CHAPTER 13

BEYOND THE BOUNDARIES: THE EPISTEMOLOGICAL SIGNIFICANCE OF DIFFERING CULTURAL PERSPECTIVES

Sharon Bailin and Mark Battersby

1. INTRODUCTION

The question which motivated this paper arose initially in the context of another paper by one of the authors (Bailin 2006). To supplement her previous analytic work on creativity, she had begun to investigate arts practices and conceptions of artistic creation in non-Western contexts. The paper in question explored the issue of the epistemological benefit of such cross-cultural investigation, and argued for the value of investigating alternative perspectives from other cultures for improving our beliefs and practices.

Although the paper made a general claim regarding the benefits of such investigation, the issue was explored largely in the contexts of the arts and of questions regarding ways of life. One of the questions which remained unanswered and which is the major focus of this paper is how far this claim can be extended. Is there a general epistemological duty to take into consideration alternative perspectives from other cultures in all our own deliberations? Are views that are held without exposure to alternatives from other cultures less credible than those that have undergone such exposure?

2. GENERAL BENEFIT OF CONSIDERING ALTERNATIVES

Johnson (2000, 2003, 2007), Missimer (1994) and others have argued that an essential part of critical thinking is the consideration of alternative views — what Johnson calls the "dialectical tier." This aspect of critical thinking involves the appropriate consideration of alternative positions when developing and articulating one's own view or theory. In areas of controversy this is obviously of great significance. By definition, arguments in areas of controversy involve claims and arguments on both (or many) sides of a question. That is what controversy is. It is also obvious that coming to a reasonable position in a controversial context must involve the weighing (assessment) of various positions and evidence on all sides. Identifying the weakness of opposing arguments may be as important a source of support for one's position as articulating the strengths of supporting arguments. Consider, for example, argument against capital punishment. Not only can one object to the barbarity involved in such punishment, or the inevitable injustices that will result when an innocent person is put to death. One can also question the inconsistency of the appeal to the "eye for an eye" principle that is often used to justify capital punishment but not for example, in assault.[1]

Whether disputes are ethical or factual, the range of alternative arguments that are considered tends to be established historically. From capital punishment to the Big Bang, what count as alternative theories and positions is determined by the history of the debate (e.g., big bang vs. steady state) within the Western ethical or scientific traditions. Disciplinary fields also serve to delimit the range of considerations relevant to a disputed claim. The tradition of beginning scholarly work with a "review of the literature" acknowledges the role that

1. One of the authors cites the example of the paper by Jerome Cornfield "Smoking and Lung Cancer: Recent Evidence and a Discussion of Some Questions" which basically turned around the debate over whether smoking caused cancer. It was primarily directed at refuting the views of those who opposed the claim that smoking caused cancer (Battersby 2007).

consideration of alternative views plays in reflective discourse. But such a review is usually limited to the literature designated by the disciple as relevant. Such a limited review can leave out crucial information and insights from other relevant disciplines. Typically, economists review only economic literature and psychologist review only psychological literature despite the obvious relevance of psychology to much economic theorizing — a point that is slowing being acknowledged in economics with the emergence of behavioural economics (Camerer 1996).

It would seem a fundamental principle of rational reflection that, ceteris paribus, positions developed and grounded in a broader knowledge of a problem area are stronger than those that are narrowly limited. While such a principle seems almost platitudinous, it obscures a deeply complex problem: determining the boundaries of reasonable consideration.

While the relevance of psychology to economics may seem obvious, the relevance of other historical and cultural perspectives may seem less so. For example, the strange claim that sunspot activity influences the stock market (because of its correlation with stock market activity) seems plainly not worthy of consideration.[2] In this paper we explore the role that broader cultural boundaries should play in delimiting the consideration of alternative points of view. Historically, ethnocentrism and the confidence resulting from the success of Western science have led, implicitly and explicitly, to the boundaries of investigation being set at the boundaries of Western civilization, and frequently at the boundaries of current research within local disciplinary traditions. While such a

2. In 1843, the amateur astronomer Heinrich Schwabe found that sunspots come and go in a predictable 11-year cycle. Ever since that announcement, many have tried to correlate the Sun's cycle with all sorts of events on Earth - some have even believed the Sun influences the stock market! Although there is no evidence that solar activity affects economic trends, by predicting what the Sun will do in the future we can better prepare for the many other impacts solar activity has for life on Earth. http://science.nasa.gov/newhome/headlines/ast22jul99_1.htm accessed Feb. 9, 2007.

limit has practical advantages for scholarly research, it would not appear to have epistemic justification.

3. ARGUMENTS FOR CONSIDERING ALTERNATIVES FROM OTHER CULTURES

Various cultures have developed sophisticated systems of belief and elaborate practices in their interactions with the world, and it would be ethnocentric arrogance to assume that none of these has any value and that all knowledge and wisdom resides in one's own culture. As Wong points out: "When facing hard problems it is simply a good strategy to consider a wide range of enduring, respected ideas bearing on those problems" (Wong 2005, p.12). And surely other cultures are an important source of "enduring, respected ideas." Thus there may be something to be learned by looking at the kinds of theoretical and practical ideas which have been developed by those in other cultures in order to understand the world and deal with human problems.

There appears, then, to be at least a *prima facie* presumption in favour of considering beliefs and practices from other cultures in one's deliberations. It is important to be clear, however, that this point is in no way an endorsement of relativism. We are not arguing that all the views of other cultures are equally acceptable and should be given equal weight. We are arguing, rather, that if we view different cultures' beliefs and practices as alternative responses to understanding the world and alternative solutions to human problems, then this provides a reason for taking them into consideration as possible sources of knowledge. In this regard, Taylor (1994) recommends as a starting hypothesis with which to approach other cultures, the presumption that "all human cultures that have animated whole societies over some considerable stretch of time have something important to say to all human beings" (p.66). He makes clear, however, that it is a starting presump-

tion only – "the validity of the claim still has to be demonstrated concretely in the actual study of the culture" (p.67).

4. INCOMMENSURABILITY OBJECTION

Before examining in more detail the possible benefits, and appropriate limits, of such cross-cultural investigation, it is necessary to deal with a possible objection regarding the feasibility, indeed the very possibility of the entire enterprise. The essence of this objection is that cultures are incommensurable, i.e., that there are radical differences in basic concepts and modes of inquiry between cultural traditions, and thus there is no possibility of understanding or meaningful comparison and interaction between cultural frameworks. The claim of incommensurability is made with respect to both understanding and standards.

In response to this objection, we would simply echo the views of the many theorists who argue that the radical incommensurability thesis is untenable. First, the very idea of unintelligibility and incommensurability between cultures has been successfully challenged by Davidson (1974) and Putnam (1981), among others, in their critiques of the idea of a conceptual scheme and of untranslatability. What is more, incommensurability presupposes that cultures are distinct, unified, self-contained, unchanging, and mutually exclusive. A closer look at the nature of cultures reveals, however, that they are, on the contrary, fragmented, have indefinite boundaries, and have a history of interaction and change (Appiah 2006; Bailin 2006; Benhabib 2002; Waldron 2000). This observation, along with the fact of common human biology and common human problems (related to birth, death, disease, obtaining food, order, relationships, and education) render highly likely the existence of overlaps, parallels and commonalities among human experiences across diverse cultures which would provide grounds for understanding and comparison.

Such human commonalities also render probable at least

some commonalities and overlaps in standards of evaluation at some level (there will, for example, likely be some standards related to physical well-being, social well-being, effective functioning of the society, and success in interacting with the world), although differences may emerge at a more detailed level of analysis.[3] In addition, apparent incommensurabilities of standards may sometimes reflect differences of emphasis rather than radically different standards. One possibility for engaging in comparison when faced with such apparent differences of standards lies in moving to a higher level of analysis where commonalities become evident. Taylor (1994) follows Gadamer (1975) in referring to this process of dialogue or dialectic between frameworks as a "fusion of horizons". In the process, some of one's initial standards may be transformed. This is not, however, a matter of accepting contradictions nor of eschewing evaluation, but rather of learning "to move in a broader horizon." Each framework or horizon is necessarily always open to the possibility of critique and revision, as any fallibilist would agree.

An example of this process was evident in the recent interactions of one of the authors with builders in Italy. When their work was approached with our North American standard of efficiency, it failed dismally. It quickly became clear, however, that there are values which are placed well above efficiency – in particular aesthetics and sociability. Any work done must be beautiful, and considerations of time and cost pale in comparison. And the workday must include ample time to socialize with friends over a long lunch and to chat with clients and passers-by about the work, food, and life in general. Once our author managed to let go of her North American obsession with efficiency and time and to step back, she came to appreciate the priority of these other values and the role they can

3. There is, for example, evidence that art objects in a vast array of cultures are valued for the skill of their execution, but what precisely constitutes such skilful execution varies from culture to culture (Anderson 2004).

play in a rich and satisfying life. She had good reasons not to completely abandon her valuing of efficiency, but she did come to see that there are efficiency/aesthetics and efficiency/sociability tradeoffs and that there may also be good reasons for her to relocate herself along those continua.

It is true that a cross-cultural comparison of views presents challenges of interpretation. It must be remembered, however, that interpretation is a necessary part of all evaluation, and that it is never an algorithmic process. There are particular pitfalls to avoid in interpreting the views of another culture, including errors of chauvinism and of romanticism, but the fact that there are errors to be avoided implies that there are also less erroneous ways to interpret (Nussbaum 1997).

5. EXAMPLES

We shall proceed now to explore some of the possible epistemic advantages of examining alternative perspectives from other cultures by detailing several examples where such examination seems to be of benefit. In a later section, we will endeavor to extract some general principles or considerations regarding to what extent and under what circumstances such a consideration is appropriate.

5.1. Alternative conceptions: Art

Conceptions constituting generalizations regarding human practices must encompass the entire range of practices that may fall within their purview. Finding practices which are not accurately captured by these generalizations will challenge these conceptions.

As an example, a typical conception of art in Western societies is in terms of disinterested contemplation – art is set apart from life and is made and appreciated for its own sake. In traditional societies, however, the kinds of objects and practices which we consider art are very much integrated into daily life, and everyone engages in some form of art-

making. Thus, investigating the arts practices of some traditional cultures might serve to reveal the limitations of a Western "aesthetic" conception of art by revealing that it does not have universal applicability. One response might be that the aesthetics conception captures what art really is, although people in some other cultural contexts may not (yet) appreciate this. What the latter really amount to, however, is the making of a claim about what art should be in the guise of describing what it is. Such a normative claim requires justification. If one insisted on maintaining disinterested contemplation as defining of art, then one would have to recognize that one's conception of art applies only in a contemporary Western context, and to maintain that the activities and artifacts of these other cultures which look to us like art-making and art objects could not constitute art. Alternatively one could alter one's conception of the nature of art. Looking at art phenomena cross culturally can cause one to look critically at one's prevailing conceptions, revealing unexamined normative claims, and possibly supplying grounds for revision of those conceptions, or least putting appropriate limitations on them.[4] It might also prompt us to look more seriously at the artistic practices of other cultures, for example seeing the value of the integration of art into various aspects of life, engaged in by a large segment of the population.

5.2. Alternative practices: Aboriginal justice

Holding our beliefs and practices up against those of other cultures may prompt reflection on deeply entrenched assumptions of our tradition and serve to demonstrate that there are other possibilities in situations where we had previ-

4. A more culturally inclusive conception of art is exemplified in Richard Anderson's wide-ranging cross-cultural study. He suggests the following as common characteristics of art across cultures: it embodies culturally significant meaning; it inspires an emotional reaction (but in very few cultures is it a "disinterested aesthetic response"), and it exhibits skill. He does point out, however, that how these characteristics are manifested varies greatly from culture to culture (Anderson 2004).

ously considered our own ways "neutral, necessary and natural." Such an awareness constitutes a crucial aspect of evaluation, as it provides the basis for comparison. This recognition may, in turn, help one "to distinguish, within their own tradition, what is parochial from what may be commended as a norm for others, what is arbitrary and unjustified from that which may be justified by reasoned argument" (Nussbaum 1997, p.32). What is more, the traditions may actually interact and enrich each other.

An example can be found within the realm of the criminal justice system. The North American system of courts, trials, judges and juries, and incarceration may seem to us to provide a reasonable (if imperfect) embodiment of the principles of justice and fairness through impartiality and due process. An alternative possibility is embodied, however, in native systems of justice which offer a non-judgmental environment for resolving cases of criminal behaviour. They operate through such means as healing circles which bring young offenders together with their guardian, victim and community members; mediation; family and group conferencing; circle sentencing; community work; and restitution. The aims are the healing of the offender and the repairing of the relationships among the victim, the offender, their families and the community. Looking seriously at native systems of justice may bring to the fore the assumptions embedded in our criminal justice system regarding justice as fairness, impartiality, retribution, deterrence, and the necessity of an adversarial structure, and offer an alternative for dealing with criminal behaviour based on a concept of restorative justice underpinned by values of healing, reconciliation and prevention. Such principles and practices, although developed specifically in the context of First Nations' cultural values and practices, embody ideas which may be worthy of consideration in dealing with criminal behaviour in the larger North American society, dealing with problems inherent in our current system by offering pos-

sibilities for crime reduction, rehabilitation, and strengthened communities. Whether such benefits do indeed accrue would need to be the subject of serious assessment, as would the possible problems regarding, for example, the fairness of treatment when there is no assurance of impartiality. Regardless of the results of such an assessment, our beliefs about how best to deal with criminal behaviour could not but be strengthened by this comparison.

5.3. Alternative theories and practices: Traditional Chinese medicine

5.3.1. Alternative empirical beliefs

The beliefs and practices of other cultures may be a source of new ideas about the world which have not been considered seriously because they do not fit into prevalent models of understanding. Beliefs from other cultures may come in the form of observational claims: that certain herbs cure certain illnesses or that acupuncture relieves pain, or in a more theoretical form, e.g., that illness can be explained by certain bodily processes being out of balance. Chinese medicine seems to provide both kinds of claims and is an interesting test case for assessing the epistemic value of considering non-normative views from other cultures.

Take the herbal remedies used by traditional Chinese medicine (TCM), as an example. If some of these herbs are proven, after testing, to have medical benefits, then a stock of new justified beliefs will be added to our repertoire. In addition, some of our beliefs about the appropriate origin of medical remedies may be challenged. There are a number of reasons for investigating at least some herbal remedies: 1) Many herbs have proven efficacious in the treatment of ailments and some have formed the basis for new drugs. 2) It seems reasonable to assume that societies which have survived over a considerable period of time have had some success in finding effi-

cacious treatments. 3) The possibility of their efficacy is not contradicted by our scientific theories; and 4) There are standards shared between the cultures which are the sources of the remedies and Western cultures as to what counts as success, i.e., improvement in health.

It might seem a straightforward matter to assess the truth of claims about herbal medicines, but it is not. Herbal remedies are usually a mixture of potentially active ingredients, and in TCM, it is the combination which is believed to engender the results. The approach of contemporary western medicine (CWM) to assessing the value of such treatments would, however, involve that isolation of one causal agent at a time to assess its efficacy. The categorization of disease necessary for such testing may also prove difficult either because certain symptomatic categories are different or because the practitioners of TCM are reluctant to lump together a variety of people with somewhat similar symptoms to create treatment and control groups. But as Thagard points out, with sufficient good intention some of the apparent epistemic incommensurability can probably be addressed (Thagard 2003, pp.14-21). Presumably both TCM and contemporary western medicine (CWM) have enough of a shared idea of human health and can agree when a particular treatment has achieved the goal of returning someone to health. If there is *prima facie* evidence for the efficacy of a treatment used by TCM (including anecdotal evidence which is, after all, much of what clinical observation consists of), it would seem reasonable to attempt to test such treatments. Of course life is short and funding for research limited, so some method is required to distinguish which of the "alternative" treatments are worthy of study.

Acupuncture is a striking example of a remedy developed by TCM which is being successfully tested by the assessment procedures of CWM. In the case of acupuncture, a consensus panel of NIH concluded that

> …there is clear evidence that needle acupuncture is efficacious

for adult post-operative and chemotherapy nausea and vomiting and probably for the nausea of pregnancy. It also found some evidence of efficacy for postoperative dental pain, and suggestive but not conclusive evidence for pain relief in other conditions such as menstrual cramps. Since acupuncture has minimal adverse effects, the panel stated that acupuncture may be a reasonable option for a number of clinical conditions such as stroke rehabilitation and osteoarthritis (NIH 1997).

5.3.2. Alternative theoretical model: Traditional Chinese medicine

The case of acupuncture is similar to the herbal remedy case in that it adds new practical knowledge to our repertoire. There seems good reason to investigate its effects because of the sheer weight of anecdotal evidence attesting to its efficacy, because of the group survival argument cited above, and because of largely shared standards for success (e.g., pain relief, alleviation of symptoms). This case differs from many others in one significant respect, however. Its efficacy cannot be readily explained by our current scientific theories. This demonstrates some incompleteness in our theories and puts pressure on these theories to furnish an explanation. Thus looking seriously at acupuncture has the potential both to add to our practical knowledge and to test some of our theoretical assumptions. In particular, there is the question of whether the theory used by acupuncture practitioners is of any value in understanding how the human body works.

5.3.2.1. What is the theory of traditional Chinese medicine (TCM)?

Simplistically, the Chinese theory of medicine which provides the theoretical basis of acupuncture and various herbal remedies involves a balance between yin and yang. The theory of acupuncture has been usefully and clearly summarized in a paper by Thagard and Zhu (2003).

Diseases arise when there is disequilibrium of *yin* and *yang* inside the body. This principle is central to traditional Chi-

nese medicine, and its application dominates the diagnosis, treatment and explanation of diseases. For example, a patient's high fever, restlessness, a flushed face, dry lips and a rapid pulse are *yang* symptoms. The diagnosis will be a *yin* deficiency, or imbalance brought by an excess of *yang* over *yin*. Once the *yin–yang* character of a disease is assessed, treatment can restore the balance of *yin* and *yang*, for example by using *yin*-natured herbs to dampen and dissipate the internal heat and other *yang* symptoms. The imbalance of *yin* and *yang* can be caused by either exogenous factors, such as climate, traumatic injuries and parasites, or endogenous factors, such as extreme emotional changes (anger, melancholy, anxiety, and so on), abnormal diet, intemperance in sexual activities and fatigue.

Acupuncture is a remedy involving another concept used in TCM: Q*i* a kind of vital force that flows easily in a healthy body. Blockages or a lack of appropriate levels of *Qi* cause symptoms which can be appropriately treated with acupuncture.

Clearly the TCM theory of illness is incompatible with CWM. TCM is not reductionist, is non-microbial, and provides explanations that refer to entities and bodily "parts" that have no physical manifestation. It appears that some practitioners of this approach do not even expect there to be physical manifestations of Qi, though recent efforts in China to find the channels referred to in acupuncture theory suggest that at least some practitioners do expect physical correlates of their theory (Fan 2003, p.215).

While the ability of acupuncture to bring relief from nausea and pain in certain circumstances is impressive, that might not justify us in attempting to evaluate in any detail the supporting theory because it is so far removed from the approach of CWM. Here there seems to us an issue of where fair-mindedness and medical wisdom might require a different evaluative approach. We may try to translate the reflections of

TCM into a more modern guise such as a holistic approach to health. WCM shares with TCM the view that the body is a system that has built in stability which constitutes health. Where TCM and WCM tend to differ significantly is with respect to the emphasis placed on the exogenous causes of illness, especially the role of viruses and bacteria. But perhaps WCM gives such causes too much focus.[5] The testing methods of WCM have built-in biases to search for microbial causes of illness and treatments that can be manufactured and sold. Nonetheless, both approaches share a recognition that health involves the internal mechanisms of the body (e.g., the immune system or eliminative processes) operating correctly. While CWM will typically look for a micro agent that is the cause of an illness, the causes focused on by Chinese medicine are often lifestyle issues — an area of increasing focus in CWM.

5.3.3. Case study: Ulcers

How might these two approaches be compared? Let us take a case study. Recent research in microbiology has established that the bacteria, *helicobacter pylori,* is the cause of most ulcers.[6] The causal role of *helicobacter pylori* in ulcers was first postulated in the early 1980s and subsequent research, in particular the impressive remedial efficacy of antibiotics in the treatment of ulcers, has led to a rejection of the previous theory that ulcers were caused by excess stomach acid, perhaps produced by stress. The evidence in support of the earlier acid theory was that drugs which reduce or neutralize stomach acid did reduce ulcers and relieve pain. In addition, there was

5. Evidence-based medicine tends to focuses on external therapeutic interventions that can be administered in double blind randomized control trials. Obviously many possible interventions, from eating broccoli to heart transplants cannot be tested by such methods.

6. The other main cause are CWM treatments such as non-steroidal anti-inflammatories like aspirin.

evidence from animal studies that stress increased acid production in the stomach (Thagard 1998).

Initial reaction to the bacteria theory of the cause of ulcers was skeptical because the stomach normally contains so much acid that it was thought that bacteria could not live and reproduce in such an environment. As it turns out, *helicobacter pylori* has developed mechanisms for protecting itself by hiding beneath the mucous lining of the stomach and surrounding itself with acid neutralizing chemicals.

Despite the identification of *helicobacter pylori* as the cause of most ulcers, there is still a question concerning the mechanism by which the bacteria cause ulcers. The current view is that the bacteria cause the stomach to produce too much acid (sound familiar?) which is then the proximal cause of the ulcer. So what the new theory does is identify a "semi-proximal" cause of stomach acid; elevated stomach acid is still the immediate cause of ulcers. An additional puzzle is that 80% of people with the bacteria do not get ulcers and there is still no well-established theory of why the bacteria produce ulcers in only some stomachs.

Anyone with the slightest sympathy towards a more holistic account of human health and illness is not going to be satisfied with the *helicobacter pylori* account of ulcers. One can easily understand why the medical profession, charged primarily with curing an illness, would be satisfied with the bacterial discovery, especially since, within the time frame of studies, there is no recurrence of the ulcer. But the well-known correlation between outbreaks of ulcer and stressful conditions such as war and earthquakes supports the view that stress may well be a more distal cause of ulcers. The correlation between over-use of drugs and alcohol and ulcers is also suggestive of lifestyle causes of ulcers (Zuger 2007).

These observations show that the "stress theory" of ulcers has not been eliminated, although its role and mechanism are not clear. Viewing stress as a cause of ulcers has much in com-

mon with the TCM account of the cause of ulcers in terms of an imbalance between yin and yang.[7] This explanation would not be inconsistent with the view that bacteria are only the immediate and most easily treated cause of ulcers. Although CWM now knows that once the bacteria is established, it needs to be eradicated, it seems likely that something more holistic or systemic might be the distal cause. Just as lifestyle decisions and personality type seem to play a crucial role in causing heart disease in certain people, so might lifestyle and stress play a major causal factor in the pathogenesis of ulcers. Having to address the TCM account could enhance our assessment of the CWM account or perhaps result in its revision (Lowenstein 1999).

5.4. Alternative theoretical models: Religion and hydrology

A cautionary tale describing the dangers involved in replacing traditional methods with application of modern scientific methods is described by Suzuki in his book, *Good News for a Change*. He provides an account of the unsuccessful application of modern hydrological theories and genetically modified rice to the traditional agricultural system of Bali.

The Balinese irrigation and agricultural system is extraordinarily complex. Water is diverted through a complex system of canals and aqueducts and the distribution of the water is determined by the priests. Their religion has a great deal to do with the sacredness of water, especially with the timing of its release. Worshippers at each temple from the single farmer

7. The four most common patterns seen when gastro-intestinal problems are differentiated are as follows: Spleen Chi Deficiency, which is caused by chronic fatigue or chronic illness; Damp Heat Retention, which is caused by improper diet, environmental factors, or infections; Disharmony of Liver and Spleen, which is caused by emotional disturbance; and Spleen and Kidney Yang Deficiency, which is caused by chronic illness or aging. To treat these imbalances, Chinese medicine commonly uses acupuncture, herbal medicine, and moxibustion. When applied properly, these modalities balance Yin and Yang, harmonize Chi and Blood, nourish the organs, and eliminate Damp Heat. http://www.tcmpage.com/hpgastrointest.html accessed February 19, 2007.

at his shrine up to the United temple at the lake, have yearly meetings in which the high priests assign times of irrigation water release to each sharing village. The timing of the release of the sacred waters naturally influences dates of planting, the variety of rice that is planted, the timing of the harvest and the scheduling of fallow fields or alternative crops.

The system is also characterized by a variety of planting methods including rotation of crops which both protect the fertility of the soil and provide pest control. In 1965, the fall of Sukarno and the recent breakthrough in the development of genetically modified rice provided the rationale for introducing a new approach into the Balinese agriculture system. Suzuki observes that:

> The practitioners of the Green Revolution worked then (and still do now) under the reductionist assumption that agriculture is a purely technical process, and that production can be optimized when everyone simply plants high yielding varieties as often as possible. Problems of the soil fertility and pests can be handled with petrochemical inputs… (Suzuki, p.165).

Farmers were encouraged to abandon the traditional cropping patterns and plant high yielding varieties as often as possible. Problems immediately emerged. As the water priests lost control over both irrigation and cropping patterns, there was soon chaos in the water scheduling and an explosion of pests. New breeds of rice were introduced in the 1980s to defeat the pest problems and farmers became locked into the struggle to stay one step ahead of the next rice pest by planting the latest resistant variety. They also had poorer diets and more health problems because of the loss of protein from fish and ducks which had shared the rice paddies previously.

By the mid 1980s, things were so bad that a team of agronomists from Udayana University was commissioned by Bali's Department of Public Works to investigate. They reported that the government needed to take note of the connection between the hierarchy of the temples and the cropping pat-

terns. An American anthropologist in Bali worked with a systems ecologist to develop a computer model of the various water management methods in order to take the temple functions out of the realm of fate and superstition and put them into an argument form that modern experts could understand and respect. They ran the model using different planting and irrigation systems following traditional methods and the new cropping patterns based on the Green Revolution and showed that the traditional method, which had evolved over many years, was capable of doing a better job than the Green Revolution and centralized government control. The use of the computer model led to a report from the Asia Development Bank that stated that:

> the substitution of high technology and bureaucratic solution proved counterproductive and was the major factor behind the yield and crop area declines … The cost of lack of appreciation of the merits of the traditional regime has been high. Project experience highlights the fact that the irrigated rice terraces of Bali form a complex artificial eco-system which has been recognized locally over centuries (Suzuki, p.168).

The danger is, as the cliché has it, throwing the baby out with the bath water. Traditional views about physical, mental and environmental health typically have a religious and spiritual theoretical basis. But as the Balinese example shows, it is likely that many of these approaches survive because they produce real, tangible benefits. The limitations of these theories, in particular the lack of micro mechanisms that fit with the western scientific theory, may obscure the more systemic perceptions that they embody. A belief in the interconnectedness of things can be based on claims of mystical unity, or can be the result of study of systemic interrelationships modelled by computers. The latter approach may be ontologically more sophisticated, but the more spiritual approach may still provide practical insights.

The benefit from evaluating competing theories from very

different cultures probably depends on the willingness of the investigator to extract from the competing theory as much wisdom as possible. An arrogant dismissal, based on the theory's incompatibility with contemporary western science's emphasis on micro processes explaining macro events runs the risk of ignoring the benefit of looking at the value of a more systemic and holistic account.[8] Of course some criteria for ascertaining of *prima facie* value must be employed in the allocation of research effort and expense. The careful and respectful consideration of alternative views demonstrated by the NIH has advantages from the epistemic, political, and medical points of view. The current interest in alternative medicine has many sources: from desperation for treatment in the cases where CWM is unable to provide a cure to the suspicion that the reductionist model of micro-causation and treatment of illness has significant limitations as an approach to health care. Given this intellectual climate, an open minded and fair consideration of alternative theories is intellectually and politically required. Inevitably some therapies will prove of benefit while others will be shown to be inadequate, even grossly inadequate, compared to the approach of CWM. But in either case, the suspicion of bias, narrow-mindedness and too limited a paradigm will have been addressed, adding credibility to all validated theories. It does not seem epistemically justified to presume *a priori* that the explanatory paradigm of CWM is the only model worthy of consideration.

6. DELIMITING ALTERNATIVES: CONSIDERATIONS AND CHALLENGES

Given that germane alternative theories and information are relevant to the assessment of claims and views, the ques-

8. Barry Spencer, in an article entitled "The unbearable bunkness of stress," exhibits the kind of close-minded intolerance to explanations outside the microbial paradigm that precludes gaining understanding from alternative approaches. http://www.batnet.com/spencer/stress2.html accessed February 20, 2007.

tion remains as to what factors determine whether and to what extent a theory is germane. We have been arguing that the boundaries of relevance should not be co-extensive with the boundaries of the discipline in question, nor should they be co-extensive with the boundaries of the cultures. Yet it is clear that, given constraints of time and resources, it is not possible to consider all alternatives equally seriously. Nor would it be useful to do so. Some perspectives appear to be so far outside the realm of plausibility as to not be viable candidates for consideration. Yet one would still need to know enough about the view to know that it does not merit further consideration. In addition, in ruling out some perspectives *a priori*, there exists the danger of leaving certain of our own theoretical assumptions unquestioned and thus perpetuating prevailing ethnocentric biases.

Are there some general principles which might be useful in attempting to delineate the appropriate realm for serious consideration?

First, there do seem to be some differences with respect to realms of inquiry. The strongest (least controversial) general arguments for the necessity of considering alternatives from other cultures appear to be in those areas dealing with values and ways of life. Although western cultures have developed powerful scientific tools which have facilitated significant advances in knowledge about the physical world, there does not seem to be a similar justification for assuming that their views and practices regarding ways to live need inspire the same degree of confidence. Indeed, given that scientific models tend to focus our thinking in certain directions (e.g., toward mechanistic-reductionist explanations), "we may be able to learn something about values from societies where science is less deeply implanted than ours" (Appiah 2006, p.43). Given the commonalities of the human situation, it is likely that the perspectives of other cultures in areas such as the arts, social institutions and practices, family structure, or social

attitudes (for example attitudes towards the older members of the society) can serve to throw into relief our own assumptions and be a source of viable alternative possibilities.

It may initially be tempting to think that the requirement of considering alternatives from other cultures is limited to these normative spheres but does not apply in the natural sciences given the fact that western science has shown itself to be vastly superior to other methodologies of investigation in terms of understanding the physical world. Certainly, our confidence in the theories and findings of science are justified to a significant degree. The well-established principles of confirmation of western science, along with a store of well-confirmed findings, and its superior resources for investigation (including both methods and tools) have provided significant advantages in empirical investigation (e.g., the prohibition against dissection and autopsies in China meant that Chinese medical theories had to be developed without the aid of significant anatomical knowledge). We would certainly not argue for giving equal consideration to non-scientific theories in explaining empirical phenomena.

We have argued, nonetheless, that the consideration of alternatives from other cultures is also important in science, as our examples have demonstrated. The reductionist model of western science, although exceedingly powerful, can also be limiting in some circumstances. An example is the bias against non-mechanistic explanations exhibited in the field of medical science, for example a reluctance to countenance psychological or systemic explanations, as demonstrated in the ulcers example.[9] It appears, then, that the line between science and non-science or between the empirical and the normative is not the appropriate way to think about how to delimit those

9. Atwood, for example, says the following with respect to the public's perception of the cause of ulcers even after the discovery of the hpp bacterium: "Ironically, 60 percent of the general public still thought that the cause was 'stress,' a vague, whimsical, and mildly insulting 'mind-body' hypothesis that medicine hadn't taken seriously for at least a generation." Ironically, stress is now being reconsidered as a causative factor in ulcers!

cases where consideration of certain cross-cultural alternatives is appropriate. What, then, are some of the factors which determine whether an alternative claim or view is worthy of serious consideration?

One obvious factor is the availability of empirical evidence for the claim or the view, even if it is only anecdotal. In the case of acupuncture, for example, it seems to have been the *prima facia* support given by its apparent practical efficacy which prompted further investigation, and justifiably so. Such investigation is least problematic when the claim can be accommodated within our current scientific theories, or at least is not contradicted by them, as is the case with claims regarding the efficacy of herbal remedies as described above. There seems to be good reason to consider these claims seriously especially since the possibility of their efficacy is not precluded by our scientific theories. Moreover, they are, in principle, testable (although there are challenges in testing them, as we have seen). Another factor which could affect the strength of the evidence of efficacy is the length of time we have had to test a particular theory. We would have good reason to reject theories which have undergone testing over a significant period of time and have still not demonstrated practical efficacy. We might want to be more cautious about rejecting theories which are newer to our culture and have not had the opportunity to demonstrate their efficacy (or lack thereof).

The situation is more complex with respect to claims which are not supported by or explicable in terms of our scientific theories, as is the case with acupuncture. The weight of anecdotal evidence seems to provide reason to take claims regarding its efficacy seriously, but the fact of its not conforming to our models and not being explainable by our theories has provided reasons historically for its not being considered as a serious alternative. The lack of accord with the theoretical structure of CWM and the lack of substantiation for its theo-

retical claims means that there is no requirement to seriously consider the theory on which acupuncture is based. Nonetheless, the empirical claims regarding its efficacy might still be justified. And if the efficacy of acupuncture is confirmed (as seems to be the case at least in some instances), then this fact would exert pressure on the theories of CWM to explain the fact. Thus there may also be some gains at the theoretical level, a possibility supported by the consensus panel of the NIH in its statement that the discovery of the mechanisms which provide a western scientific explanation for some of the effects of acupuncture may provide novel insights into neural, endocrine and other physiological processes (NIH 1997). In addition, although there may be grounds for rejecting the theoretical underpinnings of certain views, there may be some epistemic merit in their approach to explanation. For example, while there may be no grounding for some theoretical constructs of TCM such as chakras and qi, we may be able to learn something from their non-reductionist approach to explanations and more holistic orientation to health and well-being.

Thus a blanket dismissal of claims and views which do not accord with our theories does not seem justified as this may prevent us from investigating potentially viable alternatives and allow us to avoid possible productive challenges to some aspects of our theory. Yet does this leave us in the position of recommending the serious consideration of a theory such as astrology? It might be instructive at this point, then, to see if there are some general considerations which might be offered in helping to determine which alternative views are worthy of consideration, and to compare astrology and acupuncture as test cases using these principles.

One consideration is apparent efficacy, as discussed in detail above. Astrology has demonstrated no evidence of efficacy despite the fact that its generalizations regarding personality and its predictions of the future have been subjected

to considerable examination over a long period of time. It continues to be very popular nonetheless, but apparent practical efficacy must be distinguished from mere popularity. Acupuncture, on the other hand, has shown apparent practical efficacy, and is currently being subjected to rigorous testing which is showing positive results in some contexts. Not only does astrology lack evidence of efficacy, its acceptance would require a virtually unthinkable revision of the scientific world view (e.g., abandoning the inverse square law). This may be compared with acupuncture, which, while probably requiring some change in our account of pain and nausea would not presumably require substantial and deep revision of the scientific outlook.

It is important to make clear that our discussion of the desirability of considering alternatives from other cultures is directed, in general, at the level of the discipline. We are not suggesting that it is incumbent upon each individual researcher to seek out alternatives from other cultures in all of his or her individual investigations. We are suggesting, rather, that it should be a part of the epistemic responsibility of particular disciplines to include a consideration of credible alternatives in the ambit of its disciplinary investigations. Thus, while it is not necessary that every researcher dealing with pain investigate acupuncture, such investigation should be taking place somewhere within the field (as indeed is the case).

Our last factor for delimiting consideration of alternative views is the historical situation. The duty of disciplines to consider views of other cultures is partly based on the role such disciplines play in the generation of the shared understanding within society. Alternative views that have considerable following outside the discipline deserve attention because of the role that disciplines play in promoting public understanding. Attention to the "dialectical tier" requires that competing views that are seen as credible in the culture be given consideration and evaluation. Fair-minded considera-

tion of alternative views is both epistemically and politically necessary for the maintenance of the credibility of intellectual inquiry. What counts as a relevant alternative view is usually determined by historical and social context both within and outside the academic or scientific community. Views such as the creationist/design theory of evolution, astrology, and TCM need addressing by the scientific community in part because they have epistemic status outside of that community—they are seen as viable alternative views. Ignoring them, as opposed to respectful refutation, (i.e., not the kind of arch sarcasm with which these views are typically treated by people in Sceptic Societies) results in their continuing to attract adherents and in most cases, unjustified epistemic respect.

The general dialectical approach referenced at the beginning of the paper, viz., that a claim's epistemic status is enhanced not only by bringing positive evidence in support, but also by demonstrating the weaknesses in alternative views, should be recognized. It should be remembered that scientific claims, while resting on evidence, still depend on arguments, viz., arguments for the best explanation. Failure to make such arguments based on cultural presumption (or apparent cultural presumption) can only lower the status of science in the minds of many. Avoiding and being seen to avoid, the temptation of ethnocentrism when evaluating claims is an important political project of those committed to reason.

7. CONCLUSION

Given a history of Eurocentric arrogance, it is especially important to be cautious of the possibility of prejudice in treating views and practices from other cultures. An attitude of open-mindedness and fair-mindedness seems the most appropriate way to proceed — an approach of looking to see what wisdom might be gleaned, what we might be missing and what we might learn. We may come away with our origi-

nal views intact, or the interaction may result in the re-evaluation of our own paradigms by holding them up against those of others, and/or the incorporation of new knowledge and insights. Whatever the outcome, the epistemological benefits are clear.

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