Biopiracy and the Ethics of Medical Heritage: The Case of India’s Traditional Knowledge Digital Library’

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Biopiracy and the Ethics of Medical Heritage: The Case of India’s Traditional Knowledge Digital Library

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Abstract Medical humanities have a central role to play in combating biopiracy. Medical humanities scholars can articulate and communicate the complex structures of meaning and significance which human beings have invested in their ways of conceiving health and sickness. Such awareness of the moral significance of medical heritage is necessary to ongoing legal, political, and ethical debates regarding the status and protection of medical heritage. I use the Indian Traditional Knowledge Digital Library as a case study of the role of medical humanities in challenging biopiracy by deepening our sense of the moral value of medical heritage.

Keywords Medical humanities · Biopiracy · Intellectual property · India

Introduction

Recent years have seen an increasing interest in the ethics of cultural heritage reflecting a variety of concerns—moral and social, practical and economic, political and ideological—about the value of the accumulated knowledge, practices and traditions of cultures and communities. Medical heritage is one subset of cultural heritage. Decades of patient anthropological studies have indicated the enormous body of knowledge, skills and practices associated with health and healing. Moreover, such medical heritage is invariably conceived not simply as a pragmatic resource but as an intimate aspect of the moral, social and often religious structures of the relevant cultures. Understanding the value of medical heritage therefore necessarily involves the contributions of medical humanities scholars who can articulate and communicate the complex structures of meaning and significance which human beings have invested in their ways of conceiving of and responding to health and disease, sickness and cure, and life and death. As one medical humanities scholar nicely puts it, life and death are vital features of the ‘whole lived experience’ of being human, and so...
humanistic reflection on medicine allows us to ‘get close to experiences’ relevant to deep philosophical questions of the value, meaning and shape of our lives (Barker 2000, 97–98).

Our enquiries into and understanding of medical heritage are therefore directly connected to deep philosophical questions about human life. The practices of healing, concepts of health and estimations of moral and religious significance of suffering and death embodied within the medical heritage of a culture also reflect its broader ideas about the ‘good life’ for human beings, even our place in the cosmos. As Arthur Kleinman writes in The Illness Narratives, our medical experiences can ‘edify us about how life problems are created, controlled, made meaningful’ and, properly reflected upon, disclose the role of ‘cultural values and social relations’ in our understanding of the ‘context of our life situation’ (1989, xiii). These moral, religious and cultural dimensions of medical heritage can be documented by the anthropologist, but the task of interpreting them and, more importantly, of rendering them intelligible and salient to those approaching them from other cultures require the skills of humanities scholars.

The humanistic significance of medical heritage lends it a moral significance in two senses. The first is that medical concepts and practices can inform our understanding of the good life. As the moral philosopher Alasdair MacIntyre remarks, ‘any account of morality’ lacking a sophisticated account of the ‘fact [of] death’ is thereby an ‘inadequate’ one (1977, 26–27). The late anthropologist Darrell A. Posey, a leading figure in the study of ethnobiology, emphasises the intimacy of indigenous medical knowledge with the ‘language and cognition’, ‘cultural and spiritual values’, and practices for the regulation of ‘environment and diet’ (1999). Our medical heritage is therefore connected to the wider moral traditions within which we conceive our lives and comport ourselves within the world. The second sense of the moral significance of medical heritage is the one primarily addressed in this paper: namely that the valuation and preservation of medical heritage is a matter of moral concern, especially for bioethicists and those engaged in the ethics of cultural heritage. In part two of this paper I propose, therefore, that ‘biopiracy’ is a topic of concern for bioethicists and ethicists of cultural heritage, and moreover that medical humanities scholars have a key role to play in challenging biopiracy.

The two senses of the moral significance of medical heritage are closely connected. They converge in the claim that the moral imperative to preserve medical heritage relies upon our eschewing narrowly economic or pragmatic conceptions of its value. The eschewal of those narrow valuations indicates the point of entry for medical humanities scholars because the deeper value of medical heritage I appeal to—its place within the ‘context of our life situation’—requires humanistic sensitivity to, and understanding of, the expression and exploration of medical experiences, of severe suffering in religious art, literary works, the negotiation of group and cultural identities, and so on (Downie and MacNaughton 2007).

My claim is that medical heritage is valuable on a variety of grounds and that medical humanities has role of articulating and affirming its distinctively moral value—the place of our medical experiences in the ‘rich texture of life’ and their capacity to act as a ‘life-transforming process’ encompassing not just ‘physical but also psychological, social, cognitive, emotional, existential, and temporal’ dimensions (Carel 2007, 108–109; Carel 2008, 12 and 42). Communicating these multiple aspects of the moral significance and utility of medical heritage is a central task for medical humanities scholars, and one which cannot be devolved to other communities of enquirers. And if that is the case, then biopiracy is not simply a matter of legal and economic concern but a source of deep and enduring moral concern.

It is worth stressing the special role of medical humanities in articulating the moral, social, religious and symbolic value of medical heritage. In these strained financial times,
academics—especially from faculties of arts and humanities—are under increasing pressure to demonstrate their ‘value.’ Often this manifests in a demand for ‘outputs’ and especially for demonstrable economic ‘productivity.’ These new imperatives are of special concern to scholars in the arts and humanities who often find themselves hard pressed to ‘justify’ their work before a regime which narrowly equates ‘outputs’ with patents, technologies, and transferrable intellectual property (HEFCE 2009). Medical humanities is, of course, no exception, since, as Edgar and Pattison put it, ‘[t]he reality of healthcare inequalities … poses uncomfortable moral challenges for humanities scholars’ whose work does not ‘obviously add to national income, increase national or global security, or even allow people to live happier or better lives’ (2006, 92–93).

Whether or not this is true, there may arguably be a starker moral dimension to challenges to the ‘relevance’ of medical humanities, roughly along the lines of the rather curt argument that the best way for medical humanities scholars to contribute to the wellbeing of the population at large is simply to resign and take up jobs as orderlies or hospital porters. Now, whether or not that objection holds is not my issue here, nor is my aim to rehearse the rather depressing—if rather urgent and contemporary question—of the value of the arts and humanities. Instead, this paper has a more focused and, one hopes, more optimistic aim, and that is to offer a contemporary ‘case study’ that can illustrate the ‘value’ of medical humanities: namely, that of India’s Traditional Knowledge Digital Library (TKDL).

My argument, in brief, is that medical humanities can contribute to the documentation and, therein, safeguarding of a nation’s intellectual, cultural, and medical heritage. In so doing, medical humanities can fulfill a unique service in protecting indigenous cultural heritage, which is, in turn, potentially of enormous economic benefit to national governments. If my argument holds, then the value of medical humanities to current intellectual property debates can be demonstrated, and its pertinence to legal and economic interests made clear. However, there are some dangers in this strategy, and my paper closes with a discussion of them.

Biopiracy, intellectual property, and cultural heritage

What is the value of ‘medical humanities’? One possible value is the contribution it can make to the documentation and protection of a culture’s medical heritage. By ‘medical heritage,’ I mean the wealth of practical, empirical, and theoretical knowledge about the medicinal resources specific to a particular culture; as such, medical heritage would class as a form of intangible cultural heritage (see Marrie 2009). In section one, the relevance of medical humanities to the issue of biopiracy was outlined, and the task of this section is to fill in the legal, political and economic context.

Biopiracy is the patenting of existing traditional knowledge by outside corporations, invariably without economic benefit to or legal recognition of the indigenous sources. According to one widely-reported estimate, less than 0.001 % of the profits made from the commercial use of indigenous plants and knowledge is received by the indigenous cultures and communities whose medical heritage of which they form a part. In typical cases, pharmaceutical companies investigating indigenous herbal treatments remove certain plants for further laboratory study, and then, once the ‘active agents’ are identified, proceed to process, patent, and sell them at considerable profit. The indigenous people from whom the treatment was originally derived receive no acknowledgement and no profit from the commercialization of their medical knowledge. Moreover, the end product itself bears no trace of its cultural origins, being presented as a product of pharmacological science. This is
‘biopiracy,’ and, as Vandana Shiva warns, its most visible consequence is that ‘the cultural and intellectual contributions of non-Western knowledge systems’ to ‘Western’ science and technology ‘are being systematically erased’ (1997, 5). Not only do the intellectual debts of ‘modern’ Western medicine to indigenous medical heritages go undisclosed and unpaid, but the realization of the very existence and efficacy of ‘non-scientific’ medical practices is progressively undermined (Harding 2006, 2008; Kidd forthcoming).\(^1\) Although many critics refer to ‘Western imperialism,’ too often, perhaps, they fail to identify properly the institutions and agencies which effect the imperialist tendencies they criticize. Primary amongst these institutions must surely be the international intellectual property system.

Rosemary Coombe, a leading scholar in intellectual property and indigenous rights, refers to a ‘crisis of legitimacy in the world intellectual property system’ (2001, 275). This ‘crisis’ is prompted by widespread perceptions of the ‘injustice’ manifested in intellectual property procedures. These injustices may reflect ‘internal incentive structures which reward examiners financially for granting patents and penalize them for conscientious examination of prior art’, ‘the restricted forms of prior art considered in the search process’, and the ‘complete lack of any obligation to respect the public interest’, which, collectively, have ‘brought the regime of intellectual property into extensive disrepute’ (2001, 281).

There are many legal issues concerning intellectual property and indigenous knowledge (see Milius 2009; Verma 2009) which are reflected in the various international conventions pertaining to intellectual property rights and indigenous knowledge.\(^2\) More activist strategies for resisting ‘biopiracy’ include providing proof that the treatment or therapies in question were ‘prior art.’ In patent law, ‘prior art’ refers to information, knowledge, or skills which have been publicly-available prior to the claim of originality asserted by a patent. Therefore, anything which has existed as ‘prior art’ is unavailable for patent and any patents which are attempted are automatically rendered invalid. The legal procedure here is clear enough, but its success relies upon one’s ability to prove ‘prior art.’ This is where medical humanities makes its entrance, especially in the form of historical and cultural studies of medicine and healthcare.

A usual form of ‘prior art’ is to recruit patent agents or professional patent searchers to perform a ‘novelty search’ to determine the status of an invention. These searches may include patent databases, patent applications, or the scientific literature. Recent years have seen the emergence of ‘prior art databases’ like the European Patent Office’s Espacenet and the United States Patent and Trademark Office’s Google Patents.\(^3\) These databases make prior art information easily and publicly accessible. Of course, most indigenous medical heritages will not appear within these databases and so remain effectively invisible to the eyes of prior art agents. Because of this, patents can be easily approved for medical knowledge and practices which have existed, perhaps for thousands of years, as ‘prior art’ in indigenous cultures and communities. Worse still, once these patents are approved, the indigenous producers and consumers may be, and often are, unable to apply their own knowledge, on the grounds that they do not have the legal rights to it—unless, of course, they pay for those rights (see Duffield 2007, 338f).

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\(^1\) The irony, of course, is that the history of pharmacology owes much to the ‘biopiratical’ policies of colonial botany. See Schiebinger and Swan 2007.

\(^2\) There are a variety of international conventions for the protection of indigenous knowledge. These include: the Convention Concerning the Protection of the World Cultural and Natural Heritage 1972 (the UNESCO Heritage Convention); the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 (the UNESCO Cultural Property Convention); the Convention Concerning Indigenous Peoples in Independent Countries 1986 (ILO Convention 169); and the Convention on Biological Diversity 1992 (the CBD).

Indigenous medical heritage is devalued at the same that it is exploited. Shiva describes the outcomes as ‘the devaluation of local knowledge, the displacement of local rights, and simultaneously, the creation of monopoly rights to biodiversity utilization through the claim of novelty’ (1997, 68).

Beyond its moral significance, biopiracy poses a host of ethical, legal, and political problems, including ones of urgent concern to many indigenous rights groups, medical anthropologists, and other concerned parties. My aim is not, of course, to rehearse them all, but, instead, to offer an example, a contemporary case study, of how medical humanities can positively respond to ‘biopiracy’: that of India’s ‘Traditional Knowledge Digital Library.’

The Traditional Knowledge Digital Library

India’s Traditional Knowledge Digital Library (TKDL) is a database for the country’s medical heritage (Gupta 2005). Its thirty-million pages contains fifty-four authoritative texts on Ayurvedic medicine, some 150,000 Ayurvedic, unani, and siddha medicines, and around 1,500 physical exercises and postures, drawn from yoga, dating back some five thousand years. These texts were originally written in Hindi, Sanskrit, Arabic, Persian and Urdu but have now been translated into English, French, German, Spanish, and Japanese to ensure their accessibility to the patent offices of those countries—or, in the case of the first four, the collective European Patent Office (EPO). It has also inspired similar initiatives in other developing world nations—Peru, for instance, has established a National Anti-Biopiracy Commission.

The TKDL was initiated in 2001, after the Indian government’s successful attempts to revoke turmeric, basmati, and neem patents issue by the United States Patent and Trademark Office (USPTO) and the European Patent Office (EPO). See the National Institute of Science Communication and Information Resources (India) Annual Report, 2004–2005, available online at http://niscair.res.in. In the first example, an American patent on turmeric, which has wound-healing properties, was successfully revoked in 1997 when evidence was provided that those properties had been widely known to indigenous Indian practitioners. The explicit aim, according to a TKDL press statement, is to allow EPO examiners to ‘use the extensive database to prevent attempts at patenting existing traditional knowledge’—that is, ‘biopiracy.’ The ‘primary objective’ of the TKDL is the ‘defensive protection’ and ‘prevention of misappropriation’ of the currently-disclosed Indian traditional knowledge (Gupta 2009, 14). The documentation of India’s medical heritage had become ‘imperative to safeguard the sovereignty of this traditional knowledge’ and to ‘protect it from being misappropriated in the form of patents on non-original innovations.’

‘Medical heritage’ as understood by the TKDL includes: ‘medicinal plants, minerals, animal resources, effects and diseases, methods of preparation [and] mode[s] of administration’ for a variety of therapies. An explicit function of the project was to provide means for the ‘defensive protection of their traditional knowledge from misappropriation.’ Whether these incidences of ‘misappropriation’ reflect a wilful ‘bioimperialist’ attitude or simply a forgivable ignorance of indigenous prior art is a matter of debate, depending upon one’s preference for cynicism and charity respectively. In either case, the two practical barriers to

4 The legal disenfranchisement of indigenous peoples and their intangible cultural heritage may count as a form of ‘epistemic injustice’ in the sense articulated by Miranda Fricker (2009); indeed, it may class as a form of ‘persistent and systematic’ epistemic injustice (Fricker 2009, 27–9ff).
the assertion of intellectual property rights on the part of indigenous cultures are language and format.

In the current case, much of India’s medical heritage was inaccessible to Western patent organisations because it existed only in local languages such as Sanskrit, Tamil, and Urdu. Compounding the problem of language was the fact that much of India’s medical heritage, like much indigenous knowledge more widely, was transmitted orally rather than in the form of written medical literature; on these terms, even the abundance of texts available may represent only a fraction of the actual medical heritage that India enjoys. Indeed, the TKDL website concedes that much of India’s medical literature was ‘often inaccessible to the common man and even when accessible rarely understood.’ A key function of the TKDL was to dissolve these barriers of language and format and to make this heritage available in the languages of the major economic and scientific nations, that is, whether European, American, or Japanese. Moreover, the Indian medical heritage was converted into the legal formats and scientific nomenclature of Western patenting systems with the explicit aim of rendering it easily accessible by the patent examiners in those nations. The presence of the TKDL now means that the barriers once imposed by language and format are now dissolved. Whether it is successful, of course, is another matter, and not one that needs to be taken up (see Sharma 2002).5

An instrumental role for medical humanities?

The TKDL is intended to protect India’s medical heritage. That heritage is valuable, however, not simply on economic and legal grounds, but also because it is part of the moral inheritance of Indian culture. The value and significance of the moral norms, religious practices and cultural values which that heritage embodies is not exhausted by the reclamation of patents or the income they can generate (although those are wholly legitimate aims). Yet the task of articulating and expressing the moral and cultural value of medical heritage is a task for medical humanities scholars, understood here to include the practices of documentation, translation, and interpretation of ancient medical texts and practices and the social and historical contexts in which they emerged and developed.

Such training and expertise is the domain of the arts and humanities. Understanding the texts, practices, beliefs and cultural contexts which constitute medical heritage, Indian or otherwise, requires the cooperative efforts of cultural and medical historians, linguists, Indologists, and scholars of art and literature. It is those humanistic disciplines which are concerned with what Kleinman (1989) calls the context of our life situation and the moral, spiritual and other issues it raises. Strangely enough, however, the agencies which produced the TKDL have been strangely vague about the nature of the scholarly expertise they drew upon during its creation. Gupta only speaks of ‘experts’ without detailing whether they were historians, anthropologists, or whatever (2009, 11). Similarly, one Indian government official simply explained that ‘the scholars used certainly included the ones who knew the

5 Coombe (2001) points out two particular problems. First, ‘continuous monitoring and challenging of patents requires resources that are well beyond the capacities of all but the most well-funded NGOs’ (281). One may have the weapons but be unable to afford to wage the war. Second, ‘traditional knowledge databases and community registers of traditional knowledge … are somewhat controversial and certainly not all indigenous peoples, traditional healers, or rural communities support them’ (283) (for instance, some knowledge may be classed as sacred, or be transmitted through rituals means, or processes of initiation). See Posey and Dutfield (1996) for a constructive discussion.
languages of relevant ancient documents; which included Sanskrit, Urdu, Arabic, etc. Experts in relevant traditional knowledge systems like Ayurveda or Unani or Siddha were also included.\textsuperscript{6} Such remarks suggest that a broad family of scholars justly describable as falling within the broad category of ‘medical humanities’ were consulted, but no further account of their composition or contribution is, alas, available.

Although medical humanities scholars are often drawn from, or closely cooperate with, the medical scientific establishment, the particular scholarly skills they have and the disciplinary contexts in which they are cultivated and applied are distinctly those of an arts and humanities subject. Assessment of the moral, literary, linguistic, historical, cultural, and aesthetic dimensions of a culture’s medical heritage requires scholarly and professional skills and temperaments peculiar to the arts and humanities. These skills in turn require that the scope of medical humanities remains a broad and open one; as, indeed, many recent commentators upon the future and nature of medical humanities have emphasized (see Pattison 2003; Downie 2003).

The foregoing discussion has been one attempt to affirm the value of medical humanities. However, the general ‘strategy’ employed may prompt an important concern: namely, that advancing ‘pragmatic’ arguments for the value of medical humanities—or, indeed, any area of the arts and humanities—puts us on a slippery slope. To argue that medical humanities are valuable because they can contribute to the legal protection of a nation’s medical heritage surely betrays the sort of economically-oriented thinking that is the real problem. The value of medical heritage exceeds economic valuation, and so, too, does that of medical humanities. This is a large, complicated, and very heated issue and the idea that medical humanities are only valuable insofar as they can be converted into economically-attractive ‘outputs’ must be resisted. There is an intellectual value to cultural studies of medicine and healthcare which must be asserted and defended, just as medical and intangible cultural heritage itself must be. History is not valuable only if and when it can be ‘cashed in’ to defend a patent, or where it can help indicate ‘prior art.’ The difficulty and the challenge will be to maintain the intrinsic value of medical humanities whilst simultaneously conceding their ‘instrumental’ value. This is not a special plea for medical humanities scholars; after all, certain areas of the physical sciences, like space sciences or high-energy physics, assert their intrinsic intellectual value, practical value and spur to technological innovation. Why should medical humanities not similarly assert dual credentials, both intrinsic and instrumental, especially since medicine and healthcare are, as argued, issues central to the moral, social, and spiritual dimensions of human wellbeing?

There is one instrumental function that medical humanities can fulfill which is morally and politically praiseworthy. My argument that medical humanities can be used to critique positively the ‘injustices’ inherent in the contemporary international intellectual property system has wider significance. The value of challenging biopiracy and reasserting indigenous intellectual property rights is not confined to the legal and economic spheres; if successful, its benefits should resonate throughout the wider culture in question. Intellectual property rights, after all, involve ‘crucial questions not only of economic interest, competitiveness, and market power, but also of environmental sustainability, human development, ethics and international human rights’ (Coombe 2001, 284; Bannister et al. 2009). The critic who might worry that my strategy commits me to economic valuation of medical heritage should be allayed by the point that there are much wider moral, social, and humane benefits to the strategy.

\textsuperscript{6} Vinod Gupta, personal communication, March 31, 2010.
Asserting the intrinsic value of medical humanities also reflectively indicates the moral value of medical heritage. The ‘biopiratical’ exploitation of Indian medical heritage is not objectionable simply because of the loss of lucrative patents. It is also a loss of an important part of a cultural heritage: one sample of testimonies from indigenous peoples record such complaints as that the patenting of indigenous knowledge ‘denigrate[s] and undermine[s] our rights to our cultural and intellectual heritage’, ‘discriminate[s] against our indigenous ways of thinking and behaving,’ violates a sense of the ‘sacred’ nature of life-forms, and so effects a ‘disintegration of our communal values and practices’ (Khor 2002, 29–30). Whilst these complaints may not be quantifiable in the way that patents and profitability are, this is no less reason to take them seriously. The value of medical humanities, then, is not simply to help defend medical heritage against the economically-motivated predations of biopiracy but, further, to document and reaffirm the comprehensive value that systems of healthcare and healing play within human life. To risk sloganising, medicine is more than a matter of health; it has deep and powerful moral, cultural, symbolic, and religious dimensions and takes a central place within our conceptions of ‘the good life’ for human beings. Therefore, to commit oneself either to a narrow economic valuation of medical heritage or a purely instrumental valuation of medical humanities—as an adjunct to intellectual property law, say—is to have lost all sight of the comprehensive significance of medical knowledge, experiences and practices within human life.

Conclusions

This paper is an attempt to affirm the moral value of medical heritage and the role that medical humanities scholars can play in articulating and defending it. Biopiracy is a legitimate topic for bioethics, which moreover invites the resources of medical humanities scholars. Using the case study of India’s Traditional Knowledge Digital Library, I argue that medical humanities can augment challenges to biopiracy by emphasizing the moral value of medical heritage, lending new depth and complexity to an issue of enormous cultural, legal, economic, and political importance. While there are dangers of a purely instrumental conception, medical humanities should be practiced and praised primarily for its ongoing efforts to affirm the complex and comprehensive value of medicine and healthcare within human life. If, in the course of its activities it can serve instrumental functions along the way, all the better.

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References

Carel, Havi. 2007. ‘Can I be ill and happy?’ Philosophia 35 : 95–110.


