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## The Tempering of Medical Anthropology: Troubling Natural Categories

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*This article reviews an approach in medical anthropology that commenced in the early 1980s and that continues to the present day in which biomedical knowledge and practices are systematically incorporated into anthropological analyses. Discussion then focuses on contributions made by feminists and medical anthropologists to the literature on medicalization and resistance, illustrating how the ethnographic approach has been crucial in critically reconceptualizing and situating these concepts historically and cross-culturally. The concept of local biologies is introduced in the third section of the article in creating the argument that the coproduction of biologies and cultures contributes to embodied experience, which, in turn, shapes discourse about the body. Subjective reporting at menopause provides an illustrative case study of local biologies in action. The final part of the article takes up the question of the moral economy of scientific knowledge. Comparative ethnographic work in intensive care units in Japan and North America reveals how a moral economy is put into practice in connection with brain-dead bodies and the procurement of organs from them. Medical anthropological contributions to policy making about biomedical technologies is briefly considered in closing. [formation of medical anthropology, medicalization, resistance, local biologies, moral economy of science]*

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**W**hen thinking back over the formative years of medical anthropology, it is abundantly clear that from its inception this subdiscipline has been chronically fractured due in large part to the variety of theoretical and methodological perspectives taken by its practitioners. These internal ruptures cause discomfort and at times heated debate, but they also account for the richness and diversity so apparent in medical anthropology and, no doubt, too, for its success as a vigorous field within anthropology.

I have never been overly concerned about either intra- or interdisciplinary turf wars in academia, even though it is well nigh impossible to avoid them. On the contrary, transcending disciplinary boundaries is one key to the advancement of knowledge, in my estimation. Medical anthropologists, given their field of inquiry,

must inevitably be disposed toward communication across disciplines, but this can only be accomplished successfully if an anthropology of the body, health, illness, and medicine is thoroughly immersed in and informed by cultural anthropology as a whole. Of course, the traffic is two-way, and the parent discipline has much to gain by paying attention to its lively offspring.

### Reciting Genealogies

In writing his review "The Anthropologies of Illness and Sickness" for the *Annual Review of Anthropology* in 1982, Allan Young, in addition to noting the explosion of medical anthropological articles over the previous decade, set up a genealogy that prior to that time had, in effect, gone unremarked. Not surprisingly, he laid claim to W. H. R. Rivers as a founding father. But he also argued that ethnographers such as Evans-Pritchard, Victor Turner, and Melford Spiro made use of analytical frameworks in their research in which episodes of distress and sickness are conceptualized as vehicles for understanding constellations of associated knowledge and practices. These include domains of culture not obviously implicated in health and sickness. In other words, for these researchers, ethnographies of illness and distress provide rich material for advancing anthropological understanding in general.

Today this insight is self-evident to many, but in the early 1980s it was, I believe, somewhat of an inspiration for future research and perhaps precluded an untimely entry of medical anthropology into the doldrums. A great deal of early work in medical anthropology, although clearly important, was limited in scope. Ethnomedicine was, almost without exception, too narrowly confined to eliciting taxonomies of disease without considering their application in practice. And analysis of semantic illness networks, while concerned with both conceptual categories and praxis, tended to be limited to an interpretation of the meanings that individuals attribute to illness and how these meanings are informed by culture.

It will be recalled that Young argued in the 1982 review essay that a crucial function of medical anthropology was not merely to consider the meanings that individuals attribute to sickness but also to lay bare how societal relations produce the forms and distribution of sickness characteristic of any given society. Young also insisted, as did Frankenberg (1980), that medical practices are products of ideologies and that examination of the unquestioned assumptions embedded in medical knowledge and practice should be incorporated into the terrain of medical anthropological analyses. Questions about truth claims, power relations, and inequities associated with health, illness, and medicine were brought to the fore in the same decade that feminist anthropologists were raising parallel questions in an overlapping domain where gender issues were central.

The 1982 *Annual Review* contained a second pertinent article, the author of which was Peter Worsley, who argued that "the treating of bodily ills takes place in any culture within a 'metamedical' framework of thought" (1982:315). This claim for the existence of an overarching philosophy that guides the basic features of medical knowledge, including its organization and practice, provided further incentive to broaden the horizons of medical anthropology. Worsley argued that investigators should not be seduced into working only in institutions that are obviously part of the "health-care complex," nor should they necessarily start their

investigations with “named” diseases, given that diseases are cultural constructions (1982:327). As Young put it, referring to biomedicine, what is needed is “a critical understanding of how medical facts are predetermined by the processes through which they are conventionally produced in clinics and research settings” (1982:277).

By the time Shirley Lindenbaum and I set about organizing a Wenner Gren conference on medical anthropology in Cascais, Portugal, in 1988, we were able to formulate without too much difficulty common key positions taken by the majority of the participants in their research. Although several papers continued to make use of a meaning-centered approach, the epistemological standpoint of many can perhaps best be glossed as one in which “biopolitics” are central.

It was striking at Cascais that, when asked to introduce themselves, many people insisted that they were anthropologists and not medical anthropologists. Participants affirmed that an anthropological study of health, illness, the human body, and medical institutions is no different than comparative research into law, politics, or economics. Neither the human body nor the medical sciences should be black-boxed as though epistemologically privileged and therefore not available to social science investigation. At the conference it became apparent that we were embarking on a project still very much underway today, namely, a rigorous questioning of what are so often assumed to be “natural” categories of thought and classification. But, clearly, the project was and remains not simply one of contextualizing the truth claims of science and medicine, but of asking how and why certain representations become dominant at specific times and then exposing the hegemony they exert over everyday life and practices associated with health and illness. The now extensive literature on the concept of risk and how it is played out in everyday life is just one example of this (Browner and Press 1996; Crawford 1984; Kaufert 1998; Lock 1998).

It was also evident at the Cascais conference that we had graduated beyond the common mistake of conceptualizing biomedicine as a monolith. Even more important, perhaps, was that participants had overcome another earlier tendency common in medical anthropology, namely, to romanticize and essentialize the medical institutions and practices of non-Western societies.

Lindenbaum and I argued in the book published after the conference that because investigations of human affliction, suffering, and distress are so often integral to the work of medical anthropologists, we are forced with some urgency to confront the all too familiar dichotomies of theory and practice, thought and action, objectivity and subjectivity, and nature and culture (Lindenbaum and Lock 1993). Highlighting the ubiquity of these dichotomies is crucial, but beyond that, following Young, recognition that all medical knowledge and practice is historically and culturally constructed and embedded in political economies, and further, subject to continual transformation both locally and globally is essential.

Today this urgency is magnified as medical anthropologists are increasingly called to participate on review boards and ethics committees and to assist with the production of guidelines for issues ranging from embryo research to genetic engineering and environmental health. In my opinion, this is one of the most difficult tasks ahead of us—figuring out just what is special and indispensable about an anthropological contribution to policy making, particularly in connection with medical research. Obviously, simply enjoining sensitivity about cultural pluralism is

nowhere near adequate to this task. I will return to this point in the conclusion after reviewing three areas of research that, in my opinion, are important to the further development of the field.

There are, of course, many fruitful avenues of past and current research that could be highlighted in medical anthropology; I elaborate on these particular areas because, to a greater or lesser extent, my own research intersects with them. These topics, as do others, signal the maturation of medical anthropology as a subdiscipline that today is contributing substantially not only to theory building in the parent discipline but in cross-disciplinary research.

### **Situating Medicalization and Resistance**

Medical anthropologists, particularly when studying gender issues, have drawn consistently on theories initially set out in sociology or political theory, where use is made of the now familiar concepts of ideology, hegemony, medicalization, and resistance, among others. During the 1970s and 1980s, medicalization (a concept first formulated by Irving Zola) was usually used to convey the idea of a unilateral imposition of power over the bodies of unsuspecting target groups, most often patients (Conrad 1992; Zola 1972). In the early feminist literature it was frequently assumed that enlightened individuals should resist medicalization and that one function of the social sciences was to raise consciousness about the inappropriateness of, for example, a medicalized childbirth or menopause (MacPherson 1981; Rothman 1989).

Together with historians and sociologists (Conrad 1975; Laqueur 1990), anthropologists have tracked the creation of diseases and disease-like states (Cohen 1998; Lock 1993; Martin 1987; Young 1995). These studies have shown repeatedly how, with medicalization, attention is deflected away from the social arrangements and political forces that contribute to the incidence of distress and disease and to the experience of life cycle transitions. Subjectivity and symptom reporting are subsumed into medical pathologies and standard deviations from medical norms, and the focus of attention is on the bodies of individuals, who are essentially made responsible for their own condition.

Ethnographic research has shown, however, that the responses of individuals, families, and communities to medicalization are complex and perhaps best described as pragmatic. Individuals are not inevitably made into victims of medical ascendancy (although this clearly happens at times) but act most often on what is perceived by them to be in their own best interests. Contributors to two books concerned primarily with gender and reproduction edited by Ginsburg and Rapp (1995) and Lock and Kaufert (1998) show that women are by no means always passive vessels with respect to medicalization, laboring under the constraints of hegemonic, undisputed cultural norms. This is not necessarily the case even when the lives of individuals are severely constrained by structural violence and there is little scope for individual agency. Nor are women inherently suspicious of new technologies; on the contrary, technology is very often embraced as enabling, particularly in connection with infertility (Becker 2000; Kielmann 1998) and in bringing about reproduction in lesbian households (Lewin 1998).

Findings such as these suggest that the concepts of medicalization, resistance, autonomy, and agency need refinement. For example, when women actively seek

out and make use of biomedical technologies, this may not be evidence of independent agency on their part, although often it is or is claimed to be the case (Lopez 1998). Biomedical technologies can assist women in achieving a modicum of independence from oppressive circumstances, or they may permit them to fulfill personal desires, often to have a child. However, women's behavior can equally well be due to a desire to "please" others (certain feminist anthropologists may be sorely tempted to label this as false consciousness) or, alternatively, to untoward pressure exerted by others. It is clear that women frequently respond to the expectations of partners, extended families, women's groups, or communities rather than single-mindedly pursuing what might bring about their own personal desire or comfort (Abel and Browner 1998; Handwerker 1998; Lock 1998; Pearce 1995). At times, too, women are actively coerced into being recipients of medical interventions.

In these circumstances, physicians, the usual scapegoats singled out by anthropologists as aggressive medicalizers, may try to protect patients from abusive families and probable iatrogenesis. For example, I have come across physicians who refuse to test patients for the gene recently associated with an increased risk for late-onset Alzheimer's disease, even though certain families are now demanding that the test be done. Because no treatment is available and there are no recommended suggestions for behavioral changes, these physicians argue that medicalization is inappropriate and resist the pressure placed on them by families (Serge Gautier, personal communication 2000). On the other hand, public demand from interest groups for increased surveillance and medicalization is sometimes successful, as has been the case with AIDS and breast cancer activists (Kaufert 1998). The complexity of responses to medical technologies and medicalization cannot be teased out without an approach that is sensitive to the situated exigencies of the everyday worlds of informants and their relationships within families, communities, and local political groupings.

Documenting the pragmatism of individuals is not to argue that the microphysics of power, dominant ideologies, culturally constructed orthodoxies, and hegemonies are not at work. Numerous informants, wherever their location, exhibit pragmatism, cynicism, or ambivalence about medical interventions, at least some of the time. But unquestioned participation in medical and other bodily practices is also visible everywhere.

Individual desire is frequently informed—sometimes over-determined—by the mystification associated with political regimes, religious organizations, or cultural aesthetics. Perhaps the most pervasive example of this is that, worldwide, governments of all kinds are deeply involved in the politics of contraception, abortion, population management, and birth. Sometimes women and their partners resist the normative order with respect to these interventions; at other times they comply because they have no choice (Anagnost 1995; Barroso and Correa 1995; Kligman 1995). In other circumstances the majority of women apparently think that medicalization coincides with their own best interest. Browner and Press (1996) have shown how, until relatively recently, American women valued subjective knowledge over biomedical recommendations during prenatal care although, in contrast, technological intervention was welcomed during labor. Over the past several years this situation has changed, and as the state of California (in common with other locations) has become increasingly involved in the promotion of prenatal genetic screening, many women now think of these tests as indispensable to the

high-quality prenatal care they desire (Browner and Press 1995). On the other hand, the Inuit strongly resist medicalization when they give birth, in large part because this has usually involved routine "evacuation" from the Arctic to urban tertiary care hospitals in the Canadian south (O'Neil and Kaufert 1995).

Reconstructions of narrative accounts by informants provide invaluable and often moving insights. They also reveal the complexity and range of responses of individuals, but they rarely capture the full range of political interest at work with medicalization and the normalization of health, illness, and reproduction. For one thing, individuals do not usually have knowledge about the history of technologies and their selective adoption by the public over time. Nor are individuals usually aware of how the application of technologies tends to change as professional knowledge and interests change. But people are increasingly able to reflect critically on their own situation and that of those around them, as their narratives make abundantly clear. Paradoxically, medicalization has actually promoted such reflection by presenting people with choice, although globalization rather than medicalization per se has no doubt been the major driving force for change. The result is that older hegemonies have crumbled, only to give way to new ones, most often in the form of knowledge that comes under the rubric of science. Some forms of care and treatment modalities associated with these new hegemonies are highly effective, others are not. What is most noticeable is that new forms of subjectivity are emerging globally as, increasingly, people everywhere adopt the concept of risk and become familiar with the disease nosologies of biomedicine. At the same time, pluralism and cross-fertilization among medical knowledge and practice flourish.

Multisited ethnographic research forces some reflection about the hegemonies that social scientists are in danger of perpetuating, particularly when grand theory is crudely put into practice. One contribution of medical anthropology is to monitor concepts and categories frequently used in the social, medical, and epidemiological sciences, bioethics, and feminist theory. We cannot function without concepts and taxonomies, but when applied as though universally objective, they enable the proliferation of scientific truth claims that often fit poorly with lived experience. Such claims can best be challenged and modified or even deposed using the ethnographic method, in which professional, political, advocacy, and popular knowledge and practices are all subjected to interrogation.

### **Local Biologies**

Medical anthropology has long been thought of as a specialty that can potentially transcend the nature/culture divide embedded in modernist thinking. My own effort in this direction was to create yet another concept, that of "local biologies" (Lock 1993). This concept does not refer to the idea that the categories of the biological sciences are historically and culturally constructed (although this is indeed the case) nor to measurable biological difference across human populations. Rather, *local biologies* refers to the way in which the embodied experience of physical sensations, including those of well-being, health, illness, and so on, is in part informed by the material body, itself contingent on evolutionary, environmental, and individual variables. Embodiment is also constituted by the way in which self and others represent the body, drawing on local categories of knowledge and experience. If embodiment is to be made social, then history, politics, language,

and local knowledge, including scientific knowledge to the extent that it is available, must inevitably be implicated. This means in practice that, inevitably, knowledge about biology is informed by the social, and the social is in turn informed by the reality of the material. In other words, the biological and the social are coproduced and dialectically reproduced, and the primary site where this engagement takes place is the subjectively experienced, socialized body. The material body cannot stand, as has so often been the case, as an entity that is black-boxed and assumed to be universal, with so much sociocultural flotsam layered over it. The material and the social are *both* contingent—both local.

The embodiment of the coproduction of local biologies and culture is, by definition, internalized and individualized. Humans are unique in terms of both their genetics and their lived experience, and, to this extent, embodiment is personal. Paradoxically, most embodied experiences are shared by us all—pain, immunological responses to infection, the biological changes of aging, hormone secretions (although these last two are inevitably modified by sex), and so on. But even these most basic of biological events are contingent, as numerous studies have shown (see, for example, Good et al. 1992; Lock et al. in press; Worthman 1995). This contingency is due to individual biology and, of course, to language and the social, environmental, and political contexts in which individuals live. Nevertheless, some types of embodied experience are relatively common across groups of people, due in part to shared environments, histories, language, behaviors, and values. Other contributing factors are biological attributes common to a proportion of individuals who live in close proximity to one another and who have a reasonably close shared biological ancestry.

Continuous migration from prehistoric times, accelerated today with globalization, ensures that people who share biological attributes are widely dispersed. Even so, until late in the last century, the majority of people other than those living close to major historical trade routes tended to live out their lives within a short distance of their birth place. Biological attributes are used by population geneticists and others to ascribe people to populations that are not, of course, congruent with self-defined ethnic groups or communities. But the very fact that scientists are interested in documenting features of inclusion and exclusion based on biological attributes—formerly, through anatomical taxonomies, blood typing, and so on, and now by means of DNA sampling—has made it relatively easy for prejudiced commentators to decontextualize the always provisional typologies of population biology and conflate them with social groupings to produce and naturalize a racist rhetoric. Certain population geneticists and biological anthropologists have actually encouraged this type of conflation (sometimes inadvertently), as the ongoing criticism by anthropologists of the Human Genome Diversity Project makes clear (Harry and Marks 1999; Jackson 1999; Lock 1999).

Under the circumstances it is not surprising that recognition of biological difference, and therefore of local biologies, has been anathema to many social scientists, but, given the speed with which the new genetics is revealing the complexity of biological difference, to doggedly ignore these findings would be singularly unwise. Apart from anything else, the outrageous claims made by a few geneticists who appear with disproportionate frequency in the media to talk about the way in which the new genetics will bring about the good life for us all need urgently to be countered (Lock in press c).

It goes without saying that there is no simple relationship between local biologies and societies, nation states, ethnicity, communities, or even families. Nevertheless, embodied subjectivity is shaped to *some extent* by the contingency of local biologies that can be partially shared across groups of people. These biological attributes may contribute to the creation of powerful, even hegemonic, discourse in connection with health, distress, illness, and life cycle transitions. When I considered comparative research findings from Japan and North America in connection with menopause, such discourse appeared to be at work, and I felt compelled to create a concept of local biologies in order to interpret the data (Lock 1993). By drawing on such a concept, my hope was to prevent the Japanese findings from being treated as so much exotica and at the same time to challenge the dominant disease-like medical model of the end of menstruation.

It is recognized by many governments that as the proportion of older people in the population increases, research into the possible effects of the end of menstruation on the health of women as they age is of importance. Aging and its potential cost to health care systems are of enormous political interest. Medical knowledge about menopause has been created in large part out of the symptom reporting and experiences of small samples of women in clinical situations, almost all of them living in Europe or North America. Most of these women have gone to visit doctors because of their physical and emotional distress. In addition, many of them have had hysterectomies. These patients are not representative, and until very recently, virtually no research had been done in connection with the subjective experiences of middle-aged women as a whole as they go through this life cycle transition. A great deal of medical knowledge about menopause is produced and circulated, therefore, without reference to the lived experience of the majority of women and, as such, is biased, in particular with respect to the frequency and type of symptoms reported (Lock 1993).

Despite these shortcomings, the professional organizations of gynecologists in the United States, Canada, Australia, most European countries, and elsewhere have made blanket recommendations that virtually all women once past menopause should take powerful hormone replacement therapy (HRT) until the day they die. These recommendations, which in effect make the body of a 30-year-old the norm for all women, are designed to counter what are believed to be the long-term consequences of "estrogen-starved bodies," including an increased risk for heart disease, osteoporosis, and Alzheimer's disease. But these recommendations ride roughshod over the considerable variation in incidence of these diseases across populations and socioeconomic groupings of women and also over the iatrogenic effects that many women experience when taking the medication. They also ignore the fact that the epidemiological studies on which the recommendations are based are hotly contested in terms of both methodology and significance of findings. There is by no means a consensus that HRT will reduce the risk of heart disease or Alzheimer's, and there is considerable concern that its long-term use will increase the risk of breast and ovarian cancer. Some experts are belatedly suggesting modifications to this regime (Santoro et al. 1999). Aside from anything else, because "compliance" of women is so low (approximately 15 percent of all involved women in North America), it is clear that something is amiss.

In order to counter received medical wisdom on this subject, survey research was carried out in the mid-1980s with over 1,300 women in Canada, nearly 8,000

in the United States, and over 1,300 in Japan, aged 45 to 55 inclusively, all drawn from the general population. This research indicates strongly that the menopausal transition is not a difficult time for the majority (Avis and McKinlay 1991; Kaufert et al. 1992; Lock 1993). Of more significance for the present argument is that, in Japan, women going through *kônenki* (the term usually glossed as menopause) report very few of the “classical” symptoms of menopause, namely, hot flashes and night sweats. Through extensive open-ended interviews with over 100 women and other confirmatory exercises, I concluded that this difference has little to do with a lack of willingness to cooperate with the researcher. Nor is it to do with shyness on the part of women about reporting symptoms (as is often assumed to be the case by medical audiences). The fact that no clear and unambiguous signifier exists in Japanese that refers exclusively to hot flashes in female middle age does not appear to be a major stumbling block either (but see Zeserson 2001). Those relatively few women in the study (12.5 percent) who had experienced hot flashes talked about them unambiguously, suggesting that the difference between Japan and North America is quantitative, not qualitative, but nevertheless statistically significant.

Japanese doctors deal every day with middle-aged patients whose symptoms and experiences differ quite markedly from those that medical texts written in Europe or North America tell them are “normal” for menopause (Lock 1993). When I carried out this research, virtually no Japanese doctors listed the hot flash as a “typical” symptom. After exposure to conferences and reading the proceedings of International Menopause Society meetings and other sources, a few of these doctors have come to believe that the problem lies with Japanese women themselves, who simply do not pay “proper” attention to their bodies. The majority prefer to hypothesize that a biological difference sufficiently marked—due perhaps to environment, diet, or genetics—results in a subjective experience at the end of menstruation for many Japanese women that is different from that commonly experienced by women in North America. On the basis of my research findings, I am in agreement with these physicians and conclude that these embodied experiences produce an effect on (but do *not* determine) the production of medical and popular discourse in Japan.

Japanese accounts about the end of menstruation sound bizarre to most North Americans and Europeans because emphasis is usually given to stiff shoulders, dizziness, and other nonspecific symptoms. It is tempting to Orientalize this discourse and dismiss it as anomalous. The danger, of course, is that the white Euro-American body remains the gold standard and the medical model of a universal menopause survives intact. Research conducted in Hong Kong, Singapore, Taiwan, China, Korea, the Philippines, Thailand, Malaysia, and Indonesia reveals low reporting of hot flashes and night sweats (see Lock and Kaufert 2001 for details). Some of this research is methodologically weak, but the relative consistency of the results is nevertheless suggestive. In a comprehensive study in the Yucatan, Beyene (1989) found no reporting of these symptoms.

In all, these data strongly suggest that it is not appropriate to conceptualize the end of menstruation as an invariant biological transformation modified by culture alone. Similarly, it should not be assumed that postmenopausal women are equally at increased risk for heart disease, osteoporosis, and other late-onset chronic diseases. The coproduction of biology and culture are implicated in embodied experience and its expression, and this effect has a tendency to be manifested in similar

ways in individuals where culture and shared biological attributes are fairly congruent.

In sum, differences in local biologies partly account for but do not determine the cultural construction of menopause and, where relevant, its medicalization. There is no doubt that biological and genetic determinisms must be rejected outright. But it is also necessary to reject those equally deterministic arguments for the social and cultural construction of the body and related medical practices in which the material body is black-boxed. Truth claims about the body demand contextualization and critical appraisal, but to ignore the reality of biology entirely and its interdependence with history and culture is shortsighted in the extreme. Some renewed bridge-building with certain biological anthropologists seems to be in order if we are to move forward.

### The Moral Economy of Scientific Knowledge

A further area of research where medical anthropologists have a great deal to contribute intersects primarily with the interests of historians and sociologists of science. Lorraine Daston, a historian of science, argues for recognition of a moral economy of scientific knowledge and practices.<sup>1</sup> By *moral economy*, she does not mean that ideologies and political self-interest inevitably penetrate the scientific endeavor (although frequently they clearly do). Nor is she arguing that scientific knowledge is socially constructed. Daston suggests that even though moral economies in science “draw routinely and liberally upon the values and affects of ambient culture, the rewording that results usually becomes the peculiar property of scientists” (1995:7). Daston is writing about “truth” claims made in connection with objectivity, measurement, replication, and so on, and also about the probability sciences and the making up of populations of people designated at risk (see also, Hacking 1986, 1992). By *moral economy*, Daston means “a web of affect-saturated values that stand and function in a well-defined relationship to one another” (1995:4).

For some time now a good number of medical anthropologists have been comfortable writing about “cultures of biomedicine” or something approximating to this. Empirical evidence suggests that biomedical knowledge and practice shows significant variation in different geographical locations, and, moreover, different emphases and competing arguments among subdisciplines of biomedicine are well recognized. One way to account for these differences is to argue that biomedicine is shaped by values; that medicine is not the epistemologically free endeavor that it claims to be. The “tribe” of moderns, writes Latour, similar to pre-moderns, “projects its own social categories onto Nature” (1993:47). But in setting things up this way, Latour makes use of a dualistic opposition between modern and “premodern”—between the West and the Rest.

Daston’s resort to moral economies is insightful because such economies are built into the scientific endeavor wherever it is located. Everywhere scientists resort to them, whether they live in Papua New Guinea, Moscow, or Argentina. For example, Japanese, American, and Canadian neurologists undertake essentially the same tests and measurements, use the same logical arguments, and draw the same inferences to make a diagnosis of irreversible loss of consciousness in patients (known familiarly as brain death) (Lock 2002). The same moral economy of

objectivity with respect to this diagnosis (even though it is disputed within the medical world to some extent) is at work here.

Culturally informed values come into play one step later, when a large number of Japanese neurologists express reluctance to declare unilaterally that a brain-dead patient is no longer alive and has no individual rights or interest. Brain-dead patients whose ventilated bodies are measurably alive cannot be counted as dead in the estimation of both these neurologists and a large portion of the Japanese public. Only ten procurements of organs from brain-dead donors have taken place in Japan since brain death was legally recognized less than four years ago.

American and Canadian intensivists for their part, with some exceptions, think of brain-dead patients as no longer alive even though the body lying in front of them continues to breathe, is warm, metabolizes nutrients, excretes, and exhibits other signs of "life." If an individual is diagnosed with an irreversible loss of consciousness, then that "person" is no longer alive, no matter how lively their body. Such entities have no interests, are cadaver-like, and can be counted as good-as-dead, and, with prior permission, organs can be procured from them. Of course, not all involved families feel the same way, and a good number of intensivists struggle at times to justify their logic to themselves (Lock 2002).

Recognition of moral economies permits us to pose radical questions about scientific knowledge, its production and application, and its methods of relegating other methodologies, including ethnography, to the sidelines. Ethnography makes it possible to examine the way in which scientific knowledge is selectively deployed in different global contexts by drawing on morals and value systems that are historically, politically, and culturally informed. That we moderns have never been modern, as Latour argues, is important to recognize. But medical anthropologists bring another insight to the table: that people everywhere are increasingly, for better or worse, partially modern.

Another of Latour's (1993) insights about the current proliferation of hybrids is extremely important for medical anthropological research, in my opinion, as is the related concept of cyborgs proposed by Haraway (1991). By researching boundary objects, hybrids of nature and culture, and technohuman complexes, insights about the scientific "work" that is needed to sustain beliefs in neutrality, objectivity, and progress become most apparent. Here medical anthropologists join forces with historians and sociologists of science to tackle some of the most pressing questions of our day involving moral conundrums requiring debate (see, for example, Brodwin 2000; Hogle 1999; Latour 1999; Lock et al. 2000; Timmermans 1999).

In closing, I return very briefly to medical anthropology in action and to our role with respect to policy making, ethics committees, and so on. For several years now, anthropology has been going through the culture wars, with opponents arguing for and against the worth of culture as a concept. I find culture (used reflexively and in conjunction with a political/economy framework) a necessary concept for most research projects, especially when culture is explicitly made to do work by the particular people or institutions that one is studying.

When it comes to interdisciplinary committee work, I am more circumspect about its use. An argument that draws on differing values is less likely to be inappropriately essentialized than is the culture concept and is of more assistance in opening up discussion about comparative epistemologies and unexamined assumptions in the world of science and policy making. My experience with a government

committee brought together to create guidelines for human embryo research, for example, has been that the task of the anthropologist is above all to question the language and orthodoxies of bioethics—of dignity, autonomy, “informed” consent, and so on. This language, grounded in individual rights and designed to protect patients and “health consumers” from exploitation, paints committee members more often than not into a tight corner. Because attention is bound up with questions of virtue, it becomes well-nigh impossible to consider the politics and moral economies so deeply implicated in the new biomedical technologies as they are loosed on society with ever-increasing rapidity. Very often, too, questions of the poverty of individuals, communities, and of some governments, that is, of equity and unequal access to health technologies of all kinds, are ignored. If social scientists do not raise these issues, then they will likely not be considered by many committees, even though they have been called together specifically to predict the social impact of various of the new biomedical technologies. Medical anthropologists have much to keep them occupied.

#### NOTE

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1. Daston's use of *moral economy* is not indebted, she insists, to its original use by E. P. Thompson (1991). I would argue that some useful connections can be made between these different uses of the concept, but space does not permit elaboration (but see Lock in press b).

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