The Medical Gaze: Medical Models, Power, and Women's Health

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ABSTRACT

This paper analyzes the development and interconnections between two medical paradigms, the biomedical and the ecological/psychosocial. Each model shapes differing forms of medical power over women's bodies. The biomedical model relies on science for its status, power, and medical domination, while the ecological/psychosocial model stresses regulation and surveillance of women's healthy bodies. This paper discusses the theoretical importance of these medical paradigms and their effects on women's obstetric and gynecologic health. It concludes by evaluating the contemporary significance of medical gazes for women's health care.

RÉSUMÉ

Cet article analyse le développement et les interconnexions entre deux paradigmes médicaux: le biomédical et l'écologique/psychosocial. Chaque modèle ébauche des formes différentes de pouvoir médical sur le corps des femmes; le modèle biomédical repose sur la science pour son statut, son pouvoir et sa domination médicale alors que le modèle écologique/psychosocial met l'accent sur la régulation et la surveillance de la santé du corps des femmes. Cette communication traite de l'importance théorique de ces paradigmes médicaux et de leur impact sur la santé obstétricale et gynécologique des femmes. La conclusion consiste en une évaluation de la portée contemporaine des prodiges réalisés dans le domaine médical et de son impact sur la santé des femmes.

RECENT INTERPRETATIONS OF MEDICINE and women's health have advanced two main models: the biomedical and the psychosocial, each of which has produced a discourse conceptualizing women's health and illness. The biomedical model has been dominant in twentieth-century mainstream medicine and bases its principles on modern science. In opposition to the scientific emphasis in medicine, proponents of the psychosocial or ecological model attempt to offer a more holistic approach to knowledge of the body and medical practice.

In this article, I examine the emergence and development of these models and assess their implications for definitions of women's obstetric and gynecologic health in the 1950s. I focus on the 1950s because it was a period in which the tensions between the two models were particularly evident. Those tensions now reveal trends that have informed medicine throughout the last half of the twentieth century. Furthermore, traditional cultural ideals of women were particularly pervasive and visible during the 1950s. These were conservative times in crisis and they afford us a unique opportunity to study medical models of women's health in transition.

While I focus on the 1950s, the significance of this study extends well beyond that

period. The ongoing debate over the meaning of these two models, in my view, symbolizes the larger issue of current trends in women's health care. By examining how, where and why these major models interacted, conflicted and coalesced, we can evaluate the power and influence of these developments in medical knowledge and show how these models continue to have a powerful influence on women's reproductive health. In particular I will show how the medical control of women's health was expanded and refined in the wake of the developments of the 1950s.

Before considering the relatively recent medical situation of the 1950s, however, I will outline the scientific context and discourse within which medicine evolved and generally produced medical knowledge. Then I will examine the emergence of competing definitional models of women's biology and women's health within medicine leading up to the 1950s. Next I will discuss how the models intersected and interacted, and were transformed. Finally, I will offer a critical assessment of these medical paradigms and their implications for women's health since the 1950s.

Science, Medical Knowledge and Mystification

A fundamental discovery of recent research on the social construction of scientific knowledge about women and medicine is that scientific observation and interpretation are not separate processes. This finding contrasts with the earlier assertion of scientific method which found that observation of facts came directly by way of the senses (Kuhn, 1970; Knorr-Cetina & Mulkay, 1983: pp. 4-5; Lécuyer, 1978, p. 311).[1] Theoretical paradigms, for the most part, are now thought to consist of shared assumptions, supported by relations of power and authority. Paradigms *structure* what is considered proper evidence in any particular case; therefore, observation entails interpretations of meanings, especially if the meanings of phenomena have been removed from their original contexts and have been remade into scientific property. Mulkay (1979) puts it succinctly when he notes that "scientific adequacy" is constructed by a "specific group of actors in a particular cultural and social context" (pp. 35, 43-46, 49, 54, 58, 61, 95). (See also Knorr-Cetina & Mulkay, 1983, pp. 3-5, on the "theory-ladeness" of observation; Knorr-Cetina, 1981, p. 2.)

The values of scientific and medical actors are developed in specific sociocultural contexts and they influence the meanings attributed to concepts and objects (Pinch & Bijker, 1984, p. 428). Of course, it is not easy to sort out content from context. There is much historical and cultural variability in the *content* of scientific knowledge. It is not always obvious where the boundaries of science and medical knowledge divide. It is not always clear how science is produced and reproduced within specific socio-political contexts (Latour, 1987, pp. 4, 6). Yet undeniably the social field, so integral to the background production of science and medicine, is ever being erased from much scientific writing. The formal languages of scientific and medical knowledges are removing much of the context and many of the qualifiers from research, and effectively sanitizing it for presentation in academic texts and in research journals. The discourse of science and medicine is ever mystifying the assumptions, processes, negotiations, and decisions that go into the construction of facts, concepts, and methods, including those of female physiology (Pinch & Collins, 1984, pp. 522-523).

It seems that the more debate and dissent there is, the more the literature becomes abstract, technical, and authoritative. Writings

become increasingly dense and difficult to understand. They lose their social substance and character as ever more scholarly materials and references are employed as rhetorical resources against other anticipated expert arguments. Yet these very texts and the positions they represent, it must not be forgotten, are the products of teams, groups and networks of researchers. The impressive scientific claims and counter claims, and the insistence on objectivity, rationality and neutrality, nevertheless, do contain a hidden social content (Latour, 1987, pp. 15, 30-31, 46). According to Latour, scientific articles are "rhetorical vehicles" which become increasingly technical and "stratified" in order to fend off opponents' attacks. The authors of articles mobilize as many resources as possible to convince others to accept a claim as fact. So the more technical an article, the more "social" it is (Latour, 1987, pp. 31, 46, 61-62). Its author actually employs more cultural and social resources in producing such a highly technical article, than in developing a less technical one.

Consider, for example, the creation and use of biomedical diagnostic categories, such as premenstrual syndrome and dystocia (difficult, "prolonged" labour), which are often defined as universal, technical truths. In reality, these categories are continually socially negotiated and contested. Precisely when labour moves out of the realm of eutocia and enters the category of dystocia, for example, is debated. This issue has important practical consequences for women's obstetric care, as it determines when major medical interventions like caesarian sections will be used. Whether psychiatry, gynecology or obstetrics, the social nature of much of their medical knowledge has been deracinated. Social assumptions, categories, observations and interpretations which support and infuse medical categories have been forgotten, obscured and even denied as medicine has become professionalized and aligned itself more and more with science.

Medicine, of course, is one of many occupations which has laid claim to science. It has capitalized on the social valorization accorded to scientific knowledge, methods, and expertise (Shorter, 1985, pp. 130-131). The licensing movement in medicine, for example, unabashedly stressed the values of efficiency, standardization and scientific credentials (Ludmerer, 1985, p. 237). Doctors embraced the belief in science and, accordingly, in pure medical knowledge and expertise. They accepted and promoted the image of objective science. They supposed that medical specialties like obstetrics and gynecology could solve social problems by technical, medical means (Leavitt, 1986, p. 174). As Riessman (1983) notes, the "image of science" played an important role in the process of medicalization; an array of symbols and images fostered the view that medicine was based on objective, value-free evidence and knowledge — an assumption, it might be said, that neglected the social bases and production of scientific "facts" (p. 5). In the name of health and illness, social problems were regularly wrenched from public forums, medicalized and sequestered in the "mystified realm of the expert" (Leavitt, 1986, p. 174). Separated and at a distance from the lay person, the medical profession embraced technical knowledge[2] and promoted it as independent and non-political (Comaroff, 1982, p. 59; Marcuse, 1964). They claimed that the technical autonomous status of their knowledge distinguished it and them from the rest of social life, where political and moral value considerations all too often predominated (Wright & Treacher, 1982, p. 6). To paraphrase Habermas (1971), medical rational knowledge blinded doctors to value choices and moral dilemmas because it concentrated on the virtues of the technical. Indeed, the re-

placement of moral by scientific-technical arguments often denied "the validity of debating ... beliefs on their own merits" (Freidson, 1970, p. 6). It promoted privileged "special forms of knowledge" and it legitimated the claim to constitute medical knowledge proper. Freidson (1970) notes:

> it is clear that it is a valuable asset for a professional group if the knowledge that they employ acquires the status of technical. Power and knowledge are thus clearly linked.... possession of power enables a group to redefine what is knowledge. (p. 6)

The social faith in scientific medicine has its roots deep in seventeenth-century mechanistic science (see, for example, Merchant, 1980). This school of thought viewed nature as a machine "moved by physical necessity, indifferent to the existence of thinking beings"; it promoted a separation of the body from the mind and argued that thought and psyche were outside the material realm of nature (Westfall, 1977, pp. 31-33, 159). The body also was conceptualized as machine. Medical practitioners were thought to be akin to mechanics, "fixers" of the body-machine (Martin, 1987, pp. 21, 54), while machines and technology were expected simultaneously to produce scientific, medical answers to social problems (Oakley, 1986a, pp. 287, 293; Wertz & Wertz, 1977, p. 234). As both Merchant (1980) and Oakley (1979, p. 613) note, the mechanical model was pervasive, appearing regularly in general medical texts, embodying popular expressions of the domination of man over nature, and defining the feminine woman and her body in medical, pronatalist terms. The scientific revolution also advanced the empiricist epistemology of Bacon and the rationalist thinking of Descartes as the basis for medical research. Scientific progress developed by means of empirical computation, testing and experimentation, embodying the assumption that "what we can see ... is real" (Turner, 1987, p. 10). With the appropriation of empirical methods, medicine relinquished its earlier reliance on customary and traditional authorities, replacing them with observation and experimentation (Graham, 1950, p. 242). The empiricist theory of knowledge placed the priority on medical education, research, and practice to supposedly "pure data of the senses." Disease was rethought. It was reconsidered to be a "natural pathology," which by investigation could be "discovered in the world out there." Bereft of socio-historical contexts, diseases were accordingly de-socialized and objectified. Medical students were enjoined to learn physical diagnosis and to study specimens in pathology separately and abstractly. They were instructed to use their senses in advance of knowing what they were expected to see. The laboratory, that most artificial of social worlds, came to replace the everyday constitutive context in diagnosis and treatment. Medical training, nevertheless, was grounded on *a priori* categories. In Fox's (1957) words, it was based on:

> "a knowledge of what you're supposed to observe," an ordered method for making these observations, and a great deal of practice in medical ways of perceiving. ("We see only what we look for. We look for only what we know.") (p. 214)

Mechanistic science also encouraged the division of phenomena into component parts. It preached the discovery of underlying causal laws. In biomedicine, this led to a technical approach to the patient. Patients became objects of investigation and medicine became doctor-centred. The patients' perspective, their life history and their voices receded into the medical background. Scientific medicine, as Foucault (1973) observes, gave rise to "radical alterations in medical perception" (p. xviii).

Medicine became increasingly concerned with normality, more so than with health. Medical theory and practice were reformed in relation to "a standard of functioning and organic structure," with physiological knowledge designated as central (Foucault, 1973, p. 35). Classifications and categorizations abounded around discovering forms of normality and abnormality. On the medical front, disease was increasingly redefined as "deviation from normal biological functioning" and "biological norms" (Mishler et al., 1981, pp. 3, 224). By the nineteenth century, a seemingly continuous "age of discovery" in health and illness was unleashed.

Of course, the political and social implications of this normalization process are many and they arise most forcefully when one interrogates the meaning of the "normal" for different populations — women, the mentally ill, ethnic groups, the criminal, and so on. The combining of health and normality ultimately begged the question of standards and measurements, and revealed that the biomedical definition of disease was not objective, neutral or value-free, as the model claimed. However, the social notions of normality entailed in the definition of disease in scientific medicine did not mean *ipso facto* that biomedicine was unscientific and problematic on that basis. Rather, I want to argue that both science and medicine were and remain social entities. They *always* contain social assumptions and the value judgements of particular researchers or clinicians. Even the decision as to what constitutes normality for any particular group is a social one, for it is formulated in relation to other social groups according to gender, class, or race. Concepts like normality and abnormality, insofar as they were applied to woman's "normal" gynecologic health, did not exist prior to the biomedical discourse; they were created through the discourse which described them. Positivist, mechanical science, then, was a powerful source for the emphasis on normality and abnormality, and it continued to be prominent in medical knowledge about women throughout the twentieth century.

The growth of positivistic science raises as well the question of patriarchy in science. Recent research has noted that modern science and biomedicine were patriarchal in origin. They functioned to secure and legitimate the domination of men over women and nature, albeit in the guise of a neutral, objective science (Merchant, 1980; Benjamin, 1988). While mechanistic science and biomedicine certainly developed in a masculinist context, and while there is no doubt that current medicine continues in that tradition, it must be remembered that the masculinist context is diverse, contradictory and complex. It may not be easily distilled or reduced to essentialist properties. Nor may we assume that patriarchal medicine treated all women and all men exactly the same. The patriarchal context must not only be excavated; it must be filled in and rounded off.

Biomedicine has not been a static entity. On the contrary, it has been dynamic, shifting and changing over time. The emergence of a scientific medical concern with normality and abnormality is but one of these moments of change. Biomedicine always has been affected by science, and its very foundations have become more and more dependent upon scientific reasoning and methods.

Medicine's alignment with science has been swift and strong and, in the twentieth century, science came to define and shape medical specialities like obstetrics and gynecology and those disciplines' knowledge about women, sex and gender, and health. By the 1950s, these medical disciplines were entrenched, although they were not without controversy. What follows is a focused critical study of the scientific context of medical

models of women's obstetric and gynecologic health during that period and an interpretation of its meaning and significance for medicine and for women. I emphasize the scientific context of obstetrics and gynecology because that relationship between science and medicine continues to shape much medical knowledge and practice about women's health and about new, wider, and more refined nets of social control of women.

Scientific Context, Medical Models and Women's Reproductive Health

Feminist historians and sociologists of medicine have claimed that the "medical model" was important in constructing medical ideas about women's femininity and biology in the 1950s (for example, see Ehrenreich & English, 1979; Oakley, 1986a). These scholars emphasize that the medical model was guided by masculinist norms which, among other things, "pathologized" women's reproductive functions. The main objectives of obstetricians were said to be efficiency, speed, and "standardized, production-line methods" for controlling the optimization of childbirth. Wertz and Wertz (1977) note, "during the 1940s, 1950s, and 1960s, birth was the processing of a machine by machines and skilled technicians" (pp. 164-166).

However, the obstetrical agenda also included programmes of normalization. Research on obstetric and gynecologic knowledge in the 1950s also indicates that women's bodies were conceived such that reproduction was identified with normality. Obstetric and gynecologic interpretations of women's bodies often assumed normality to be the culture of reproduction and motherhood characteristic of white, middle-class nuclear families (Findlay, in press). Authors of major medical texts equated female organs and cycles with reproduction. In the words of Baird (1950), "teleologically, their function is the reproduction of the species" (p. 939). The menstrual cycle was usually categorized into three phases: the follicular (oestrus), the ovulation, and the luteal (progestogens) (Jeffcoate, 1957, p. 62; Baird, 1950, p. 59). This categorization was based on ovulation because it was the most fertile point in the menstrual or ovarian cycle.

Reproduction per se was made the focus and the basis of measurement, as evinced by the negative terms used to refer to the luteal phase. The luteal phase was described as "endometrial loss," "regression in size," "dying," and "failure of the anterior pituitary gland" (Baird, 1950, pp. 32, 80). This obstetric and gynecologic discourse portrayed the menstrual process relative to pregnancy as an ultimate, positive function. Pregnancy and the potential for pregnancy were considered the norms, according to which other states were judged. Contrarily, if a *lack* of endometrium in the menstrual phase had been the norm, then it would not have been called a loss. The ovulatory phase and pregnancy would have been said to possess *excessive* endometrial material. However, the ways in which ovarian and endometrial cycles were interpreted meant that *fulfilled* reproduction was the primary, even the sole aim of these physiological processes (Findlay, in press).

How and why did medicine arrive at this "pathologizing" and "moralizing" stance? What were the major medical views of women's reproductive health? What was the role of science in medicine in the 1950s? How might we interpret transformations in medical models?

The 1950s mark a significant shift in medical views of women's reproductive conditions. Two interpretations for these changes predominate. The first stresses continuity, the increasingly scientific basis of medicine, and

the persistent domination of the biomedical model. The second stresses novelty and discontinuity and the growth of an ecological, psychosocial approach to medicine. Both, however, agree that transformations in scientific and medical models profoundly influenced medical knowledge about women. Shorter (1985) and Martin (1987) are representative of the first viewpoint; Arney and Bergen (1984) represent the second model.

In his work, Shorter (1985) argues that medicine has paid little attention to psychosomatic influences on patients and has focused overwhelmingly on disease. He claims that general practitioners lost status in the 1920s and 1930s. Medicine became balkanized into discrete and competing specializations. The context for this conflict between specialists and general practitioners was the growth of rationalization and science in medicine and the development of the academic medical centre. Clinical research was bolstered by the combination of hospital laboratories and the promotion of the basic sciences in medical schools. As Ludmerer (1985) put it, "there was no longer any doubt that the scientific subjects and the laboratory belonged in the medical curriculum" (pp. 102-104, 107, 231). Medicine relied more and more on science and, in turn, promoted the rationalization, standardization, and licensing of its own training centres and schools (Flexner, 1910). American and Canadian medical institutions were enjoined to affiliate with universities in order to regularize medical education overall and to incorporate and legitimate the basic sciences in their curricula. The form of science accredited was specifically "a positivistic science that included a mechanical construction of the human body" (Mishler, 1981, p. 227).

Flexner (1910), in his report on medical education in Canada and the United States, similarly argued that medicine was primarily a biological science. He noted the importance of social psychological factors in the treatment and prevention of disease, but accorded such factors little emphasis in his reform agenda (Mishler, 1981, pp. 227-228; Ludmerer, 1985, pp. 174, 182). He evinced a clear preference for a rationalized, scientific medicine (Torrance, 1987, p. 15) and sought to strengthen the academic medical elite by giving them more control over medical education than medical practitioners (Ludmerer, 1985, p. 131). Of course, this struggle between science and art in medicine was long, bitter, and fractious, resulting in profound divisions within the profession and deep conflicts over the direction of medicine, including women's biology and health.

By the 1950s, however, a tremendous lurch toward the "basic medical sciences," and in particular toward chemistry, had unquestionably occurred (Shorter, 1985, p. 185). Internal medicine especially emphasized the need for "chemistry-oriented sciences" in medical education. It promoted a mainly *organic* picture of disease arising in disorder, but amenable to correction with drugs. "The faculty in internal medicine, swept away by the new therapeutic possibilities of the drug revolution, maintained that the students get a proper grounding in the chemical sciences so they could 'understand' disease" (Shorter, 1985, p. 185).

The "drug revolution" in sulfa drugs, penicillin, antibiotics, and anti-inflammatories, along with major postwar medical research zeal and funding combined to promote great expansions in medical and scientific knowledge. By the 1950s, popular credibility and professional confidence in medicine was unmatched. Medicine was said to be able to reduce pain, fight infection, diagnose disease and operate surgically better than ever before (Shorter, 1985, pp. 21-23, 180, 183-184; Gill, 1986, p. 462; Starr, 1982, p. 335). Drug ther-

apy was important in legitimating medicine. It downplayed the influence of the psyche in illness. It promoted a view of doctors as organic, biochemical technicians (Shorter, 1985, pp. 23-24, 183-185, 202). In the words of Shorter (1985), biochemistry constructed "a picture of disease that ignores the mind" (p. 185).

Drug therapy, in combination with the growth and specialization of medical research and the advancement of diagnostic and surgical skills, entrenched further the biomedical model of disease (Ludmerer, 1985, pp. 261-262). However, more tellingly for our purposes, the definition of disease as deviation from biological norms, and the dual categories of normality and abnormality inherent in the biomedical model, were also extended and institutionalized.

The predominance of these definitions and categorizations is evident in obstetric and gynecologic writings during the 1950s. Pregnancy and labour, for example, were said to have the potential to follow either a normal or abnormal path (Eastman & Novak, 1955, p. 178). Labour was divided into the normal group (eutocia) and the abnormal category (dystocia) (Greenhill, 1951, pp. 143-144). The boundaries delimiting each concept necessarily involved moral judgements; hence, the boundaries were varied and flexible (Findlay, in press). The pelves of pregnant women were similarly categorized into a schema where one particular type was designated more "normal" than the others. Many obstetricians accepted and reproduced these standard classifications (Findlay, in press). Their schema entailed a strong pronatalist emphasis. It included, as the most important types, the "gynoecoid" pelvis, which was round and classified as the "normal female pelvis" (incidence of 41.4 percent), and the "android," which was said to resemble the male pelvis (incidence of 32.5 percent) (Greenhill, 1951, p. 533; Eastman, 1950, p. 255). This delineation of normal pelvic shapes, of course, was not accepted by all obstetricians. Some noted that the classification represented only "pure types." Others claimed that the schema carried specific class and racial biases. Still others argued that the so-called "normal" type was not even the most efficient in terms of reproduction (Eastman, 1950, p. 289; Baird, 1950, p. 536; Atlee, 1957, p. 105). Yet the classification was cited widely and it was a clear indication of the preference for standardizing procedures and defining normality and abnormality.

Pelvic radiography in the 1950s refined the classification of women's pelvic shapes and sizes, and helped obstetricians to predict their effects on the progress of labour (Baird, 1950, p. 581; Moir, 1956, p. 283). Indeed, the knowledge added by roentgenography, especially the focus on minor pelvic variations and the attempts to categorize women according to their pelvic shapes, led to increased and more specific obstetric monitoring and intervention in labour. Some obstetricians noted that "fallacies in interpretation" could occur. Increased surveillance could overemphasize minor abnormalities and radical interventionist measures like caesarian sections or labour induction (Baird, 1950, p. 206; Moir, 1956, p. 20). What was also incontrovertible, however, was that biomedical categorizations of normal and abnormal female organs and reproductive processes had *practical* implications for both physicians and their female patients.

Martin's (1987) study of obstetric and gynecologic knowledge of women also demonstrates that the mechanistic view of the uterus as a machine infused the language of medicine. Medical metaphors frequently portrayed the woman as simultaneously "a passive host" and a "labourer" producing the child. (See also her article on metaphor and gender stereotypes in biology [Martin, 1991]). The development

of scientific medicine precluded the emergence of environmentally oriented medical imagery. Scientific medicine employed instead a biochemical metaphor in which physiological processes were perceived as analogous to the division of labour in a factory and in which there was a central control of an essentially hierarchical flow of information (Martin, 1987, pp. 61-62; 36-37; 40-41; 63). Using the medical portrayal of menopause as pathology, she forcefully demonstrates how recent medical texts continue to portray women's reproductive functions as signal-response and hierarchical — and not part of a feedback loop communication system. This conceptualization was "a logical outgrowth of seeing the body as a hierarchical information-processing system in the first place" (Martin, 1987, p. 42). Medical claims about "natural" biological aspects of women, as well as medical metaphors, evolved *through* medicine's turn to science. They infused the biomedical model and they continued to shape obstetric and gynecologic knowledge of women.

Shorter's (1985) analysis of the organic, diseased-oriented paradigm and Martin's (1987) exposé of the biochemical, information-processing systems model indicate the entrenchment of science in medicine in the 1950s. Of course, as noted earlier, the path to a more science-oriented medicine was not a smooth one. Old professional divisions and anxieties resurfaced and new conflicts and allegiances were formed. Shorter (1985) puts it succinctly:

> Before World War II, considerable emphasis had been placed in medical schools on "treating the patient as a whole," or on "holistic views of disease." By the early 1950s medical education stood at a crossroads. An old guard continued to maintain that medicine should focus on "the patient as a whole and on the patient as an individual human being." (p. 185).[3]

A countervailing young guard favoured the development of an even more "scientific" view of the patient and disease. A major split developed between academic, teaching doctors and community practitioners. These two groups had different philosophies about how medicine should be practised, how the profession should be organized and what its priorities ought to be. Academic medicine was primarily restricted to a middle-class constituency. These doctors were aligned with their careers as much as with their communities (Shorter, 1985, p. 215). Community medical practitioners, on the other hand, had closer ties to the communities in which they lived and worked. They often knew the patient "as a whole" person, and not as a type of disease. They were persuaded of the need to view the patient holistically.

Social and professional developments in the 1950s cultivated and strengthened this division. Professionalization, expansion and rationalization eclipsed community medicine and, in combination with science, proferred new solutions to medical problems and conflicts. The case of women's reproductive health in the 1950s is illustrative. Two approaches were in tension: the "natural" and the scientific/medical. When the "natural" alternative to scientific obstetrics challenged the biomedical perspective, the conflict was resolved by scientifically based obstetrics absorbing aspects of the "natural" model (i.e., natural childbirth in Canada and the United States). This both enlarged the scope and boundaries of acceptable medical knowledge and encouraged a technological, interventionalist form of obstetric and gynecologic knowledge. "Naturally" prepared childbirth approaches both advocated labour education, preparatory regimes, and breathing exercises for pregnant women. Proponents believed these preparations would improve levels of satisfaction with childbirth and relieve pain "naturally." These

strategies, however, were incorporated into biomedical obstetrics in medically controlled settings. They operated in tandem with pharmaceutical pain relief regimes. "Natural medicine" did not delegitimate, descientize, displace, or deinstitutionalize the medical establishment. It was "added on" to the medical mainstream.

The work of Arney and Bergen (1984) offers a second and somewhat different general interpretation of the transformations in medical paradigms. Their work, in part, complements the first interpretation of medical change and how it influenced obstetric and gynecologic conceptualizations of women's reproductive issues. Arney and Bergen argue that social and emotional factors around pain in labour, for example, became part of a medical discourse that redefined and subsumed them as "technical matters" (p. 57). They confirm the trend toward more intersection and dependence of medicine upon science, and they agree that the medical field broadened dramatically: "the domain of the doctor expanded" (p. 61).

Arney and Bergen (1984) agree with the analysis of the first mechanistic stage of medical paradigms. They dispute, however, that the content trajectory of all further stages was more medical reliance on science (Arney & Neill, 1982, pp. 7-8). They note that, "mechanistic relationships in the body lost their prominence to relationships mediated by information flows in a broader ecology" (Arney & Bergen, 1984, pp. 60-61).

Arney and Bergen (1984) argue that the second stage of medical development emerged from the structural logic of medicine itself. In contrast to the widely accepted interpretation that alternative health care movements contested medical power and empowered patients' claims and rights, Arney and Bergen argue that patients' politics were an ineffective force for change. They show how medicine created a new form of power that, in effect, incorporated and limited what patients as subjects "could speak about as important." The medical and the socio-moral became fused, and the patients' subjective experience of disease became an important object of medical practice after 1950. In their view, however, a stronger patient's voice did not replace medical power; it was colonized by it. The medical aim was to *elicit* the patient's voice. In their words, "Invoking knowledge about what is important to the person *is* the activity of power" (pp. 3, 5). Medical power thus produced the subjective reality of the "experiencing person" as a relevant part of the doctor-patient relationship in medical discourse (pp. 5, 27). No longer was the patient merely the vehicle for the disease which formed the object of the physician's attention (p. 50). Instead, their expressions of pain, their anxieties about unemployment, and their family problems resulting from illness, were incorporated into their treatment regimen.

We see this best in obstetric innovations that consider that patient's subjective experience: prenatal classes that encourage women to voice their fears about birthing, hospital birthing rooms that simulate the home environment, and labour coaches who counsel women about the birthing experience. Medical control now involves childbirth *management*; medical power no longer consists solely of direct intervention and domination; rather, it entails monitoring and surveillance of the very conditions of birthing. Medicine promises women an "obstetrically acceptable, if not ideal, labour course" and a "managerially effective" birthing trajectory (Arney & Bergen, 1984, pp. 68, 108-113). It offers patients a "map of the good life, the fulfilled life." That life, not health, disease, or death, according to Arney and Bergen, constitutes the new medical focus. Medicine, they demonstrate, relies on techniques of "normalization," like the fetal heart monitor

and the monitoring of cervical dilation during labour, to communicate this ideal to patients (pp. 100-101, 105).

Arney and Bergen (1984) argue that these revolutionary changes in the 1950s displaced the mechanistic metaphor for the body and substituted a holistic, ecological systems theory model. Emergent in the 1950s, this new model became prominent in the 1960s and early 1970s (pp. 63, 70, 73). The systems theory model excluded the biomedical notion of causality and its "explanatory logic." Biomedical science, they argue, could not easily absorb it. There now existed a plurality of medical paradigms, with the ecological model most prominent. Indeed the ecological model, in their view, increased and strengthened medical control of patients and intruded into their private lives through regulation and surveillance. The content of medicine expanded to include the human personality. In Arney and Bergen's apt phrase, "the patient's psychology was a new entrée to patient control" (pp. 46-47, 68). Invasive medical approaches aimed at curing diseases were augmented by the intrusive management and monitoring of patients throughout their life cycles (p. 80). The patient's experience was made relevant because disease was newly conceptualized and located in the interstices of a complex, interrelated system, and no longer as a separate, discrete object. Not surprisingly, the *conditions* for the development and maintenance of disease (i.e., the patients' relations with their social environment) became a primary focus of medicine (pp. 75, 79-80).

Arney and Bergen (1984) contend that this ecological systems approach has not completely replaced the scientific, biomedical approach. There are uneasy tensions and subliminal conflicts. Nevertheless, the ecological model has proven attractive to medical practitioners and, in their view, it has now become hegemonic. It offers medicine new therapeutic options and new innovative avenues to patient control as in the preventive management of childbirth (pp. 62-63, 66, 68, 82).

There are difficulties, however, with Arney and Bergen's (1984) interpretation of medical changes. In the first place, women's power, indeed the power of patients, to challenge medical theory and practice is denied or diminished. There is no *active* subject in their version of medical change. Medicine is interpreted as allowing the whole human being back into medical discourse. They state that patient subjectivity is not being "reclaimed" by patients, but that it is "in reality being given back to him [sic] by the medical discourse itself" (p. 28).

Second, their work takes a very narrow and internalist approach. Medicine is treated as a discrete and autonomous sphere. There is little discussion of the social context of the medical discourse and how it influenced transformations in medical paradigms. The only time Arney and Bergen (1984) consider the wider context is when they discuss how medical and state concerns for the socio-economic effects of widespread chronic illness contributed to the development of the ecological model (p. 81). In short, they lack an understanding of how and why medical knowledge is fully social.

Third, the evidence for the dominant influence of their new model in medicine is not always convincing. Martin (1991), for example, found that a systems-theory model was prevalent in obstetrics and gynecologic texts, but she could not confirm the model to be ecological and holistic in character.[4]

Finally, Arney and Bergen (1984) misrepresent new doctor-patient relations. While relations may be "more collegial" than in the past,

they are still based on substantial differences and inequalities in power, status, and access to knowledge. Medical power may be more and more in the hands of the health care system's "teams," with patients regulating physicians by the threat of malpractice suits and compelling doctors to elicit subjective information from them, but the traditional hierarchy of power still prevails in the application of the "team concept" (pp. 46-47, 95-97). The physician still retains ultimate decision-making power and responsibility for the patient's overall treatment plan, while other health care workers suggest therapies which complement and supplement the physician's diagnosis and orders. Their roles are subordinated to that of the physician. Even the ability of patients to bring lawsuits against physicians is overstated. While certainly a form of countervailing power, legal challenge is a reactive, not a positive form of power. Thus, the control of medical power by patients is severely circumscribed.

Arney and Bergen's (1984) rendition of medical models and power, then, both complements and differs from that of Shorter (1985) and Martin (1991). Both Shorter, and Arney and Bergen, exhibit a strong sense of nostalgia for the physician. However, Arney and Bergen dispute the view that medicine has become primarily more scientific. They deny that patients' rights and women's health movements have coaxed medicine into appreciating the patient's perspective. They document the reluctance to change medical practices in accord with patients' genuine concerns. For Arney and Bergen, the structural changes that occurred in medicine subsumed patients' experiences and subjectivity, transposing them in the process into an ecological form of medical power and social control.

Shorter (1985) and Arney and Bergen (1984) afford different readings of Foucault's (1973) work on medicine and power. While Arney and Bergen explicitly claim to present Foucaultian analysis, they actually confuse Foucault's thesis on medical power and change. They produce a rather distorted version of Foucaultian medical history, playing up the surveillance value of the medical gaze, while downplaying the power of scientific biomedicine and women's resistance as patients. This accentuates the contrast between Shorter's work and their own. Yet in truth their idiosyncratic rendering of Foucault makes them seem more different from other authors, like Shorter and Martin (1991), than is actually the case.

How then may we explain these differing interpretations of medicine in the 1950s? Did one medical model predominate? What was the meaning and significance of each model for medicine? What were the broader social implications of each model for medical power proper and for the social control of women in general?

Making Sense of Medical Models and Women's Health

An enduring professional network in medicine, then and now, has stressed the psychological and emotional aspects of obstetrics and gynecology. It has attempted to develop an "holistic approach" and, throughout the 1950s, it reacted against much of the scientific direction in medicine. Arguments were voiced that too much science in medicine compromised the "art of medicine." The "art of medicine" necessitated a complete approach to the patient and family. It required a close doctor-patient relationship, community involvement, and an appreciation of personal biography in diagnosis, more so than laboratory tests. It represented an ideal around which general practitioners rallied and expressed their concerns about too much science, technology, specialization, growth, and rationalization and too little pa-

tient care and professional ethics. In Merton's (1957) words, it was a "backlash within medicine," and it renewed an emphasis on viewing the "patient as a whole" (p. 25).

Undoubtedly the experience of global warfare provided some of the conditions for this renewal. Doctors stressed the psychiatric effects of war and accentuated the importance of examining the psychosocial aspects of disease. Yet, as Ludmerer (1985) notes, the impetus afforded biomedical research (clinics, industrial medical laboratories, medical schools, teaching hospitals) by the second world war made it very difficult to attain the ideal of the art of medicine (p. 262). The "whole patient" movement was not so much strident as it was fragile. Merton (1957) puts it as follows:

> [holism] is also said to be a conception more honoured in the breach than the observance. Many physicians, it is said, continue to regard the patient as a case of sickness rather than as a person. (p. 25)

Medical groups used the debate on science versus the art of medicine to further their own professional aims. The general practitioners argued that the inclusion of social scientific and psychiatric knowledge in medicine widened and strengthened the profession's grassroots support and its social status. It improved doctor-patient relations. Science should serve artful medicine. Biomedicine, however, provided the basis for the overall status of academic doctors and specialists and their claims to expertise. Their representatives held that professional status could best be achieved by fully integrating science into medicine so that the two became inseparable. Science was considered a value-neutral aid to improve medicine's diagnostic efficacy. Technical, biomedical advances were said to prove the expertise of objective medical professionals and to enhance their esteem in the public eye. As Merton (1957) notes, biomedicine was a powerful force within medicine "which made it difficult for some physicians to live up to" the conception of holism (p. 25).

These confounding and varied trends and accounts were true in practice and policy where, in Britain and Canada respectively, the National Health Service and provincial health insurance programs provided support for the continuation of general practitioners (Sidel & Sidel, 1977, p. 132). In the United States, however, governments did not intervene to help general practitioners. Accordingly, the trend toward absorption and specialization was more dramatic. In 1949, the proportion of full-time specialists in the United States was 36 percent; in 1963, it jumped to 61 percent. In the same period, the proportion of general practitioners and part-time specialists declined from 64 percent to 39 percent (Sidel & Sidel, 1977, p. 59, Figure 8).

One way to interpret the variations in accounts of medical models is to consider whether there might have existed to simultaneous, yet contradictory trends. Perhaps antenatal care and obstetrics were experiencing similar pulls simultaneously. As Oakley (1986a) puts it, obstetrics may have been moving "towards a more social and user-sensitive agenda on the one hand, and in favour of mushrooming new technologies on the other" (p. 204).

Moreover, the existence of these two trends may have been part of a process of legitimation in medicine whereby the medical profession *absorbed* the holistic agenda into a scientific discourse. As Armstrong (1987) observes:

> Medicine is under fire for failing to address the psychosocial domain; if medicine continues treating the psychosocial at arms length it therefore risks its historical ascendancy in health care provision; the

> solution then is biopsychosocial medicine which at once encompasses and neutralises any threat, all in the name of a progressive model of illness. (p. 1213)

This assessment supports Shorter's (1985) and Martin's (1991) argument that scientific biomedicine has become ascendant. The ecological systems model, in contrast, has not become dominant, nor has it replaced biomedical hegemony as Arney and Bergen (1984) assert. Medical power still lies primarily with biomedical specialists and with fields that prioritize the biological over the psychosocial. Ecological systems theory was nothing more than an "expression of power" on the part of psychiatry and biomedicine (Armstrong, 1987, p. 1214).

Research on obstetrics and gynecology of the 1950s clearly demonstrates this to be the case. Gynecologists, for example, drew upon scientific discourse to explain the etiology of menopause, menstruation, and other reproductive processes (Oakley, 1979; Laqueur, 1990, p. 213). As I have noted elsewhere, the boom in endocrinological research formed a basis for "discovering the inception of abnormalities" (Findlay, 1992). The obstetric and gynecologic texts and journals of the 1950s promoted a hierarchical body system model and defined a chain of connections among reproductive organs and hormones, headed by the hypothalamus. Obstetricians and gynecologists hypothesized that the anterior lobe of the pituitary emitted two main gonadotrophic hormones (luteinizing hormone and follicle-stimulating hormone). These, in turn, controlled the ovaries, the ovarian hormones and reproductive processes (follicle ripening, discharge of the ovum, and corpus luteum growth). In question, however, was whether the gonadotrophic hormones acted independently of each other (Baird, 1950, p. 75). The prevailing view on that issue was that the pituitary was the cause of the hormonal processes affecting all cyclical changes (Findlay, in press). Such scientific research on hormones and the reproductive cycle, then, undoubtedly broadened the conceptualization of physiological processes. The menstrual cycle was no longer interpreted as solely an ovarian and uterine "pelvic phenomenon" (Novak & Novak, 1956, p. 58). However, this expansion occurred *within* scientific medical discourse.

Similarly, biomedical endocrinological writings characterized pregnancy as a hormonal state affecting the entire body (Baird, 1950, p. 105). Hormonal processes, especially those related to the preparation of the endometrium for embedding and maintaining the ovum, to alterations of pituitary, adrenal and endocrine gland functions in pregnancy, and to changes in the uterine wall were stressed (Findlay, in press). Without doubt, a scientific discourse was part and parcel of the assessment of reproductive processes in the 1950s.

Yet women's reproductive problems also were interpreted by some medical practitioners as a psychosocial condition — "women's rejection of femininity" (Findlay, 1992). In Oakley's (1979) words, this entailed a social agenda in which "working or wanting to work outside the home" was deplored (p. 618). Medical definitions of "normality" for women were grounded in explicitly *social* concepts of femininity. They applauded women's reproductive capacities and downplayed women's need or desire to work outside the home (Findlay, in press). In Jeffcoate's (1957) words, "the desire for children by the normal woman" was stronger "than self interest in beauty and figure" and greater "than the claims of a career." For men, however, reproductive and childrearing matters were supposedly "less intense" (p. 553). Obstetricians and gynecologists worried about the condition and consequences of women in the waged labour force (Hesseltine,

1955: pp. 435-437). They feared that employment would lead women to reject pregnancy and motherhood altogether and thus undermine medicine's interventionist strategy of a healthy human race through proper and preferred mothering. Pronatalist doctors, for example, targeted the "working mother" as a deviation from the social mean. They articulated a project of race and class eugenics around a rhetoric of population management: quantity and quality (Pearson, 1983, p. 223). The spread of the working mother syndrome, especially to white middle-class homes, was seen not only as a social problem but as a medical pathology (Findlay, in press).

The parallel growth of the social sciences and psychiatry also provided related minor developments favouring holism within medicine. They emphasized a "secular, liberal, humanitarian ideology" and expanded the scope of human pathology and treatment (Freidson, 1970, pp. 5-6; Armstrong, 1987, pp. 1213-1214). Psychiatry, in particular, increased its professional status by contributing greatly to the continued medicalization of previously non-medical areas of behaviour and by promoting a scientific/medical discourse for public life and private troubles (Starr, 1982, p. 337).

The new "holism" in medicine also redesignated conceptions of normality and abnormality. As Arney and Bergen (1984) note, this provided medicine with a new form of power. It expanded an emphasis on preventive medicine which included more surveillance to detect the potentially abnormal in the normal. In Britain, it increased the monitoring of pregnant women for potential abnormalities under the aegis of prenatal care (Oakley, 1986a). In Canada and the United States, preventive medicine redefined and reformulated the categories of biological sex (Findlay, 1992). Sex, in Oudshoorn's (1990) words, was not "biological material," waiting to be "discovered in nature"; rather, it was constructed, embodying "particular ideas" about what biological sex *should* be like (p. 256).

Intersex individuals, not easily classifiable as men or women, were nevertheless ascribed a "true" biological sex by medical practitioners in the 1950s. Chromosomal testing and the nuclear sex chromatin were considered invariant measures, and were used to "discover" and promote the designation of biological sex as a dichotomous category and to standardize further categories of "normal" and "abnormal" biological sex (Findlay, 1992).

However, medicine prescribed a particular version of normal and abnormal sex categories. By so doing, it exacted a gaze on biological sex: detecting, sifting and ordering deviations from the "normal," dichotomous classification of "true" opposite sexes, while at the same time guarding and buttressing the boundaries of sexual and gender normality. (For a social history of the eighteenth-century origins and development of this bipolar model of biological sex, see Epstein & Straub, 1991, and Laqueur, 1990; also see Sohval, Gaines & Gabrilone, 1955). As Pritchard et al. (1985) observe, "the mechanisms of normal and abnormal sexual differentiation" were linked and the power of that knowledge continues to contribute to the "correct" assignment of a sex to an ambiguously sexed newborn (p. 170).

In obstetrics and gynecology, then, the scope of the new disciplinary gaze was widened to include abnormality in general as well as "a better understanding of healthy normality" (Graham, 1950, pp. 659, 661).[5] However, in contrast to Arney and Bergen's (1984) interpretation of this change, it was *biomedicine* that was thereby strengthened as it absorbed psychosocial versions of normality. Foucault (1979) notes:

> the supervision of normality was firmly encased in a medicine or a psychiatry that provided it with a sort of "scientificity"; ... a carefully worked out technique for the supervision of norms has continued to develop right up to the present day. (p. 296)

Not surprisingly, these concepts, technologies, and social norms were frequently interpreted in biomedical terms and extended to include the good, the bad, the sick and the healthy. Foucault (1973) writes:

> Medicine must no longer be confined to a body of techniques for curing ills and of the knowledge that they require; it will also embrace a knowledge of healthy man [sic], that is, a study of non-sick man [sic] and a definition of the model man [sic]. In the ordering of human existence it assumes a normative posture, which authorizes it not only to dictate the standards for physical and moral relations of the individual and of the society in which he [sic] lives. (p. 34)

For women in the 1950s, this medical ordering took the form of a general supervision and surveillance of female patients as well as decidedly intrusive measures such as gynecological diagnoses of premenstrual syndrome.[6] Medical intervention in women's health occurred in an objectivist context and was a supposedly non-political and neutral rendering of social life. (For a full discussion of the medicalization of deviance, see Conrad & Schneider, 1980). In truth these were often class and racially specific conceptualizations of women's health.

Specific ideals of womanhood were marshalled by scientific and medical experts, who were concerned above all else with reproduction, disciplinary normalization, and population management. Medical knowledge about women's health has abounded with metaphorical devices and the use of rhetorical resources. Science has been contrasted with the psychosocial. Yet both obscure the deeper social assumptions about women's biology and gender. Ideals of women were in effect classifications of normality and abnormality dressed up as biomedical health and pathology. Both medical models present assumptions about women as technical knowledge about normal and abnormal conditions were elaborated. Both fall prey to essentialism and to the creation of a true "normal" obstetric and gynecologic health for women. Neither acknowledges fully the socially constructed and relative nature of the very concept of "normality." Neither shows how notions about women's normality and abnormality were mobilized as part of the social control of women through the incorporation of psychosocial aspects into the biomedical model. Doctors, it must be emphasized, inserted themselves into the sphere of the normal. Armed with preventive medicine, they fashioned a new social control role in addition to their role as specialists in pathology and, in the process, took possession of an even greater power than that which they previously held.

On the one side, then, the use of science and biomedicine accredited gynecology as dispassionate, objective, and value neutral. On the other side, many physicians believed and acted as if science should be combined with holistic, clinical judgments. We have seen, however, that endocrinology intensified a gynecological gaze on physiological, hormonal aspects of women's reproductive health. Gynecology made a separation between biological conditions, and psychological and environmental ones. However, like Shorter's (1985) and Martin's (1991) renditions of medical change, the psychosocial aspects of women's obstetric and gynecologic conditions were subsumed within biomedical, scientific explanations. Most psychological theories had mechanistic, scientific

bases to their medical approaches to the psyche. The social and psychological sciences endowed medical definitions with scientific legitimacy but, like the current biopsychosocial model, they prioritized the biological over the psychosocial and incorporated the latter into the former in a crude systems theory. Contrary to Arney and Bergen's (1984) view, gynecology and obstetrics did not stray far from biological explanations. Indeed, the psychosocial medical model often conceived "psychological states as epiphenomena of physiological ones" (Oakley, 1979, p. 621). Armstrong (1987) puts it well:

> In effect, far from systems theory creating a "new model" based on an integrated hierarchy, it would seem to offer both a strengthening of traditional biological, reductionist medicine and, at the same time, ensured the continued subsidiary status of the social sciences. (pp. 1213-1214)

Separate disciplines, he notes, operated at "one level of a more general hierarchy of interrelated levels," and the combined reductionist and holistic approach in biomedicine allowed for not only the maintenance of the biomedical model but for its expansion (Armstrong, 1987, pp. 1213). Contrary to Arney and Bergen's (1984) contention, biomedicine reigned supreme despite the challenges from within medicine and the social sciences, and the challenges from women about the subjective experience of their health.

Conclusion

The two paradigms, the biomedical and the ecological or psychosocial, have produced obstetric and gynecologic gazes which are similar, yet also different, in their enabling of medical power on women's bodies. Biomedicine has focused on the pathological and led to direct, technological intervention into women's health problems. Relying on science, it has utilized "objective," technical measures of abnormality, and has largely excluded the patient and her experiences of health and disease from the physician's gaze. The woman's voice and subjectivity, her spoken inner feelings and emotions, are severely circumscribed in favour of biomedicine's preference for and dependency upon diagnostic tests for "real" medical information. For example, endocrinological testing is often used to assess hormonal changes in a woman experiencing problematic pre-menstrual symptoms. A woman may also voice her pregnancy to her doctor because of her bodily changes, but biomedicine insists upon the more reliable "objective" tests for medical confirmation. Biomedicine, however, is now accommodating some of women's psychosocial concerns (i.e., accepting coaches in labour and delivery). These changes are largely in response to women's demands for better health and, as well, they reflect the expansion of medical power into the realm of "normal" physiological processes, to prevent the normal from becoming the abnormal and to glean more knowledge about when and how to intervene in the pathological. Nevertheless, the biomedical gaze still relies heavily upon technological, invasive procedures for diagnosing and treating women, and provides little legitimacy to less technological treatments like nutrition and stress management.

Biomedicine continues to absorb women's demands for a humanistic medicine, but its status as a science depends heavily on separating medical knowledge from that of "lay people." Physicians use the mystique of technology to maintain the prestige, power, and rewards of their profession. We see this explicitly in biomedicine's accommodation of preventive health care measures, or where their incursions into the sphere of the biologically "normal" are made in the name of science. This tactic preserves the technocratic mystique while providing new medical constituencies

and legitimacies. The discourse afforded women is often an appearance, while the medical procedures are what truly counts because they bolster biomedicine's hegemony. For example, when biomedicine sought to lower the fetal mortality and morbidity rates (a goal that is difficult to contest), physicians presented this as an improvement of women's experience of birthing. Women in labour were enjoined to forego anaesthesia and to consciously experience the fulfilment of delivery and bonding with their infants. Medical research is also a large part of a physician's agenda when recommending evasive medical procedures or adopting a course of medical action. For example, when ultrasounds or amniocentesis on pregnant women indicate the fetus will not survive, they are still advised by some physicians to carry the fetus to term and to delivery. This recommendation may be in the interest of medical research, but hardly in the interest of women's physical and emotional health.

The biomedical gaze, relative to the ecological paradigm, is direct, focused, and aggressive. Women may become more aware of the ways this domination is played out on their bodies by questioning the risks of highly technical treatments more fully, by evaluating the outcomes of these medical procedures, by advocating medical alternatives, by considering that physicians often have an investment in advocating particular approaches to treatment, and by investigating whether that research conflicts with the female patient's interests.

The ecological, psychosocial model offers a more subtle form of intrusiveness and medical power over women's bodies. In defining normality for women's health through normalization rather than pathology, the psychosocial gaze focuses on preventive and psychiatric medicine. It monitors and regulates the female patient more so than the biomedical, albeit indirectly. It insists that women first monitor themselves, particularly in relation to their reproductive organs. Then after first inspections, they are expected to transfer their bodies to medical practitioners who possess the real power and techniques of surveillance.

The ecological paradigm includes in its gaze not only women's bodies but, as well, their psyches, families and kin, and social and communal relations. So the net of medical control is wide and finely meshed, and extends a lifetime. It includes prenatal care, mothering, reproductive choices, menopausal conditions, and emotional stress at work and at home. The primary emphasis of the psychosocial gaze is normalization, the detection of the potential for abnormality, and its prevention. The effects of that power on women are that they are constantly objects of medical inspection and surveillance and of their own guarded self-monitoring. This is not to say that we should ignore the benefits of preventive medicine, but rather to argue for caution, prudence and selection in its use. By assessing the applications, settings, and modalities of preventive monitoring (such as mammography), women can retain some control over the ecological, psychosocial gaze as it continues to develop, and thereby have it benefit rather than control them.

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NOTES

1. Lécuyer (1978) even refers to Kuhn's notion of "paradigm" as a "forme cognitive de l'autorité."
2. Freidson (1986) notes the close association between rationalization and the development of formal, scientific knowledge (p. 3-4). The end of such knowledge is the use of reason to attain functional efficiency. It is a product of accounting and management methods that developed fully with capitalism. The knowledge is also a result of the rise of administrative means for obtaining "predictable social order" — the rise of rational-legal, bureaucratic aspects of the modern state. See also Weber (1958) and Gerth & Mills (1946, esp. Ch. VIII on bureaucracy).
3. Shorter (1985) refers in this quotation to the following examples: Stevenson, G.S. (1930, February 1). Why patients consult the gastro-enterologist. *JAMA*, 334-335; and Robinson, G.C. (1939). *The patient as a person: The study of the social aspects of illness*. New York: unknown, pp. 410-414.
4. Martin might be equivocating, though, in her critique of Arney and Bergen's (1984) argument. She recently acknowledged the beginnings of an ecological approach in 1950s medicine, one that took into account the patient psychosocial environment (Martin, 1991, p. 499).
5. Graham recommended a transfer of medical focus from pathology to "positive health" in 1950.
6. This point is particularly emphasized in studies which draw on the work of Michel Foucault. See Oakley, 1986b, p. 127; Martin, 1987, p. 145; and Arney & Bergen (1984).

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