric Specialty**



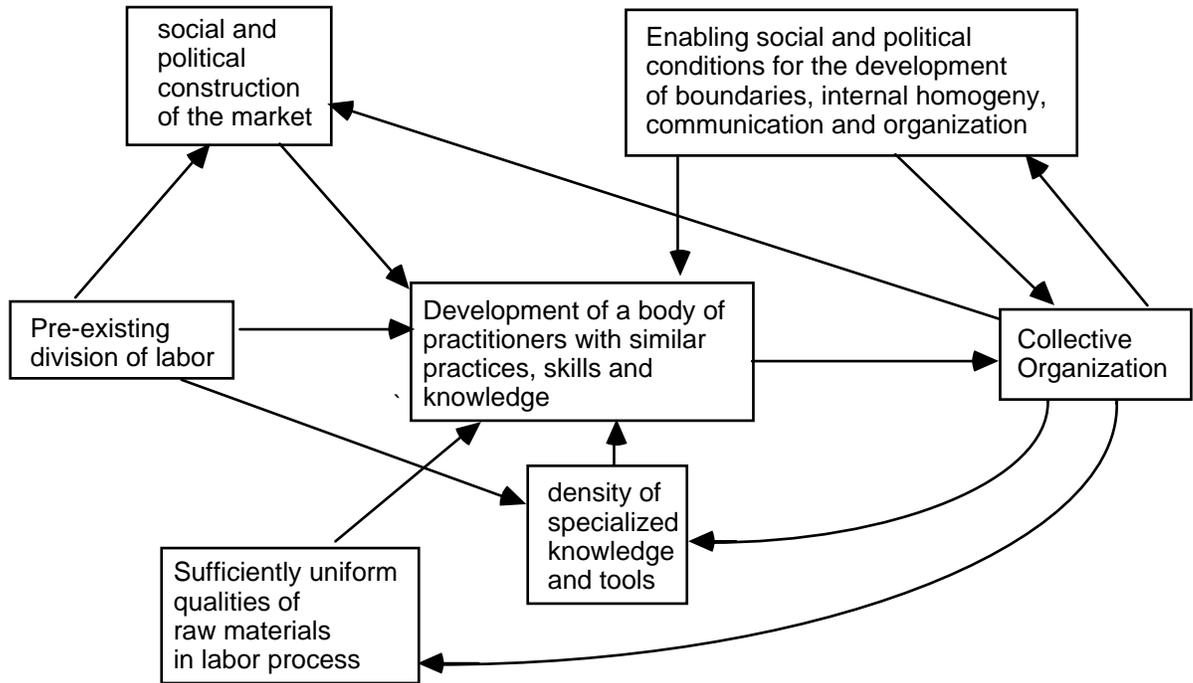
Where there was a profession, pediatrics, that would clearly benefit from a federal commitment to child health, there was no "geriatric" professional pushing for a similar institutional funding of Social Security and geriatric medicine, i.e. Medicare. Rather the potential beneficiaries of geriatric medical benefits were dispersed throughout the AMA, and the AMA on the whole was opposed to any expansion of the state into medicine. Consequently, while the institutionalization of medical provision for babies and children was relatively uncontroversial, at least by the 1930's, the provision of medical benefits to the elderly was only accomplished after a social struggle with the organized elderly, in the 30's Townsend Clubs, the AARP and the National Council of Senior Citizens, organized labor, and liberals on one side and the medical industry solidly on the other.

A second effect of this difference was that the problems of children were approached through a pediatricians' lens while the problems of the elderly were approached from a social democratic perspective. The pediatricians and Progressive policy elites looked at high infant mortality rates and saw insufficient medical attention rather than the poverty of the parents, the poor quality of the housing, and the lack of sanitary water supply. The social democrats who pushed the New Deal legislation focused on the lack of income for the elderly.

In 1956, the AMA House of Delegates rejected a proposal from the Pennsylvania Medical Society's Geriatric Commission, presumably made up of early specialists in geriatric medicine, calling for compulsory social insurance for the aged combined with a continuation of voluntary health insurance. But there was little other support from medical professionals for the expansion of Social Security or Medicare (Anderson, 1985:162).

In 1957, the AFL-CIO persuaded Representative Forand to introduce a bill for hospital and nursing home care for Social Security beneficiaries. The bill was endorsed by the ANA, and the following year a coalition of liberal Democrats and a nationwide mobilization of the elderly began to push for passage of the Forand bill; the AMA, AHA, American Nursing Home Association, and the American Dental Association opposed the bill, and any federal funding of elderly health care. In 1960 Eisenhower backed, and Congress approved, the Kerr-Mills bill which provided federal matching funds to states for medical assistance for the aged, but it was with the Kennedy administration that health care for the elderly became particularly prominent. After the Democratic landslide of 1964, the conservatives were pushed aside and a comprehensive Medicare program was established.

**Figure Fourteen: Social Factors in the Professional Division of Labor**



### 3. Shaping the Materials and Technologies

The battle for birth was a battle over livelihood, but not livelihood in the restricted economic sense of that term. It was a struggle at many levels: struggle over the control of birth attendance with its economic implications, over the terms and conditions of birth, over the meaning of birth, and over the very experience of women delivering babies. It was a struggle over life as it is organized around the singular event of childbirth (Arney, 1982:19-22).

Workers, individually, and collectively, attempt to shape the materials, technologies and social relations which are in turn shaping their work. Workers with a great deal of individual power and authority, and strong collective organization, such as doctors, have greater success in reproducing the conditions of their collective mobility. As suggested by the industrial hypotheses in Section One, workers whose jobs involve little complexity, and little need for advanced education or training, are not given much autonomy in the division of labor. Consequently, as the labor process becomes more complex, these workers' occupations are subject to de-skilling and sub-division. For the professions, on the other hand, where the complexity of the labor process and knowledge base was not easily amenable to sub-division and rationalization, the workers achieved a high degree of autonomy in and power over work conditions and the market, which in turn allowed them to manage the development of complexity and structural differentiation internally, with no de-skilling or proletarianizing consequences. Even today, when the work rules and knowledge-base of medicine has been highly systematized, the professional power of physicians has prevented the turning over of routine tasks to nurses and para-medical technicians.

For instance, new diagnostic "artificial intelligence" or "expert" systems have been developed which have diagnostic skills equal to or surpassing physicians' skills. Yet, the power that physicians continue to have over the conditions of their work and their tools have prevented these diagnostic tasks from being computerized, as many clerical tasks have been computerized (Athanasίου, 1987; see also Coleman, 1966; Greer, 1981; Anderson, 1985; Fennell and Warnecke, 1988, on the effects of the division of labor on the diffusion of medical technology ). Consequently, physicians are not threatened by displacement by computers in the way that secretaries are.

Ob-gyns have won an even greater degree of autonomy than other medical specialties. In the last twenty years the percent of physicians who are employees (of

hospitals, governmental bodies, HMOs, and group practices) has been increasing steadily, and in 1985 stood at 25% of all physicians. But ob-gyns have the lowest percentage of employee physicians of any of the specialties, and were the only specialty that showed a *decrease* in the percent of employees in the 1980's. Pathologists and emergency care physicians, both specialties that deal disproportionately with death and the dying, had the highest percent of employees, 52% and 42% respectively.<sup>1</sup>

Self-employed physicians work six hours more per week than employee physicians and see 19 more patients but they make \$35,000 more per year (AMA, 1986), and these differences can be largely attributed to the distribution of specialties (and age) between the employee and solo practitioners. For instance, ob-gyns work the longest hours per week of all specialties (60 hours) and spend the most hours in patient care (55 hours) while pathologists work close to the shortest (52 hours) and spend the shortest hours in patient care (42 hours). (What exactly "patient care" entails for a lab pathologist isn't exactly clear; forensic pathologists are included among all pathologists, skewing the "average" pathologist to just four hours spent per week on just one autopsy.)

Physicians also have a great deal of control over the *definitions* of the materials on which they must perform, defining them as complex in ways that reinforce their professional interests. Not only do professions strive to develop "real" technological and cognitive complexity around their profession, but Freidson (1970) suggests that, since specialties that are unpredictable and offer a wide variety of experience, such as internal medicine, general surgery and pediatrics, are the most desirable and enjoy the highest status, all specializations are impelled to attempt to portray their fields as as complicated as possible.

It appears that the characteristics of technologies are much less solid than they seem at first, that they are often socially determined from participant to participant or from one set of participants to another. Thus, given the same set of task objects, it is possible for participants to emphasize their uniformity or their diversity, their unpredictability and complexity or their certainty and simplicity. For example, historical and comparative accounts of treatment of the mentally ill demonstrate that conceptions of the raw materials - in this case, mental patients - have varied enormously over time and place. Under such circumstances, Perrow (1965) has suggested that ideology substitutes for technology...

In like manner, participants may disagree on the characteristics of the operations performed. Where one sees repetitive activities another sees ingenuity and artful adaptation. (Scott, 1987)

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<sup>1</sup>Women physicians and younger physicians are more likely to be to be employees (AMA 1986).

In fact, as physicians develop more complex technologies, they make their materials more complicated and/or more uniform with their technologic interventions. The material is shaped to the needs of the profession. Arney, in a particularly ironic passage, points out that the use of episiotomy, hospital delivery, dorsal delivery, use of forceps, and ergot inducement by obstetricians at the turn of the century caused frequent tears and infections, making childbirth more dangerous, and thus legitimating the professional obstetricians' presence.

These innovations depended on the idea of pregnancy being a disease and then reinforced that idea by making it clearer that the safety of delivery was dependent on attendance by doctors... The "advances" of the period made pregnancy into the pathological problem it had to be in order to be attended by men. Pregnancy became, literally and ideologically, more pathological. (Arney, 1981:44-45)

Technologies may, at the same time, further routinize and standardize the modal course of a syndrome and its treatment encouraging the development of further specialization around it (dialysis and renal disease centers, therapeutic radiology). Physicians use standardization, delegation of duties, and automation to further increase their control over the labor process. Arney (1982) concludes that the ob-gyns are no longer the tyrannical bosses of the labor-process, with forceps to extract the product and the laborer strapped into her stirrups, but that the social control of the medicalized birth process has been turned over to a system of high-tech cybernetic monitoring and control, exemplified by labor-inducing drugs and the fetal monitor. The introduction of fetal monitors to oversee labor, for instance, reduces not only the required attendance time of the ob-gyn, but the requirements for attending nurses.

Electronic fetal monitors have been under attack for more than a decade by some women's groups and parts of the medical community. But despite research showing that using monitors do not produce healthier babies, most obstetricians say that a complicated interplay of legal and economic pressures makes it almost impossible to stop using them... Many women's groups complained that the fetal monitor made labor more unpleasant by restricting the mother's mobility. (But) many obstetricians say that if they stopped using monitoring machines, they would be hard pressed to find enough labor nurses to take their place. (NYT, 3/27/88:13)

In contrast to birth, death has been routinized, culturally and technologically, by a range of medical disciplines, each with their own tools and interests. A simple example would be the differences between surgical and non-surgical specialists treating the same problem, such as heart disease, in their readiness to use surgery. At the cultural level, the system-specialists have a heroic orientation to the use of life-extending technologies, the aura of which reinforce their profession; a hypothetical thanatologic medical specialty

could be assumed to have developed a different ethos about death and disease, reinforcing their own profession. The tools used by the specialists to shape and routinize the modal course of dying range from brain and heart surgery, to radiation and chemotherapy, to respirators, IVs, gastral feeding tubes. The shaping and reification of these different modes of American death, in turn, reinforce the power and separateness of their respective professions, further militating against the development of geriatric and thanatologic medicine.

# Conclusions

This paper has examined several reasons why medical specializations developed around birth and youth, but not around the elderly and the dying. It has attempted to suggest that there are material determinants of the division of labor and collective organization, and in this case of professionalization, but that these material conditions are not in themselves sufficient conditions for the division of labor, and in particular for the formation of collective boundaries and organization. Political, economic and cultural factors also shape the definition of collective boundaries and the success of the collective mobility projects.

It is suggested that there were "material" reasons for the lack of development of geriatric and death-related specialties:

- a. until recently, there were fewer elderly people than pregnant women and babies ;
- b. old age and dying is more diverse than birth and youth.

There were also social and political reasons:

- a. greater strength of support for infant and child welfare than for old age welfare, leading to an interactive "iron triangle" between movements for social reform, ob-gyns and pediatricians, and bureaus of the government such as the Children's Bureau;
- b. the colonization of the elderly by other medical specializations before a market had developed for geriatric medicine.

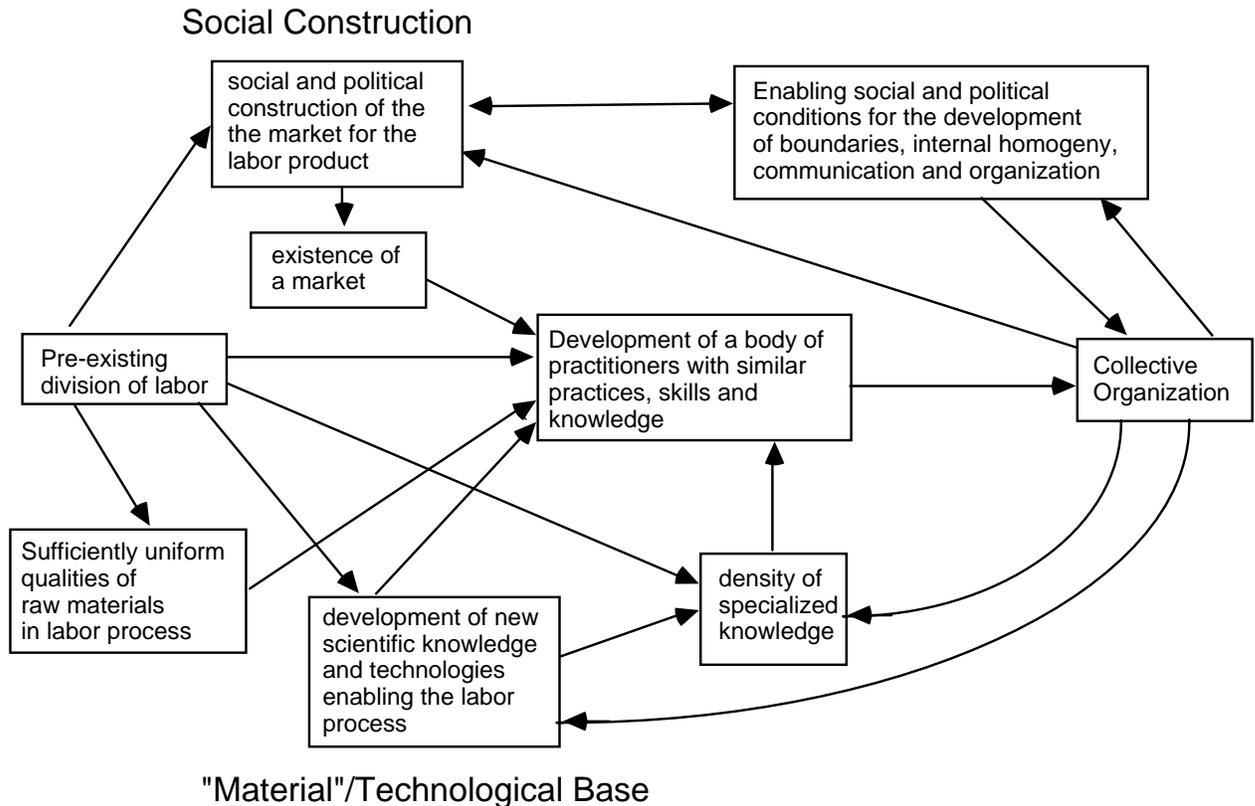
Once an occupation has developed, if it successfully collectively organizes, such as in the AAP, and if its labor is sufficiently complex that it cannot be controlled hierarchically and "requires" advanced educational training, as in most medical specialties, this profession can win a wide degree of autonomy/power over

- a. the work process,
- b. the development of technology,
- c. the formation of social policy and
- d. the shaping and definition of the raw materials.

With this control over their social and material conditions, professions engage in boundary-maintaining reproduction of the conditions which support their existence. For instance, since the elderly and dying had been colonized by other specializations, these "materials," the technologies developed to treat them, and the social relations around

elderly health care have been shaped in such a way as to militate against the development of a geriatric or thanatologic medical specialization..

**Figure Fifteen: Material and Social Factors in the Division of Labor**



#### 4a. Policy Issues

To change the health system at all, much less to create a medical system which maximally utilizes self-help and mutual help and which encourages an active rather than a passive role for the patient, will require radical deprofessionalization. We will have to expand radically the use of community health aides; to spread medical knowledge to patients and to non-physician health workers; to minimize the social distance between doctors and patients.

*I should emphasize that deprofessionalization has nothing to do with eliminating the skills of the doctors. Skills are of course needed, and I am not proposing that incompetent people perform medical services—we have too much of that as it is! It is the privileges, the power, and the monopolization of medical knowledge that I am speaking of removing when I speak of deprofessionalization. (emphasis added by the author)*

(Ehrenreich, 1978)

A common-place observation of the critiques of medicine is that professional interests may run counter to the interests of the patients, such as in fetal monitoring and birth inducement, and life-extension at the expense of quality of life. The model articulated above suggests further why and how physician interests may shape not only the financial and legal conditions of their work, but the very social and material construction of their clients as raw materials. On the other hand, social constructionist critiques of medicine can under-estimate the need for a division of labor; those who call for de-professionalism must grapple with the real limits on the mutability of the division of labor

There are parallels in this model with Joseph Gusfield's (1981) work on the social construction of "drunken driving." Gusfield argues that the ruling ideology of individual responsibility guided the professionals who defined the automotive accident phenomenon and led to the social construction of "drunken driving" as the social problem at the root of automotive deaths, rather than on the lack of public transportation, the weaknesses of automotive design, or the excesses of liquor marketing. His model also suggests that the professions that won hegemony over the shaping of the social problem shaped it in such a way that social policy reinforced their power, and inhibited the involvement of, for instance, transportation engineers and consumer advocates in the shaping of social policy. This model does not suggest that the shaping of "ideal" social policy required the exclusion of the particular skills of social policy experts on the question of alcohol, but that a public and policy community with a systematic understanding of the sociology of knowledge that leads one group of professionals to shape social problems in their interests would have broadened the policy formation process.

A related policy question in medicine is "organ transplant" policy. The major source of hearts for organ transplant are young drivers who have suffered brain-death in car accidents. More than 90 U.S. hospitals have opened expensive heart-transplant centers, with more to come, but only 730 heart transplants were performed in 1985, each costing more than one hundred thousand dollars and with only a 50% 5-year survival rate at highly impaired quality of life (Kutner 1987). As many as 75,000 people have conditions that could be benefited by a heart transplant, but they mostly suffer from cardiovascular diseases that were preventable by proper diets and exercise. Talk of an "organ shortage" by cardiac surgeons, then, can again be seen as obscuring the possibility of the redefinition of the incidence of automotive accidents as the result of infrastructural problems and the problem of heart disease as needing more aggressive public health programs.

A thanatologic medical specialty, oriented to improving the quality of life of the dying rather than the utilization of heroic measures which reduce their quality of life, could conceivably have a very different set of professional interests and perspectives on elderly with terminal heart conditions. Not only would their hypothetical specialty have lobbied for the expansion of hospice facilities rather than the organ transplant network, but they would have inhibited the development of organ transplantation and artificial organs altogether. This is not to say that a thanatologic specialization would necessarily have had the clients' best interests "at heart;" there is a tremendous battle brewing today over the rationing of health care to the elderly, in particular of heroic measures at the end of life, being pushed by forces as disparate as budget balancers, child welfare advocates, bio-ethicists, and insurance companies. The AARP and the elderly are understandably opposed to rationing by age, and have voted with their health dollars for expensive medicine. All that can be said is that the shaping of social policy, and of the life course, has been tremendously influenced by the fact that there are physicians which can present themselves as the advocates of the interests of fetuses, mothers and children, while there is no comparable medical body for the elderly and the dying.

This raises a second policy dimension of the professionals at the two ends of life; unlike the physicians of adults in their middle-years, physicians who tend pregnant women, the elderly and the dying are in advantaged positions of power. They are dealing with patients whose autonomy is more compromised than usual. Since obstetricians discovered the fetus they have been in a much strengthened power relation with the mother. From smoking, diet, and drinking, to drug use, obstetricians frame all adverse outcomes for pregnancies as the result of maternal neglect or "fetal abuse," and perpetuate the blinding of medicine to its public health dimensions. Similarly, pediatricians see themselves as the saviors of children against the neglect and abuse of their parents, and can sometimes act in the interests of the child even to the point of requiring treatment rejected by the parents. At the other end of life there are physicians who attempt to determine the "appropriate" care for the physically and/or mentally compromised elderly, the dying and the permanently comatose, against the wishes of the society and relatives, who are cast as acting out of selfish motives as opposed to the doctors' concern for the best interests of the patients.

Even the diagnostic perceptions and treatment behavior are shaped by the division of medical labor, not only by financial interests and interests in maintaining power over the client-patient, but also by the sociology of knowledge that develops within the

specializations. A geriatrician will see different things, and treat a patient differently, than will an oncologist. In a study of a neo-natal intensive care ward, Anspach (1987) and colleagues found that pediatricians were relying heavily for diagnosis on the monitoring equipment in the ward, while the nurses relied more heavily on direct contact with the baby. Consequently the physicians were more positive in their prognoses of the babies' outcomes, while the nurses, feeling that many babies who were technically OK were nonetheless living poor quality lives and get better, gave more negative prognoses. The fact that there are premature babies that have parents willing to pay specialists to keep them alive is the "material base" of neo-natal pediatrics; the fact that society thinks this is a legitimate way to deal with premature babies, and an important mission of medicine is a "enabling social condition"; that these pediatricians are organized and have won an institutionalization of their right to push the limits of life with little administrative or political control is a "political" victory on the part of the profession; and their on-going diagnostic construction of viability and life-saving success (even when the child is permanently handicapped, retarded, blind, and the rest) is part of their construction of the material conditions of their practice.

#### **4b. Further Research**

The eclectic model articulated above does not fit easily into any one domain of sociology. It has been profoundly influenced by a belief in the possibility of a multi-dimensional field theory of social behavior (Yinger, 1965). It draws on industrial sociology, social history, the sociology of knowledge, political science, and medical sociology. Consequently, testing its hypotheses has and will involve a number of methodologies. I will discuss two in particular, however, that hold the greatest promise in bridging the much-discussed gap between the macro and micro in social analysis.

On the one hand, I expect to study the processes by which doctors, patients, and the family decide to allow a patient to die, or to introduce life-support technology. Focusing on choices in such situations would allow the testing of the Rational Choice theory being studied by Coleman and Becker, in contrast to theories of normative control. Attempting to integrate levels of analysis, I would also draw on organizational sociology, of which there is a large subset on medical organization, to show how the ward and the physicians fit into the social structure of the hospital, and how the program and hospital fit into the local legal and medical system (network analysis). The ground-

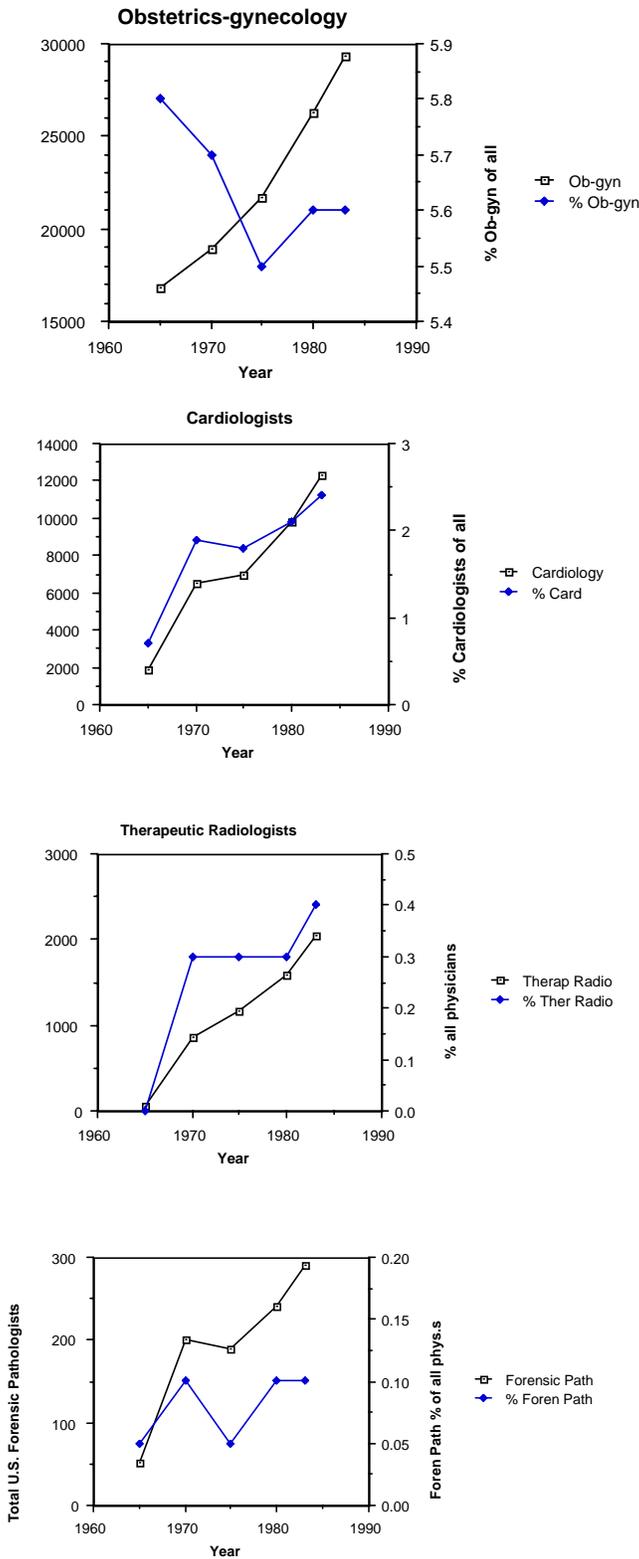
breaking work of Sudnow's Passing On: the Social Organization of Dying (1967) would be a model for this research.

At the other end of the macro-micro continuum, I am interested in exploring the political history of state and federal medical policy formation, based on the type of model of organizational actors, representing professional or other interests, portrayed in Laumann and Knoke's (1988) The Organizational State. An innovative adaptation of this power structure analysis methodology, which is usually applied to corporate-government interlocks, to medical policy has been Rado's (1982) power structure analysis of the "death-defining" elites that shaped the national transition to a brain-death definition of death. In 1979, Rado sent surveys to 90 authors of articles on the brain death controversy asking who had been most influential in their thinking in this field. She then applied a sociometric analysis to this data. A professorial "definer elite", the definers' definers, emerged, composed of 11 physicians, 8 philosophers/theologians, and 7 lawyers; of these, the philosophers were the most influential. These two dozen professors were largely the chairs of their departments and wards in the most respected universities, and most had had a life-long conceptual concern with the issue, unlike the nonelite definers. This elite was also the most socially integrated, held numerous board and symposia posts in common, and were the nodes of linkage between the diverse disciplines that had addressed the brain-death issue up to that point. According to Rado, all the major laws redefining death up through 1977 bore this elite's stamp.

Clearly, a similar analysis of the President's Commission on Bio-Medical Ethics, from the Carter era to the entrenching of the Reagan conservatives, and their corporate, academic and political interlocks would be fascinating, and I will be gathering materials on central policy events of the late 1970's and 1980's, and the principal actors in recent bio-ethical public policy formation in the pursuit of such a study. Some of the events of interest are:

- 1976- Karen Quinlan and right-to-die legislation since then
- 1983 Diagnostic Related Groups (DRGs) phased into Medicare/Medicaid
- 1984 Organ Procurement and Transplantation Act
- 1987-8 catastrophic care legislation

# Appendix



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**Abstract of MA Research Paper  
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**Birth Doctors and Death Doctors**

**by James J. Hughes**

In reaction to views of professional specialization which took for granted that divisions of labor evolve around "natural" or "material" divisions in knowledge and technology, recent critical perspectives have attempted to show ways in which professions are socially constructed and in turn construct themselves. This paper describes a model of professional specialization which attempts to acknowledge the material constraints on the division of labor as well as their social construction.

This model is applied to the development of medical specializations around birth, youth, aging and death. Human bodies at different points in their life cycles are seen as the raw materials to which medical technology are applied, and around which potential specializations develop. In particular, the development of obstetrics and pediatrics are contrasted to the lack of development of geriatric and thanatologic medical specializations. Finally, some of the consequences of this view for medical sociology and social policy are discussed.

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