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"Milk Makes Me Sick but My Body Needs It": Conflict and Contradiction in the Establishment of Authoritative Knowledge

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This article takes lactose intolerance as a topic for exploring clashes of power, authority, and knowledge in clinical interactions and interpretations of laywomen. In clinics providing maternal and child care, staff and clients jointly produced authoritative knowledge, most often a version of biomedicine. The Euroamerican staff tended to give advice that was biologically appropriate for them but not for many of their patients, a process reflecting what we refer to as biocentrism. Resulting information given to pregnant and lactating women and diagnoses of children's growth patterns were inappropriate in some cases, with potentially serious legal and health implications. Clinic staff often unwittingly ignored the efforts of their clients to begin a discussion of discrepancies between their bodily knowledge and clinic advice. Some women created their own syntheses, which supported the ascendancy of biomedical knowledge but were not in the interests of their own health. [authoritative knowledge, maternal-child health, biocentrism, lactose intolerance, popular medicine, United States]

Clashes in power, authority, and knowledge in the clinical setting can shape patients' ideas and affect their behavior in daily life, sometimes for the worse. This study examines the production of authoritative knowledge in clinical interaction and among patients. The biological focus of the study is lactose intolerance, an intolerance of milk that is unusual among Euroamericans but common among members of the major ethnic minorities in the United States. Lack of attention to it by Euroamerican clinical staff reflected what we term *biocentrism.* Based on analyses of clinic interactions and interviews with laywomen, we argue

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that biocentrism may have negative consequences for program outcomes and patients' well-being.

In the clinical settings that we studied, many female patients excluded their own knowledge in deference to clinical and biomedical authority when their own expertise would have changed health advice. The women were not always mute about their own knowledge, but even explicit questions often went unrecognized in clinical routines. In addition, while analyses usually depict biomedicine and lay knowledge as distinct realms of knowledge, some women in this study formed their own syntheses of biomedical, lay, and bodily knowledge. Their syntheses justified biomedical advice but led them to have bodily discomfort and potential health problems. Women who adopted this approach were integrating their own bodily knowledge with biomedicine in a way that was harmful to them. In this and other ways, laywomen and clinic staff produced the authority of a biocentric biomedical knowledge to the detriment of patients' health.

Our analysis is based on a participant-observation study of two clinics serving low-income women and children in a small city in the midwestern United States. In addition, we interviewed low-income women outside the clinic settings to assess their concepts of the place of milk in their diets. Given the range of participants interacting in the two clinical settings (nutritionists, nurses, and women and their children), there are various bodies of knowledge that might be established as authoritative. These include, at the very least, women's experiences of motherhood and their own bodily knowledge; nutritionists' professional knowledge, which is part of biomedicine; and nutritionists' experiential insights, including their own bodily knowledge. As a rule, however, we found that mothers' and nutritionists' expertises are typically pitted against each other, as are bodily and biomedical knowledge: the tension and competition between types of knowledge usually result in a devaluation of women's bodily knowledge and their know-how as mothers. In addition, however, we found that some women in the study drew their own conclusions in reaction to professional advice, creating their own syntheses of clinical advice and their knowledge of their own bodies, formulations that were conditioned by the ascendancy of biomedicine in clinical settings. Other foci of this study include the contingent, partial movement of relevant scientific knowledge into clinical application, the tendency of the medical interview to exclude information, and the routinization of interaction in the clinic that can prevent patients from introducing relevant information.

Studies of Knowledge and Hierarchy

The concept of authoritative knowledge grew out of studies of power in medical settings. Hahn (1985), for example, showed that the categories used by U.S. internists relate to those in the larger culture. Martin (1987) found that U.S. laywomen express diverse images of their bodily processes, sometimes in ways that resist biomedical metaphors. Rhodes characterized "biomedicine's aura of factuality as precisely its source of power" (1990:168). Janzen's (1978) work in Zaire illustrated an incomplete ascendancy of the biomedical system, which lacks complete control over patients' health ideas and behavior, even in the hospital, where they are under maximum biomedical control. Patients and their relatives subscribed to multiple bodies of knowledge about illness and misfortune, and saw no need to integrate conflicting information. They used different bodies of knowledge in a somewhat empirical fashion, sometimes using them simultaneously and at other times moving from one kind of medical treatment to another in the quest for efficacy. A wide variety of conflicting concepts of illness and treatment approaches were integrated only through use by particular sufferers.

The articulation of knowledge and power may become pronounced under conditions of poverty. In a study of the constraints faced by poverty-stricken elderly in New York City, for instance, Mathieu (1993) explored how health care and social services systems deal with some issues effectively but ignore others crucial to their clients' well-being and even to their survival. In this case, different governmental agencies vie to avoid responsibility for specific kinds of clients, especially the impoverished elderly and the homeless, in order to direct their budgets toward other groups with more political favor. Research in medical anthropology on patients' lack of adherence to biomedical advice has thus pointed both to convictions originating in nonbiomedical systems of knowledge and to poverty resulting in the indisposition or inability to follow physicians' advice. In the present study, we analyze the perspectives of women who, to the contrary, try to adhere to scientifically based health advice but who develop their own interpretations of their negative bodily responses.

Reiser (1978) noted the problems resulting from the use of medical history outlines in the early-20th-century United States:

> Not suprisingly, students who were taught to take histories with a standardised set of questions tended to believe that they could acquire a complete story of illness if they asked the patient all questions in the outline, regardless of the fact that forcing rapid answers to the many questions often obscured the patients' main reasons for seeking medical care. And even after a student had given up rigid adherence to an outline, his earlier tactics in gaining information from patients tended to lessen his capacity for effective dialogue with them; as a practicing doctor he had learned to phrase questions in ways that allowed more or less yes-or-no answers, and so he might miss important leads provided by spontaneous remarks. [1978:180–181][1]

This form of clinical interaction, with a list of questions eliciting yes-or-no responses, is evident in the present study and has significant consequences, as our analysis shows. As Giddens (1984, 1987) pointed out, routinization in day-to-day life plays a significant role in the reproduction of institutional practices and power relations. Power relations, he stated, are "often most profoundly embedded in modes of conduct which are taken for granted by those who follow them, most especially in routinized behaviour" (1984:176).

In addition, the works of such scholars as Fisher (1991), Fisher and Todd (1983, 1986), Mishler (1984), Silverman (1987), ten Have (1991), and West (1984) have explored in detail the discourse of medical interactions, with particular emphasis on power in doctor-patient interactions. More important for our purposes here, several studies have focused specifically on authoritative knowledge and on its accomplishment in particular settings. Irwin and Jordan (1987), in an analysis of court-ordered caesarean sections, described how women's knowledge was devalued or ignored in favor of physicians' knowledge, the latter including ultrasound scanning and fetal monitoring data. Jordan (1987a, 1987b, 1989), in an exploration of the imposition of particular forms of authoritative knowledge in obstetrical settings in less developed countries, described a form of biomedical and technological imperialism that endeavors to replace local expertise (if it is recognized at all) rather than build on it. She further examined technology as a resource for making authoritative claims by comparing the accomplishment of authoritative knowledge in a U.S. obstetrics ward with that in a U.S. airline operations room (Jordan 1992).

Jordan's (1987a, 1987b, 1990, 1993) work on ethno-obstetrics and biomedicine is where the "birth" of the concept of authoritative knowledge may be situated. Jordan's development of the concept, particularly with regard to the tensions between authoritative knowledge and other forms of knowledge that are present but eclipsed in various contexts, has been applied by various scholars in their application and expansion of the concept as a theoretical tool. A recent theme issue of *Medical Anthropology Quarterly* (Davis-Floyd and Sargent 1996) is devoted to precisely this task in honor of Jordan. Most useful for our purposes here is the article by Browner and Press (1996), which examines the relationship between embodied and biomedical knowledge in prenatal contexts. Their concern, like ours, is with the processes by which authoritative knowledge is established; specifically, they examine the conditions under which women accept or reject biomedical advice concerning prenatal care. Interestingly, the women in their study used embodied knowledge as the final arbiter, whereas the women in this study were more likely to question their bodily knowledge in deference to biomedical knowledge.

The following aspects of authoritative knowledge emerge from these works and are crucial to our discussion:

1. Authoritative knowledge is defined as the knowledge that dominates, that holds weight.
2. Authoritative knowledge is not a given, but it is achieved in any particular setting. This means that, even while it is safe to assume that biomedical knowledge will carry the most weight in clinical settings, its position of authority must be produced and asserted on an ongoing basis.
3. The establishment of a particular form of knowledge as authoritative in a particular context entails the delegitimization of other available knowledge. In some cases the other knowledge is explicitly devalued, while in other cases it is not recognized as existing in the first place.
4. In clinical settings, claims to authoritative status are often based on science, including professional knowledge (in this case, the science of nutrition) or measurements produced by technological devices. While taken as "objective," these data do not in fact speak for themselves but, rather, are constructed and interpreted with reference to specific patients. As such, they are resources that participants draw on in making particular claims.

Following Irwin and Jordan (1987), we define authoritative knowledge as that which is legitimate and consequential. Authoritative knowledge is not necessarily "true" or "correct" in any "objective" sense but is, rather, a social accomplishment. *"The power of authoritative knowledge is not that it is correct but that it counts"* (Jordan 1993:154, emphasis in original). In cases where participants are in an unequal relationship, for instance, the knowledge claims of the more dominant usually eclipse those of subordinates.

Background on Lactose Intolerance

In mainstream U.S. culture, milk is the prototypical "good" food, both "pure" and "nutritious," making lactose intolerance an interesting case for studying the negotiation of authoritative knowledge in programs focused on diet and health. In a global context, however, most adults cannot digest large quantities of milk because they have primary adult lactose intolerance, a genetically determined characteristic that usually begins in middle childhood to middle adolescence. Such individuals secrete low levels of the enzyme lactase, which changes lactose (the sugar in milk) into a digestible form. When they consume food containing a lot of lactose, they get symptoms of bloating and diarrhea (Scrimshaw and Murray 1988). Regular consumption of lactose-high foods can raise a woman's tolerance through adaptation of intestinal flora, but in the opinion of many nutritionists she would still be unable to digest the daily quart of milk often recommended to pregnant and breastfeeding women.

Some nutritionists point out that it is "normal" to outgrow the need for milk (Brody 1981) and that adults who are lactose tolerant (most of whom are descendants of European populations) are the minority, relative to both adult mammals in general and adult humans in particular (Passmore and Eastwood 1986). "Lactase sufficiency, rather than lactase deficiency, may be regarded as the aberrant form, since most of the population of the world seems not to manifest lactose tolerance as adults" (Harrison 1975:815).

In the United States, the prevalence of lactose intolerance in whites is about 15 percent, whereas among African Americans it is about 75 percent and among Mexican Americans, about 55 percent (Millard's calculation, based on Scrimshaw and Murray 1988). (Asian and Native Americans also have high rates of lactose intolerance but did not account for many of the clinic patients in our study.) National and international nutrition advice and programs often assume that all people are lactose tolerant, and lactose intolerance is often considered an aberration or disease rather than part of a normal range of human variation. Bayless and Huang pointed this out regarding nutrition programs in Africa:

> A newspaper article describing the factors that contribute to widespread malnutrition in Africa cited presumably incorrect local beliefs that block the effects of UNICEF to improve nutrition. Among the "unscientific attitudes" was the belief that "diarrhoea results from drinking milk and that many mothers condemn all milk, depriving their children of a basic food" (quotation from the Associated News Press Service, 1968). [Bayless and Huang 1969:255]

Although lactose intolerance is better understood today than it was in the late 1960s, the notion of milk as an appropriate adult food, particularly during pregnancy and lactation, is still emphasized in U.S. food and prenatal care programs. Bayless and Huang's comments provide a stark example of what anthropological and historical analyses indicate, namely, that health care is shaped not only by scientific knowledge but also by the cultural values of those setting and implementing health policy (Davis-Floyd 1992; Martin 1987; Michaelson et al. 1988; Millard 1990).

Methods: Interviews and Observations inside and outside the Clinic

The interviews analyzed in this article were carried out as part of a larger project dealing with women's experiences with lactose intolerance. We designed interviews to elicit women's problems with milk and other dairy products without drawing attention to those foods in particular. To avoid highlighting lactose intolerance as a problem, each interview began with a discussion of general aspects of a woman's diet and then moved to discussions of particular foods, including various dairy products.

The data analyzed here were collected by both authors over a nine-month period in two clinics and a community center. The two clinics were a prenatal clinic, which provided women with checkups and tests as needed, dietary advice, and counseling, and a clinic of the WIC program (the Special Supplemental Food Program for Women, Infants and Children), a Department of Agriculture initiative that provides cheap and widely available foods to low-income pregnant women, new mothers and their babies, and young children who had a medical risk factor. The WIC clinic also had a state-required educational component in the form of nutrition classes that clients had to attend to receive their food coupons. Both clinics served low-income women, including members of ethnic minority groups, especially African Americans and Mexican Americans.

In the clinics, we approached women in the waiting room and, with their permission, followed them through the clinic to sit in on their appointments with nutritionists and nurses.[2] In the prenatal clinic, Catherine Kingfisher tape-recorded these interactions, while in the WIC clinic both coauthors observed staff-client interactions and Catherine also observed nutrition education classes. In all cases, we conducted informal interviews with the women while sitting in the waiting room with them. We took notes after interviews and observations except when Catherine used the tape recorder. A total of 47 women were followed in the WIC clinic, and 14 women, in the prenatal clinic.

We were given access to clinic women on the condition that we refrain from seeking access to them outside of the clinic. The reason given was that the latter would be too great an imposition and might have an adverse effect on the women's willingness to attend the clinics. Accordingly, and in order to compare statements produced in clinical settings with those produced elsewhere, Catherine interviewed low-income women at a local community center serving primarily Mexican American women. She asked women to discuss their food preferences and aversions, and gave particular attention to their discussions of bodily reactions to foods that they disliked. She also elicited the women's interpretations of various dietary recommendations that they had received. A total of 18 women were interviewed in the community center.

The data collected in the two settings (clinic and community center) differed in quantity and kind. The focus in the clinics was on clinical interactions, not on our own interviews with the women, which were brief (10 to 20 minutes) and public. In contrast, in the community center the focus was on private (or, in some cases, semiprivate) interviews conducted with women who were familiar with Catherine through prior interaction. Rather than short exchanges with relative strangers, then, the interviews in the community center were usually relatively lengthy (one to two hours), informal, and relaxed. The comparison of the two types of data is thus indirect, and our findings are, accordingly, suggestive rather than definitive. Nevertheless, the data generated in the community center interviews, when juxtaposed with the interactional patterns of clinic interviews, indicate to us that the kind of talk produced in the different settings was indeed different and that clinic routines tended to preclude the kind of discussions we report in this article.

In collecting data, we focused on laywomen's ideas about nutrition and health, with particular attention to conflicting information about milk and other dairy food. We attended particularly to what happened to women's knowledge when they entered clinic settings. We recorded women's statements about their bodily knowledge, that is, what their bodies "told" them, how they felt, or what they sensed in their bodies. We also focused on their knowledge as mothers, namely, what they knew about their own children. With regard to women's bodily knowledge, our focus was on lactose intolerance. With regard to women's knowledge as mothers, we focused on children's weight gain and maternal knowledge about their children's diets. These foci respond to the assumption, inherent in both programs, that health can be maintained and enhanced through a scientifically designed diet. They also allow for an investigation of what diet is being advised, as constituted by the formally designated experts in these settings, namely, nutritionists and nurses.

We focused our analysis of the tape transcripts and field notes on two phenomena: the types of knowledge present, or potentially present, and the process by which particular knowledge was legitimized as authoritative while other information was dismissed.

Routinization and Knowledge

In their interactions with clients, WIC and prenatal staff followed set sequences of questions and adhered to a specific agenda of tasks. The goal was to assess a woman's or child's nutritional status and make recommendations for changes in dietary habits if warranted. The staff discussed weight gain, dietary habits, and nutritional requirements, and then gave dietary advice. On each topic, the staff controlled the agenda through the use of specific questioning techniques, which constrained the kind of information that the other participant could introduce.

The following excerpts are from interactions between a nutritionist and two clients in the prenatal clinic. In the first case, the nutritionist (N) is trying to determine the client's (C) calcium intake. The client, a 23-year-old African American woman with four children, has admitted to drinking only about half a cup of milk a day. The nutritionist then asks a series of questions to determine whether the client's milk drinking habits reflect a physiological problem with milk or simply a preference.

Transcript #1, prenatal clinic

1 N: Do you like milk . . . a lot?
2 C: Not really.
3 N: Does it give you gas or anything?
4 C: Uh uh. [No.]
5 N: At all? So you don't think—

6 C: It's—
7 N: you're allergic to it?
8 C: No, I'm not allergic to it.
9 N: Okay, 'cause sometimes people who don't drink a lot of it really are allergic
10 to it and they don't know it.
11 C: If I had a choice between water and milk, I would drink water.
12 N: Okay. Does anybody in your family have any allergy to milk? Like, would—
13 C: No.
14 N: —they get gas pains or diarrhea if they ever even touch it?
15 C: No.
16 N: No. Okay, okay.

Having assured herself that the client does not have a physiological problem with milk, the nutritionist goes on to recommend milk intake of four cups a day.

The nutritionist made her diagnosis by drawing on a standardized set of questions that she asks when a client reports drinking little milk. These questions focus on the typical symptoms of lactose intolerance or milk allergy:[3] gas and diarrhea. Note, however, the yes/no framework of most of the questions. The questions are also framed in an extreme way: "Does it give you any gas or anything? *At all?*" (lines 3–5), and, referring to the relationship the client's relatives have with milk, "Would they get gas pains or diarrhea if they *ever even touch it?*" (lines 12–14). This kind of phrasing leaves little room for variation. The ability of some lactose-intolerant individuals to consume small quantities of milk without side effects is, accordingly, unacknowledged, thereby transforming lactose intolerance into an all-or-nothing phenomenon: if the client can tolerate any milk at all, then she can tolerate the recommended four cups a day.

It is in this way that the client's approach to milk is constructed as a "preference" that is delegitimated. Note, for instance, that at line 6 the client seems to be about to make a statement explaining why she does not drink much milk; the nutritionist, however, fails to make room for this but, rather, continues with her own question. On the other hand, the client's knowledge is legitimized insofar as she is taken to "know" that she does not have a milk allergy. In this instance, bodily "knowledge" supersedes any clinical test. Note also how this sets up a body-mind binary in which "preference," a mental phenomenon, is delegitimized. In sum, the nutritionist addressed the possibility that the client was lactose intolerant by using lay concepts and terms, but she maintained so much control over the conversation that the client could not contribute what she wanted to.

The following excerpt from an interview with a 20-year-old white woman in her first pregnancy provides an even starker illustration of the de facto cursory attention given to lactose intolerance in clinic routines:

Transcript #2, prenatal clinic

1 N: Do you have any problems when you drink milk? Do you have any stomach
2 pains, or—
3 C: Uh uh. [No.]
4 N: —any diarrhea or gas?
5 C: Nope.
6 N: So you're probably not allergic to it then?
7 C: No.
8 N: Okay.

Again, the nutritionist addresses potential troubles with milk in a routinized fashion: she asks a particular series of questions, following the same format from broad ("Do you have trouble with milk?") to specific ("Does it give you gas?") and then back to a broad conclusion ("So you're probably not allergic to it then?"). Questions regarding quantities of milk consumed are not addressed. As in the previous excerpt, the nutritionist's questions elicit a yes-or-no response, and the client responds as expected. In sum, the clinic routines leave little opportunity for clients to tell their renditions of their experiences and concerns, possibly resulting in the delegitimization, obfuscation, or eclipsing of potentially serious problems, such as a pregnant woman's lactose intolerance or an infant's feeding troubles.

The format of these clinical interactions does not allow the nutritionist to follow "important leads provided by spontaneous remarks" (Reiser 1978:181), a failure that resonates with Giddens's (1984) discussions of unintended consequences. Routinization provides one vehicle for accomplishing the ascendancy of nutritionists' and nurses' knowledge, on the one hand, and the eclipsing of women's bodily knowledge and their experiential knowledge of mothering, on the other. The participants in clinical interactions (and in particular, in this case, the nurses and nutritionists who most often control the agenda) follow routines. These routines, in turn, serve to reinforce an arrangement whereby the business of those in power (nurses and nutritionists) is to ask the questions and make the decisions, while the business of clients is to answer questions and accept the professionals' decisions. The latter provides clear indication of where authoritative knowledge is taken to lie.

The Wider Context: Milk and Daily Life

Our evidence that some women had problems with milk that were rendered invisible in the clinic settings comes from the interviews conducted in nonclinic settings, during which women spoke at length about their aversions to milk. As indicated above, the data collected in the community center were qualitatively different from those collected in the clinics; interviews in the former were relatively informal and relaxed and took place in a context in which interviewer and interviewee were somewhat familiar with each other.

Our analysis of the community center data indicates that some women do indeed have trouble digesting milk. In addition, and indicative of hegemonic models of diet and health, the interviews illustrate how women struggle with the contradictions between their own bodily knowledge and the official knowledge of experts and professionals.

In the following exchange, Sonia Flores (SF), a middle-aged woman of Mexican descent, describes her bodily reaction to milk to Catherine Kingfisher (CK). She claims that milk makes her feel ill but that she has been told that she should consume a minimum of two to three cups a day. Later in the interview, she explains that milk may be good for her because it moves the gas out of her system. Rather than being the cause of her gas problems, then, milk is portrayed as a solution.

As the excerpt begins, Catherine is closing the discussion of dietary preferences and turning to questions about foods that Sonia dislikes:

Transcript #3, community center (excerpt 1)

CK: That's [the food] you like; is there anything you really don't like?
SF: Uh—

CK: [Any]thing that you just, “ugh?”

SF: I really don’t like milk.

CK: Why?

SF: I have a hard time drinking milk.

CK: Does it make you sick?

SF: It makes me nausea.

CK: Nauseated.

SF: For some reason, my stomach gets upset.

CK: Does it matter—is it—does it matter how much you drink or . . . ?

SF: I think, when I try to drink a big glass of it is when it, it bothers me, but if I drink just a, like a—

CK: little

SF: —juice, uh, juice, uh—

CK: Uh huh, like a little, like a cup, one of these [8 ounce] coffee cups or something.

SF: Smaller. Yes, yes.

CK: That’s okay?

SF: Yes, and that’s okay, but if I try to drink more than that during the, during the day, that, that’s when I get sick.

CK: So you could have like one coffee cup for the day?

SF: Uh huh, that would be it.

CK: And that would be it.

SF: And, and they request, you know, quite a lot of milk, but I can’t drink it.

CK: What, what gives you, what did you say?

SF: They request [me] to drink at least two or three glasses of milk.

CK: Right, right, who is it, just—

SF: Your diet.

Here Sonia is referring to dietary advice that “milk is good for you” without specifying any particular authority.

Sonia’s attempt to reconcile her bodily knowledge with the dominant knowledge is illustrated later in the interview, when she transforms her problems with milk into something beneficial:

Transcript #3, community center (excerpt 2)

SF: It [doesn’t] give me diarrhea; it gives me a lot of gas.

CK: Gas, uh huh.

SF: (A lot), but then they say that’s good, because, you know, uh, it’s, if I wasn’t drinking the, the milk, I wouldn’t let all that gas I have [out].

CK: Huh.

SF: So I don’t know what to believe. *[Laughs.]*

CK: Uh huh.

SF: People tell you different, you know.

CK: I wouldn’t drink it if it made me sick. *[Laughs.]*

SF: It just makes me sick to my stomach,—

[Interruption.]

SF: —but it gives me a lot of gas.

CK: Uh huh.

SF: But that, after, uh, after I let it all out, then I don’t—

CK: You feel better?

SF: Yeah, yeah, and then I don’t let [any] more out. So I, I imagine that I had a lot a, a lot of gas in my system that I didn’t get out.

CK: Huh.

19 SF: And the milk kinda helps to get it out.
20 CK: Helps it get out.
21 SF: Yeah.
22 CK: That's interesting.

Sonia points out that she is confused about the dietary advice that she has received concerning milk. On the one hand, she has been told to drink a certain amount of milk a day ("at least two or three glasses of milk" [excerpt 1, line 26]) for her health. On the other hand, the milk makes her nauseous, a sign of ill health, and gives her gas—to her, another sign of health problems. (Note that nausea is not a symptom of lactose intolerance but that gas is.) She does not know what to do because "people tell you different" (excerpt 2, line 8). She has the idea that "if I wasn't drinking the, the milk, I wouldn't let all that gas I have [out]." At this point, Catherine presents Sonia with a challenge of sorts by stating that "I wouldn't drink it if it made me sick" [excerpt 2, line 9]. Sonia's response is to reiterate that, even if it upsets her stomach, milk is good for her. She then goes on to reconcile the contradiction between advice to drink milk and her own bodily experience by constructing the milk as an aid in ridding her body of superfluous gas. She imagines that "I had a . . . lot of gas in my system that I didn't get out" (excerpt 2, lines 16–17). It is as if Sonia is trying to validate both professional knowledge and bodily knowledge by reinterpreting her gas problems in such a way that milk remains beneficial to her system.

Rather than attempting to reconcile the contradictions between professional knowledge and bodily knowledge, Rita Gonzales (RG), a woman of Mexican descent in her early twenties, does battle with her body to force it to be "healthy." After explaining that milk is "very hard on the digestive system," is "very heavy and . . . takes a long time to digest," and that she feels "a little bloated" when she drinks it, Rita describes her routine of drinking milk twice weekly:

Transcript #4, community center

1 RG: I drink a glass in the morning, and then around ten o'clock I'll have a
2 carton of milk, then [a carton] with my lunch. Then at three o'clock I'll
3 have another one, and then I have it with supper.
4 CK: Uh huh. Does it make you feel sick?
5 RG: Heavy.
6 CK: That's about a quart of milk a day.
7 RG: Real heavy.
8 CK: But it doesn't make you sick.
9 RG: No, it doesn't make me—no, not a lot.
10 CK: You don't—
11 RG: I just don't like it. I'll have it with something like a bowl of cereal.
12 CK: Uh huh. Uh huh.
13 RG: You know, I don't like to drink it like that, when it's hot out or whatever,
14 I don't.
15 CK: Does it make you feel, like when you eat it with cereal, does it make you
16 feel bloated?
17 RG: No, not at all.
18 CK: Uh huh. So it's when you take it by itself.
19 RG Exactly.
20 CK: It's different than when you eat it with something?
21 RG: Yeah. Yeah.

22 CK: What about when you were pregnant?
23 RG: I had to drink a lot of it.
24 CK: And you did?
25 RG: It (made) me sick.
26 CK: And how did it make you sick?
27 RG: 'Cause I had to drink it more than, [than] what I do now, and I just didn't
28 like it at all.

Rita received professional advice to consume a certain amount of milk in order to meet her calcium requirements. But she does not like milk and says it makes her feel sick, so much so that she feels compelled to create a schedule for herself to ensure that she consumes sufficient quantities of it. But Rita also seems to disavow her reaction: she just does not like it (line 9), and it does not really make her sick. In fact, after the exchange, Rita indicated that her dislike of milk was really only a "mental thing," because she could eat ice cream with no repercussions; and, as she indicates in the exchange, consuming milk with other foods seems to alleviate the problem. In the end, she explains that it was only when she was pregnant and had to drink "a lot of it" that she felt "sick."

There is considerable ambiguity in Rita's talk: her self-imposed routine of milk drinking seems to agree with her claim that her dislike of milk is just a "mental thing" and that milk does not make her "sick," but both are juxtaposed with the need to consume it with cereal and the admission that it did make her "sick" when she drank large quantities of it during her pregnancy. Rita's experience parallels descriptions of lactose intolerance in the nutrition literature regarding the symptom of bloat: having fewer problems when she consumes milk with other foods and having more problems with greater milk intake (Scrimshaw and Murray 1988). The point is not to establish scientifically whether or not Rita is lactose intolerant, however, but to explore her rendition of her difficulties with milk. Like Sonia, Rita seems to struggle with the difference between her bodily knowledge and expert knowledge. There was no opportunity for this kind of struggle to become manifest in clinic interviews.

An added complication with lactose intolerance is that admitting to some of its symptoms is difficult for some women. Embarrassment, in addition to the specificity and rapidity of nutritionists' questions, can inhibit discussion of flatulence or diarrhea in the clinic. Catherine's interview with Maria Madrid (MM) illustrates difficulties in discussing these phenomena. The interview took place in the community center where Maria was employed and was conducted by Catherine after several weeks' acquaintance with Maria.

A 17-year-old Mexican American, Maria had two children aged two years and 11 months. Maria had been a WIC participant during both her pregnancies and had received milk coupons with advice to consume six cups of milk per day. The amount was higher than usual, she said, because "I was low in iron."[4] When Catherine asked Maria if she liked all the food that she received through WIC, Maria responded, "Um, um, yeah, not really." Maria then revealed that she disliked milk, and Catherine pursued the topic as follows:

Transcript #5, community center (excerpt 1)

1 CK: You don't like milk?
2 MM: No.

3 CK: Does it, you just, is there any reason, does it make you feel. . . ?
4 MM: Uh uh. [No.]
5 CK: You don't like the taste?
6 MM: No, I don't like the taste.

Maria then goes on to describe engaging in a routine somewhat similar to Rita's: she flavored her milk with coffee so that she could tolerate drinking at least three of the recommended six cups a day. Currently, Maria is "forced" to drink several glasses of milk a week by her husband, because she has "weak bones." Her husband pours her a glass of milk and sits with her until she has finished it.

Approximately 30 minutes into the interview, Maria reveals that she has disliked milk since she was eight or ten years old. Maria and Catherine then have the following exchange:

Transcript #5, community center (excerpt 2)

1 CK: So you stopped drinking milk when you were about eight or
2 ten?
3 MK: Yes.
4 CK: What was it about it that you don't like: is it that it looks funny or it
5 tastes funny, or it makes you feel funny, or—
6 MM: No, it tastes funny. I don't like the taste; it tastes weird.
7 CK: Uh huh.
8 MM: Uh, and that's why I don't drink it.
9 CK: Uh huh. It doesn't make you sick or anything, though, does it?
10 MM: Yes.
11 CK: It does? How so?
12 MM: *[inaudible]* It's embarrassing.
13 CK: What?
14 MM: No, no. *[Laughs.]*
15 CK: You can write it down if you don't want to say it.
16 MM: *[Writes* diarrhea *on a piece of paper and hands it to CK.]*
17 CK: Okay, uh huh, uh huh. You know, that's not uncommon.
18 MM: *[Looks embarrassed, laughs.]*

Catherine had asked Maria to specify her dislike of milk four times before she revealed that it gave her diarrhea (line 3, excerpt 1; lines 4–5, 9, and 11, excerpt 2). This unspoken admission, moreover, occurred approximately 30 minutes into an interview that was conducted on Maria's territory in her office (which, however, was only semiprivate), by someone she had known informally for several weeks. It is reasonable to conjecture, then, that the likelihood of Maria disclosing her problems with diarrhea in the context of the clinic question routines discussed above is quite low. Again, clinic routines leave little, if any, opportunity for clients to discuss problems with milk in their own terms. They get cut off by the very process of being questioned. Cultural prohibitions on public discussion of certain bodily processes only serve to exacerbate the problem. The nutritionist, in the meantime, feels that she has adequately addressed the issue. The unintended consequence of this is that some cases of lactose intolerance may be rendered invisible.

A comparison of the interview data from the clinics and the community center points to the different kinds of talk produced in the two settings. The data indicate that clients may not divulge important information that could change medical advice.

It seems to us that some clients made their own syntheses of information from staff and their bodily experience. While we would not claim that all lactose-intolerant clients do this, we expect that this occurs more than staff may realize. Clearly, the authority of WIC staff, coupled with their control of clinic interactions, discourages clients from giving information.

Conflicting Interpretations and Mixed Messages

Establishing knowledge as authoritative in the clinics was not always a smooth process, however. As the following vignette illustrates, neither the dominance of scientific knowledge nor the delegitimization of a mother's knowledge was immutable.

> Vignette #1, WIC clinic
>
> Janet Summerfield is a 34-year-old white woman with an 18-month-old daughter, Stephanie. She and Stephanie were at the WIC clinic for a mandatory recertification appointment.
>
> When Janet was called into the nurse's office, she immediately started telling the nurse, Margie, about Stephanie's problems with milk: whenever Janet tried mixing milk with formula, Stephanie would get diarrhea and the color of her stools would change. Like Janet herself, who also had trouble with milk, Stephanie also could not tolerate corn.
>
> Margie did not directly respond to Janet's concerns but, instead, proceeded to take Stephanie's weight and height. She plotted the figures on Stephanie's growth chart and found that Stephanie's weight-to-height ratio fell considerably below the normal curve. She looked up at Janet and sternly informed her that Stephanie's diarrhea could not continue and that she was not gaining enough weight. If Stephanie's doctor were to see her low weight gain, Margie continued, he might feel compelled to turn the case over to the Department of Social Services protective services unit on grounds of "failure to thrive." Protective services could take Stephanie away from Janet. "And," Margie added, "you don't need that." She then softened her tone and recommended that Janet try putting Stephanie back on formula or Lactaid.[5] Janet replied that she would confer with her doctor that day and pointed out that she had already spoken with him concerning Stephanie's weight and that the doctor had indicated the possibility of running some tests.
>
> By the end of her discussion with the nurse, Janet was worried. She waited anxiously in the waiting room to see Sandra, the nutritionist. When Sandra examined Stephanie's growth chart, however, she responded positively. She said that Stephanie was doing beautifully: that while she was on the low end distribution on the growth chart, she had grown since her last visit and her growth curve had a good trajectory. Steady growth was what mattered. In addition, Stephanie's hematocrit was just fine. Sandra congratulated Janet on a job well done and encouraged her to continue doing exactly what she was doing. The women then went on to discuss Stephanie's problems with milk and corn. Throughout this discussion, Sandra continued to validate Janet's ideas, telling her. "Whatever you're doing, keep on doing it."

Clearly, scientific facts do not speak for themselves but, rather, are constructed or, at least, interpreted. The figures on Stephanie's growth chart remained the same but meant very different things to the nurse and to the nutritionist: in other words, the nurse and the nutritionist contradicted one another entirely on the basis of the same data. The nurse had noted that Stephanie's weight-to-height ratio was considerably below the median; to her, such a low score reflected possible "failure to thrive." In contrast, the nutritionist did not dwell on where Stephanie's score fell in relation to the median but focused instead on her growth over time, comparing her current and past measurements.[6] In both cases, Stephanie's growth chart did not in itself constitute authoritative knowledge but, rather, was deployed by the nurse and nutritionist in turn to establish authoritative knowledge in their interactions with Janet. The content of scientific knowledge as authoritative, then, is not immutable but, instead, is (re)established in each context.

It is also clear from the above vignette that, just as the authoritative measurements on growth charts or hematocrit scores can change in meaning from context to context, so, too, can clinic professionals' assessments of mothers' experiential knowledge change: mothers' knowledge can be devalued in one instance and held as authoritative in another. In this case, the nurse made no attempt to solicit Janet's input. Indeed, she ignored Janet's pleas of concern and instead threatened her with the possible removal of her child by the state's Department of Social Services. In contrast, the nutritionist endeavored to validate Janet's expertise as a mother. In doing so, however, she tended to invalidate her anxiety, by telling her, "Whatever you're doing, keep on doing it." (Janet was doing a number of things, including mixing formula and milk, although she thought it was giving Stephanie diarrhea.) While some clinic staff may have had a policy of reinforcing mothers' practices, this did not mean that mothers were always heard; like other interactional approaches in the clinic, this policy, too, may have been routinized. In sum, professionals in the clinic derived authoritative knowledge from nutrition and medicine in terms of scientific measures, including hematocrits, heights, weights, and head circumferences. The knowledge that mothers had acquired by virtue of experience was not included in the category of authoritative knowledge, even when "validated." This holds even for WIC and prenatal clinic staff, most of whom are mothers themselves. When advising clients, staff rarely drew on their own experience with children but, rather, on "official" knowledge. The result is that experiential knowledge of mothering is often devalued on all sides.

Getting a Word in Edgewise

In some cases, clinic clients were successful in having their questions and concerns addressed by the nurse or nutritionist. In such cases, the clients inserted their questions or concerns in the appropriate slots in the structure of the clinic interaction. The following two examples underscore the importance of timing in this process.

Vignette #2, WIC clinic

Cindy Robertson is a 25-year-old white woman with a one-year-old son. Her case provides an example of a successful bid on the part of a client to have her questions addressed. When Cindy went in to see the nurse, the sequence of events followed the usual format: the nurse took Cindy's child's height and weight, did a hematocrit test, and plotted the child's height and weight on the growth chart. She then gave Cindy her WIC coupons to sign, at which time Cindy asked if 2 percent milk was okay. The nurse told her that it was fine. The nurse then gave Cindy her

> child's hematocrit results. Cindy then asked a second question, concerning whether or not her son should still be given iron supplements. Cindy inserted both questions into the appropriate slots: her question about milk was connected to the coupons for milk that she had just received from the nurse, and her question about iron supplements was in direct response to the hematocrit results provided by the nurse. In both cases, the nurse responded to Cindy's questions.
>
> Vignette #3, WIC clinic
>
> Jody Rosen, a 22-year-old white woman with a seven-month-old daughter, asked a question appropriate in the context of her encounter with a nutritionist but asked it at the "wrong time." The sequence of topics was as follows: height, hematocrit, vitamin supplements, diet. Jody had a concern about the amount of food that her daughter was eating at any one sitting but expressed this concern while the nutritionist was attending to the baby's hematocrit. The nutritionist responded by saying that they would discuss food shortly, that she wanted to finish discussing iron levels first. Although diet was eventually discussed in the interview, Jody's particular concern about her daughter's eating habits was never addressed; she did not raise the issue again. In this case, although the client introduced a contextually relevant topic, she introduced it at the "wrong time" relative to the nutritionist's agenda.

To argue that the structure of WIC interactions allowed for the insertion of clients' questions and concerns into the agenda is not to argue that it was possible for women to air their questions and concerns. Vignette #1, on Janet Summerfield's interactions with a WIC nurse and nutritionist, illustrates the complexities involved. Note, in particular, that Janet did not point out the contradiction between the nurse and nutritionist. For one, it can be argued that the substance of the interaction only allowed for the insertion of particular topics. Second, further study would be needed of status differentials and of the social, rather than purely instrumental, constraints placed on participation; in other words, "[authoritative knowledge] is not only re-created through discourse, but can be embedded in status and social position" (Davis-Floyd and Sargent 1996:116). The fate of Jody Rosen's concerns (vignette #3) underscores this point. It was clearly not the case that her questions were contextually irrelevant. What was problematic was when she expressed them. And what made that problematic was that the nutritionist, given her status and institutional position, was able to determine the sequence of events in the interaction. Such complexities and difficulties must be juxtaposed with the cases in which women were successful in raising their concerns. The latter may lead staff to believe that their approach to interacting with clients is open and flexible, again, giving them the impression that they are seeing all that is there to be seen.

Discussion and Conclusions

We have suggested several aspects of the production of authoritative knowledge during clinical interaction: routinization, the timing of utterances, the status of participants, and, at the most general level, cultural values, including the positive valence of milk and of the "scientific" in mainstream U.S. culture. The routinization of clinical interviews led health professionals to move conversation down a specific pathway allowing little opportunity for other participants to introduce differing ideas. A similar point may be made about the sequence and timing of utterances.[7] The ascendancy of biomedicine in this study does not come from male practitioners dominating female patients, as all the clinic staff we observed were women. But other differences in status between health professionals and participants tended to be quite large. The health professionals were well-trained, young and middle-aged women of European American descent, while other participants were all young, low-income women, tended to have much less education, and included members of ethnic minority groups.

We have also indicated that just because a particular knowledge claim is established as authoritative does not mean that it is beneficial to those whom it affects. Clearly, the two clinics discussed here reflect well-meaning public policy. A major goal of the WIC program, for instance, is to upgrade the nutritional status of low-income women and children by means of relatively cheap and widely available foods. At both federal and state levels, WIC policy officially makes several accommodations to phenomena such as lactose intolerance. Our data on interactions in the clinics, however, indicate that while in theory the program is responsive to biological and cultural differences, in practice there are barriers that often serve to render differences invisible or invalid and prevent the use of other than standardized food packages. Thus, while the WIC and prenatal programs are ostensibly designed to accommodate lactose intolerance by providing other dietary advice and other foods for those identified as lactose intolerant, the interactional routines described here may in fact block that route of accommodation. The assumption that what is appropriate for one segment of the population is also appropriate for everyone else is ethnocentric and can present barriers to effective health care. The interpretation of local beliefs about connections between milk consumption and diarrhea as "unscientific" also provides evidence of what can be termed *biocentrism*, an assumption that people generally are biologically the same as oneself. In the case of lactose intolerance, the norm is the biology and physiology of a typical person of northern European descent. Among the possible "perverse consequences" of the assumptions and interactional routines we have described is wasting resources (if clients throw the milk away), failing to serve the clientele (if clients give the milk away), or making people sick (if lactose intolerant clients drink large quantities of milk because they feel that their well-being and that of their baby depend on it). As a result, a major goal of the prenatal and WIC programs—the nutritional well-being of pregnant women and their offspring—may be undermined.

Women's responses to the delegitimization of their knowledge included keeping it hidden (e.g., by not bringing it up in clinic settings) and reinterpreting their bodily knowledge to fit with authoritative knowledge, as well as making various attempts to discuss what they saw as relevant topics with clinic staff, attempts that as often as not were unsuccessful. Clearly, we need to rethink clinic interactional routines and move, perhaps, toward a partnership model in which participants' knowledge and experience are truly valued and in which staff work to serve rather than to control their clients (Yeatman 1990). We also need to rethink our culturally based, but often biocentric, ethnocentric, and sometimes racist assumptions regarding diet and health if we want publicly funded programs for low-income and poor women and children to be of benefit.

NOTES

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1. Rather than mar the text with repetitions of *sic*, we note that Reiser's use of the male pronoun likely reflects the gender composition of the medical profession in the early 20th century.

2. Interactions with physicians are not part of this study, as we did not have access to them in the prenatal clinic. Our observations are limited to female staff interacting with female patients and clients. An additional influence on laywomen is the general culture's favoring of milk consumption, as well as advertising explicitly urging people of all ages and ethnic groups to drink milk. The focus of this study was not on sources of dietary advice, however, but how women dealt with it.

3. Most likely, the nutritionist used the term *milk allergy* to refer to both phenomena for clarity.

4. Milk does not contain iron, but some of the other foods provided by the WIC program do. What Maria referred to is unknown.

5. Lactaid is a brand of low-lactose and no-lactose milk and other dairy products.

6. In the context of the science of nutrition, the nutritionist's interpretation is the correct one: a child who stays in approximately the same percentile for height and weight over time exhibits healthy growth.

7. While the differences between the data generated in the clinics as opposed to the community center are partially an artifact of methods, the constraints in the former perhaps echo the constraints on clinical interactions; in the clinic setting, many of the women's ideas and reactions are filtered out.

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