

RAYMOND A. MORROW

## **PAULO FREIRE, INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT: THREE PERSPECTIVES<sup>1</sup>**

### INTRODUCTION

The goal of this essay is to situate the approach of Paulo Freire in relation to current debates about the nature and implications of so-called “indigenous knowledge(s)” for education and development studies. In these recent discussions, indigenous knowledge does not refer specifically or uniquely to either Native Indian or aboriginal cultures, though these are included. For this reason, some prefer the term local knowledge, though this term loses the important reference to ethnic and religious particularity, as well association with pre-modern and non-Western traditions. Though the term indigenous knowledge originated in agricultural research around 1980, it did not figure in Freire’s own writing. Nevertheless, he did use some closely related and analogous concepts, most notably that of “popular culture” and reference to the communication of outside expertise to *campesinos* in agricultural extension work. Not surprisingly, therefore, aspects of Freire’s thinking have been appropriated for some versions of the indigenous knowledge literature, as we will see.

The organizing theme is that three broadly identifiable approaches to the problematic of indigenous knowledge have emerged in the context of education and development. The first grouping, which originates as a critique of development theory, has proclaimed itself as “postdevelopment theory” (Rahnema 1997). This rather diffuse approach has origins in radical ecology and ecofeminism, postcolonial critiques of Western science, Ivan Illich’s critique of “schooling”, and the experiences of some disillusioned development experts. This orientation argues that the incommensurability between Western and indigenous knowledge creates a situation where colonial domination and economic unsustainability are inevitable and destructive. The conclusion is that the very effort of outsiders to promote “development” is misguided.

A second approach, with roots in education, will be characterized here as - for lack of a better term - “multicultural theories of subjugated knowledge”(Dei, Hall, and

---

<sup>1</sup> My initial interest in indigenous knowledge was recently stimulated by discussions with three former doctoral students: Linda Kreitzer (now teaches in Social Work at the University of Calgary) who confronted me in a seminar with the question of Freire and Foucault’s relation to the topic; and, at the University of Alberta, the dissertations of Josée Johnston and Joan Reynolds forced me, respectively, to think about the issues of alternative “development” and Foucault as an “enlightenment” theorist.

RAYMOND A. MORROW

Rosenberg 2000a; Semali and Kincheloe 1999b). Its intellectual origins are similar to those of postdevelopment theory, though the focus shifts from development to education. Consequently there is often a certain overlap between the two positions. But instead of rejecting development altogether, this approach advocates a pedagogical strategy and alternative model of development that are oriented toward a dialogue within which Western and indigenous knowledge are accepted as equals, as variant forms of local knowledge with differential access to power. From this perspective the appreciation of indigenous knowledge is viewed as the basis of a new conception of transformative education with implications for redirecting development away from Western models.

A third approach, which has multiple sources, will be labeled “emancipatory postfoundationalism” (Morrow and Torres 2002). Though there is no specific approach to indigenous and local knowledge that currently labels itself in these terms, it will be argued that Freire is the pioneer of such a strategy. Contemporary sources are used to sketch aspects of an approach to indigenous knowledge that might flesh out and qualify Freire’s early contributions, as well as ground a critique of the preceding two perspectives. The outcome draws upon postempiricist theories of science and more nuanced critiques of Eurocentrism to develop a more pragmatic framework for understanding education and development that proposes a much more modest role for indigenous knowledge than proposed by the first two approaches. From this perspective, modern science and technology – understood in constructivist, post-Kuhnian terms – remains the necessary authoritative reference point for debates about knowledge and development. In short, rather than still being tied to a monolithic Cartesian-Newtonian epistemological perspective, academic disciplines have increasingly developed a more plural, inclusive, and contextual understanding of knowledge, one that creates the basis for the kind of authentic dialogue with indigenous knowledge envisioned by Freire. In this context the notion of cultural hybridity provides a framework for rethinking the implications of conscientization for marginalized populations.

#### FREIRE ON LOCAL KNOWLEDGE, POPULAR CULTURE AND DEVELOPMENT

One of the founding principles of Freirean pedagogy is to treat the learner – no matter how illiterate or marginal – with respect. This respect implies a kind of personal or human equality, though it does not require formal equality of knowledge. The application of these principles in the context of indigenous knowledge was first elaborated in a publication appearing in Chile in 1969, and later translated into English as “Extension or Communication” (Freire 1973: 93-164). As is sometimes noted in the indigenous knowledge literature, his “seminal” work in the 1970s sensitized agricultural researchers to the need for a dialogical relation with local knowledge (Titilola and Marsden 1995: 503).

Beginning with a semantic analysis of the concept of “extension” as used in agricultural assistance, Freire concludes that it is grounded on treating the “subjects” of transmission as “objects”:

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

...the act of extension, in whatever sector it takes place, means that those carrying it out need to go to 'another part of the world' to 'normalize it', ...the term extension has a significant relation to transmission, handing over, giving, messianism, mechanical transfer, cultural invasion, manipulation, etc. all these terms imply actions which transform people into 'things' ... They negate the true action and reflection which are the objects of these actions (Freire 1973: 95)

This formulation presents several themes that have been subsequently popularized in the indigenous knowledge literature: the colonizing aspects of going elsewhere (even if within a region of the same country); the dangers of the process of "normalization" (subsequently a focal point of Foucault's influence); the relation of manipulation and cultural invasion that transforms people into passive objects. To anticipate the latter discussion of the more recent indigenous knowledge literature, however, it is necessary to emphasize some of the distinctive implications of these observations.

First, Freire does not deny that outside or "Western" agricultural experts have some forms of knowledge of potential value: "I do not, however, wish to deny the agronomist working in this field the right to be an educator-educatee, with the educatee-educator peasants" (Ibid.: 96). What he rejects is that this pedagogical relationship be conceived on the model of "propaganda" to be imposed on "blank pages": "In their role as educators, they must refuse to 'domesticate' people. Their task is communication, not extension" (Ibid.: 97).

Second, Freire addresses this relation in terms of its implications as an epistemological ("gnosiological") problematic. A key assumption is that the knowledge of experts and their peasants clients is historically conditioned and uncertain, a circumstance that creates the imperative of more learning and discovery. In other words, he rejects any uncritical defenses of "indigenous knowledge," just as he criticizes extensionists who make unreflexive claims about the absolute authority of their knowledge. Freire uses the example of magical practices to illustrate this possibility. More specifically, he views a "oneness" with nature, characteristic of traditional cultures and now prized by radical ecologists, as an obstacle to full humanization:

Only people are capable of this act of 'separation' in order to find their place in the world and enter in a critical way into their own reality... However, the more we observe the behavior patterns and the thought-habits of peasants, the more we can conclude that in certain areas (to a greater or lesser degree) they come so close to the natural world that they feel more part of this world than transformers of the world... A mistaken apprehension of what links one fact to another, induces likewise an erroneous understanding of the facts. This, in its turn, is associated with magical action (105-6).

Whereas postdevelopment and multicultural critics focus on the conditioning of Western knowledge, Freire equally stresses that "the knowledge of the peasants...is equally conditioned" as part of a cultural totality (Freire 1973: 108).

RAYMOND A. MORROW

In other words, a critique of indigenous knowledge is as important as a critique of Eurocentrism.

A third significant aspect of Freire's formulation is that there is an inevitable asymmetry between Western and indigenous knowledges. Though this should not take the form of a hierarchy that condones the kind of symbolic violence characteristic of colonialism, it remains a hierarchical ordering in the sense that modern academic knowledge systems should ultimately arbitrate the rules and procedures for knowledge claims, whether they are codified in relatively translocal (universal) or relative local (contextual) terms. Whereas an authentic dialogue was indeed impossible on the terms set by the older Cartesian-Newtonian worldview, it is now possible – at least in principle – from the perspective of postempiricist (postfoundationalist) theories of science and technology.

In this respect there is a parallel between Freire's conception of the pedagogical authority relation between educator-educatee in the classroom and that between Western and peripheral knowledge systems. His model presupposes a form of equality based on mutual respect, but this does not extend to one of formal equality with regard the empirical status of all knowledges. In the case of agricultural change or health, for example, there remains the assumption that the cumulative research traditions of "Western" science and technology provide a degree of provisional authority in many areas (e.g. AIDS). Moreover, the ultimate foundation of that authority is not the potentially fallible content of that knowledge, but its claim to be based on strategies of experimentation and validation that attempt – at least in principle – to avoid subordinating knowledge claims to politics, power or religious authority. But that authority needs to be self-critical in accepting the possibility of learning from indigenous knowledge, of creating a relationship of mutual learning.

Freire's later experience in Africa sheds some new perspectives on this basic position. In particular, he was confronted with the realization that his literacy training method could not be transplanted as a means of providing literacy through a foreign language - as a second language, as was attempted in Portuguese colonies in Africa (Freire 1983). Nevertheless, he does not abandon his basic position regarding the importance of negotiating a relation between modern science and local knowledge. As he reiterates, the classic model of modern science as enlightenment is flawed. This desire to help is

strongly imbued with the authoritarian ideology which overestimates scientific knowledge and advanced technology, and under-rates popular wisdom. According to this authoritarian ideology, this ideology of 'whiteness, it is the center that knows, while the 'periphery' never knows. It is the center that decides, while the decisions made by others (Freire and Faundez 1989: 88)

It is importance to stress, however, that this reference to a white, authoritarian ideology is directed primarily toward the cultural context, the mind-set of the particular agents applying knowledge. In other words, he is not reductively dismissing the findings and methodologies of Western science as "white". Nor is he making any strong claims about the self-sufficiency or adequacy of "popular

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

wisdom”. Indeed, he specifically does go on to note that “Amilcar Cabral used to speak of the need to overcome what he called ‘the negative elements in culture’” (Ibid.: 89). Moreover, given the effects of colonization it becomes extremely difficult to separate out the traditional and colonial origins of local knowledge, with its positive and negative aspects. Consequently, he agrees with Faundez’s suggestions regarding creating textbooks for popular biology. The first step is to evaluate such local knowledge to establish its value as “empirical knowledge” and “complement it with scientific knowledge” (Ibid.: 133). In short, local and Western empirical knowledge are not held to be incommensurate; nor is there any allusion to “alternative ways of knowing” in this domain to be accepted on faith.

## POSTDEVELOPMENT THEORY: INCOMMENSURABILITY AND AMBIVALENCE TOWARD MODERNITY

Postdevelopment theory is based not only on a critique of past and present discourse on development, especially modernization theory and Marxism, but on a rejection of the very project of development. Accordingly, there is no attempt to propose a coherent alternative (Nederveen Pieterse 1998). In this context is it not necessary to delve into the diverse threads of the origins of this perspective: versions of ecofeminism and radical ecology, postcolonial critiques of Eurocentric knowledge, the Heideggerian critique of technology, and Illich’s pioneering critiques of the development project (Illich and Rahnema 1997). Primary sources of the approach include The Post-Development Reader edited by Majid Rahnema (Rahnema 1997), some of writings of the anthropologist Arturo Escobar (Escobar 1995a; Escobar 1995b), some forms of ecofeminism and radical ecology (Mies and Shiva 1993; Sachs 1992), and some critiques of development education (Bowers 1983; McGovern 1999).

A trenchant summary by Meera Nanda captures, however, the spirit of this diffuse approach as a rejection of development as a Western conspiracy:

The theorists of post-development have supplemented, and in some cases superseded, the problem of economic inequality between and within countries with the problem of cultural inauthenticity... Cure for this problem cannot be found within the conventional paradigms of development (capitalist or collectivist), all of which assume the intent to develop. A satisfactory solution requires, the critics of inauthenticity claim, that we ‘liberate the imaginary’ from the universal design of a homogenized ‘Western’ modernity. Then, and only then, can other, nonwestern and anti-capitalist ways of achieving a good society emerge (Escobar 1995) (Nanda 1999: 5)

In a brief presentation appropriate for the present context, three key features of postdevelopment approaches are notable:

- A reductionist account of European scientific imperialism that is often accompanied by problematic claims about the revival of alternative, traditional scientific systems, including a “people’s science” (Prakash

RAYMOND A. MORROW

1999; Sardar 1999). From this perspective the revival and recovery of indigenous knowledge is viewed as part of revolutionary, anti-colonial intellectual reassertion of the periphery on traditional grounds.

- A contention that the incommensurability of modern (inauthentic) and indigenous knowledge precludes meaningful dialogue: “the spread of Western episteme — Western ideas of science, technology, and a modern consciousness of needs and rights — is held responsible for the decline of local knowledges and destruction of local cultures (Sachs 1992)... extreme post-developmentalists... recommend ‘delinking’ from the “imperialism of conceptual categories” of the core (read Western sciences) in favor of self-reliant local knowledges” (Nanda 1999: 5-6).
- A selective focus on the negative aspects of development and a romantic defense of traditional ways of life. Paradoxically, this position may often play into the hands of traditional elites, e.g., in agrarian populism in India (Nanda 1999). Moreover, this approach has a tendency to nostalgically refer back to educational models based on traditional authority and defensive responses to modernity, all in the name of indigenous traditions (McGovern 1999).

Needless to say, this alternative overall perspective – if not aspects of the critique of classical development discourse – is quite at odds with Freire’s approach to development and indigenous knowledge. Indeed, his strategy of intervention has been labeled as an example of “cultural invasion” from this perspective (Bowers 1983).<sup>2</sup> Postdevelopment theory has been noted here in passing primarily to illustrate some of disturbing implications of this particular approach, one that is often described as postmodern and poststructuralist. Nevertheless, this is just one possible interpretation of the implications of postmodern critiques of knowledge. Moreover, in abdicating the very project of development altogether, such strategies do not have the effect of letting the “people” decide for themselves; rather they play into the hands of the market processes unleashed by neoliberal globalization. Obviously, Freire is not “postmodern” in the form proposed in postdevelopment theory.

#### MULTICULTURAL SUBJUGATED KNOWLEDGE THEORY: INDIGENOUS KNOWLEDGE AS EPISTEMOLOGICAL THERAPY

More interesting as a potential expression of the implications of Freire’s pedagogy are approaches that can be termed multicultural theories of subjugated knowledge that draw upon rather different tendencies in postmodern and poststructuralist theorizing. Key representatives of this perspective include the collection What is Indigenous Knowledge? edited by Ladi Semali and Joe Kincheloe (Semali and Kincheloe 1999b) and Indigenous Knowledge in Global Contexts edited by George Dei and his associates (Dei, Hall, and Rosenberg 2000a). In contrast to postdevelopment theories, some room is granted for dialogue and development

<sup>2</sup> But see the response to Bowers (Roberts 2000: 119-136).

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

alternatives. The following critical discussion will focus on the more ambitious claims of the first collection, though most of the comments would apply to the second anthology, which is also based on a stereotypical conception of Western science and rationality and embraces indigenous knowledges as the solution to the sins of the white, patriarchal, West.<sup>3</sup>

In his preface to Semali and Kincheloe's collection, Donaldo Macedo – a well-known exponent of Freire – is quite enthusiastic about their project:

The brilliance of this edited book lies on the author's understanding that a global comprehension of indigenous knowledge cannot be achieved through the reductionistic binarism of Western versus indigenous knowledge." (Macedo 1999: xi-xii).

In softening the binarism previously described in the context of postdevelopment theory, Semali and Kincheloe's approach certainly has a number of advantages that bring it closer to Freire. Moreover, broadening the reference to forms of indigenous knowledge found within regions and urban areas in advanced societies provides important insights into the diverse forms of local knowledge. Nevertheless, both of these gains are accompanied by various new problems evident in the following central themes:<sup>4</sup>

- Though the binarism between "Western" and "indigenous" knowledge is softened and the basis for significant commensurability and dialogue is acknowledged, the argument still remains within the framework of a reductionist critique of Eurocentrism's "white science" based on Foucault's conception of subjugated knowledge.
- Since the valorization of indigenous knowledge is based in on a critique of essentialism, this strategy rejects any fixing of a stable indigenous identity, but remains wary of notions of hybrid identity.
- The pedagogical implications are taken to be the need for a transformation of "Western" knowledge, by incorporating indigenous knowledge into the Western curriculum as part of a "synergistic" dialogue.

---

<sup>3</sup> Despite ostensibly rejecting romanticism, the authors affirm the following: "The theoretical conceptions of 'indigenous knowledges' that the authors in this book bring to the current discussion problematize the idea that unlimited human and material progress is possible through science, technology, and competition... Interest in indigenous knowledges is growing quickly, as manifested in recent academic and cultural projects... Of more direct relevance to our current work is Shiva (1989)...who argues that throughout the world a new questioning is growing, rooted in the experiences of those from whom the spread of the Enlightenment has been the spread of darkness, of the extinction of life and life-enhancing processes. There is an expanding awareness that those things which are presently called 'progress' are merely, in fact, the special projects of modern Western patriarchy." (Dei, Hall, and Rosenberg 2000b: 8-10)

<sup>4</sup> Not all of the papers in this volume are guilty of the more extreme claims of the editors; for example, several of the papers are simply good examples of applying Freirean principles, e.g. (George 1999; Knijnik 1999). Two others, on the other hand, actually take postdevelopment positions (Prakash 1999; Reynar 1999).

RAYMOND A. MORROW

A REDUCTIONIST CRITIQUE OF EUROCENTRISM: ABUSING FOUCAULT

Despite certain qualifications and denials, Semali and Kincheloe present a “strong” version of the Eurocentric thesis that is sweeping and indiscriminating in its claims. The basis of this argument is the assumption of the epistemological equality of various approaches to science: “Thus, this Western modernist way of producing knowledge and constructing reality is one of a multitude of local ways of knowing – it is a local knowledge system that denies its locality, seeking to produce not local but translocal knowledge. Such knowledge is true regardless of context and is the product of the process known as Cartesian reductionism” (Ibid.: 28). This European (white, patriarchal, heterosexual) science was then deployed as a source of legitimation and instrument for scientific colonialism. The underlying purpose of this use of multicultural science studies, however, is to argue that “Western epistemological tyranny decrees that the reality constructed by Cartesian-Newtonian ways of seeing is the only reality worth discussing in academic settings” (ibid.: 31). To be sure, anthropologists do study “ethno-science,” but this is treated as “other” and remains within the imperial frame. In other words, scientific imperialism continues today within the academy:

While operating at a far more subtle and sanitized manner in the late twentieth century, this epistemological tyranny still operates in the academy to undermine efforts to include other ways of knowing and knowledge production in the curriculum... The use of the term, subjugated knowledge, asserts the centrality of power in any study of indigenous knowledge and any effort to include it in the academy... one constant emerges: all indigenous knowledge is subjugated by Western science and its episteme (its rules for determining truth)” (Semali and Kincheloe 1999a: 31-3)

It is symptomatic that the authors do not even find it necessary to mention the name of Michel Foucault (or cite him) here, even as they use his terminology.<sup>5</sup> Within the context in which such authors are writing, the “authority” of Foucault – or rather, a particular interpretation of Foucault – is such that his concepts can be applied dogmatically without raising further questions. As careful Foucault scholarship has concluded, however, despite his efforts to “problematize” the construction of Western knowledge, he did not draw such rash conclusions, especially about academic disciplines (Gutting 1994; Hacking 1995).

---

<sup>5</sup> Even more tellingly, Semali and Kincheloe associate the subjugated knowledge thesis with Gramsci: “This historical dynamic is extremely important in the context of subjugated knowledge. Antonio Gramsci (1988) noted that philosophy cannot be understood apart from the history of philosophy...Subjugated knowledge by its very existence proves to us that there are alternative to knowledge produced within the boundaries of Western science” (Semali and Kincheloe 1999a: 37). The problem with this interpretation is that Gramsci’s historicism did not extend to a disqualification of Western science and technology (he idealized Fordist production techniques) and he saw one of the tasks of education was to overcome the superstition of traditional thought. One may disagree with Gramsci here, but to collapse his view into the multiculturalist account of Foucault is simply false.



## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

It is also important to recall that Foucault's formulations about subjugated knowledge were initially formulated in relation to cultural conflicts within the West. Foucault's strategy involved touching on those rather exceptional instances of either local "other" knowledges (e.g., the insane, delinquents, alternative sexualities) or erudite scholarly traditions where the subjugation of marginal knowledges did involve suppression of "truths" that were invisible for the dominant, early modern forms of science (Foucault 1980: 81ff). The "subjugated knowledges" in question, in other words, were themselves suppressed sides of modernity, not pre-modern traditions. Foucault cannot, therefore, be intelligibly read as a defender of earlier traditions of alchemy, witchcraft, or feudal agriculture as great repositories of suppressed knowledge and wisdom. Yet this is precisely the implication of the approach of theorists such as Semali and Kincheloe, whose implicit reference to Foucault fails to address a number of fundamental questions, e.g., how the success of the West was a result not only of its power, but the effectiveness of its knowledge in its distinctive form described by Max Weber as "occidental" reason; that this tradition had a self-critical methodology that eventually made the critique of the Newtonian-Cartesian worldview possible; and how the mere fact of subjugation confers no automatic assumption of adequacy and validity.

Foucault can be used to justify such interpretations of his subjugated knowledge argument with great difficulty. Moreover, his general thesis that "power is productive" cautions against any automatic presumption that the exercise of powers of regulation within scientific communities is necessarily tyrannical or "bad" – whether in undermining the knowledge claims of the powerful, or when used to reject those with flawed applications for recognition. Unlike Foucault, multicultural theorists of subjugated knowledge speak of "epistemological tyranny" in order to make this equation of subjugation and the presumption of validity, though the cases are chosen or excluded selectively. For example, fundamentalist creationism could easily be viewed as subjugated knowledge, thus claiming to be a victim of epistemological tyranny.

## ANTI-ESSENTIALISM AND THE MISSING CRITICAL INDIGENOUS SUBJECT

At the same, however, Semali and Kincheloe do warn against essentializing indigenous knowledge. Freire and Faundez are cited as a reminder of the dangers of romanticization: "When advocates for indigenous peoples buy into such romanticization, they often attempt to censor 'alien' presences and restore the indigene to a pure precolonial status. Such a return is impossible, as all cultures (especially colonized ones) are perpetually in a state of change" (Semali and Kincheloe 1999a: 22). In stressing this point – shared with "postmodern" anthropology – they distance themselves from a central tendency in postdevelopment theory, one that rejects dialogue. Further, they reject the notion that there is a "fixed and stable indigenous identity," while simultaneously expressing considerable ambivalence about the alternative of an approach based on "cultural hybridity" (Semali and Kincheloe 1999a: 23-4).

RAYMOND A. MORROW

Yet several kinds of problems are evident in such efforts to avoid romantic essentialism, promote dialogue and define indigenous identity in fluid terms. First, with such elastic, anti-essentialist definitions, there is great difficulty in identifying “authentic” indigenous knowledge: “we use our counter-essentialist understandings to argue that there is no unitary indigenous curriculum to be factually delivered to students in various locations” (Semali and Kincheloe 1999a: 24). Who and how is decide how to construct such a curriculum under these circumstances?

Second, they avoid altogether the question of the difficulty of assessing indigenous validity claims, a problem exacerbated by the absence of any attempt at differentiating or classifying the various types of local knowledge. A religious belief, an attitude toward nature, and a technique for planting corn represent very different forms of knowing. In the domain of technical knowledge, ethnoscientists assume that valid indigenous knowledge can in principle be explained within the categories of Western science, even though sometimes this may be difficult in the short run (Heyd 1995).

Third, in rejecting the notion of a stable indigenous identity and avoiding the possibility of cultural hybridity, such theories provide no guidance for actually characterizing concrete indigenous subjects. Despite sweeping generalizations about transforming American education, it is not clear who these indigenous subjects might be aside from the more isolated native Indian groups. A promising line of inquiry can be found in studies of cultural hybridity, but this strategy is not pursued. Why this ambivalence? Taking cultural hybridity into account would necessarily require calling into question the inescapable latent essentialism of any effort to validate the “indigenous” in such global and uncritical terms. Moreover, it would require asking what pertinence does their account have for the hybridized ethnic and black minorities that do not constitute “indigenous” groups in the strict sense? In short, opening up the category of indigenous knowledge to embrace virtually any marginalized group perspective creates problems with respect to the identification of forms of “authentic” indigenous knowledge.

#### INDIGENOUS KNOWLEDGE AS EPISTEMOLOGICAL THERAPY

Significantly, Semali and Kincheloe have very little to say about the implications of their approach for alternative development strategies, other than express great optimism about the potentials for reviving indigenous knowledge. Their primary objective is rather recuperating indigenous knowledge to challenge the impositions of Western Eurocentric knowledge: “In this context Western students come to understand that their ways of seeing the world are but one of a plethora of cultural perspectives. The simple act of recognizing the existence of indigenous knowledge in an educational setting undermines Western’ science’s pretensions to universality... This in itself is a profoundly transformative act” (Semali and Kincheloe 1999a: 47).

Moreover, they and others (Dei, Hall, and Rosenberg 2000a) assert that indigenous knowledges from around the world need to become central to the curriculum because they will have a major impact: “Only now at the end of the twentieth century are European peoples beginning to appreciate the value of indigenous

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

knowledge about health, medicine, agriculture, philosophy, ecology, and education” (Semali and Kincheloe 1999a: 38). Despite the occasional “finds” that have led to awareness of biopiracy, some medical contributions (e.g. acupuncture), or the borrowing of indigenous ecological themes in radical ecology, there is little evidence that indigenous knowledge is or will have a major impact on the knowledge systems of the “North”. And even when it may appear to do so, as in the case of the ad-driven mainstreaming of homeopathic and herbal remedies, or various cultic religious and “new age” movements, this has little to do with either authentic indigenous knowledge or knowledges with verifiable effects or enduring benefits. Greater selective exposure to aspects of indigenous cultures would indeed likely be of value for creating greater tolerance, as long suggested by proponents of intercultural education in anthropology, religious studies, etc., but this more modest goal falls far short of the grandiose claims made by the multicultural theorists of subjugated knowledge.

### EMANCIPATORY POSTFOUNDATIONALISM: A FREIREAN ALTERNATIVE?

Those who have been most responsible for the revival of interest in and attention to indigenous and local knowledge have been engaged in anthropological fieldwork and participatory agricultural research. This predominantly anthropological literature is primarily concerned with forms of knowledge associated with the biological and natural sciences: “human and animal health, agriculture and food production, natural resources management and fisheries” (Slikkerveer 1995: 513). The study of such knowledge systems has been pioneered by anthropologists and the emergent field of “ethnobiology” or “ethnoecology” (Stepp, Wyndham, and Zarger 2002; Toledo 2002) and has had an increasing impact in Latin America (Pichón, Uquillas, and Frechione 1999). Not surprisingly, some of the leading representatives of this pioneering research have been perplexed by the suspicions about their work in the context of postdevelopment and subjugated knowledge theory:

First of all, the rejection of collaborative ethnobiological research sets in opposition indigenous and ‘scientific’ ways of knowing, with scholarship judged inherently exploitative and thus morally suspect. This view is informed by postmodernist notions of knowledge as power and of truth as hegemonic narrative. At the logical extreme, this view asserts that to seek to understand other people can be no more than to see to control and manipulate them. It is ultimately a paranoid and sociopathic vision of human society (Hunn 2002: 5)

This defensive position reflects the fact that those in the position of doing empirical research on indigenous knowledge have not had the time or theoretical skills to elaborate the full implications of their work. But as will be argued here, what can be called emancipatory postfoundationalism, taking its point of departure from the work of Freire, can provide the kind of alternative justification necessary for

RAYMOND A. MORROW

shifting the context of debate in directions more consistent with the actual practice and experience of those in the field.

The notion of emancipatory foundationalism stems from the insights generated from a comparative analysis of Freire and Habermas in the context of transformative educational theory (Morrow and Torres 2002: 168). This strategy seeks to side step the rather confusing and multi-leveled debates that surround the modernism-postmodernism distinction. Emancipatory postfoundationalism rejects the classic modernist scientific project as flawed, but does point to various counter-modernist tendencies that were always part of Western thought. Consequently, there no need to argue for a complete epistemological discontinuity as argued by some on the basis of the modern-postmodern divide. Or even where an argument for discontinuity is made, it acknowledges that such a paradigm shift, oriented toward a “new common sense,” draws upon sensibilities originating in the West’s own self-critique (Santos 1995).

From this perspective, moreover, there is no basis for assuming that there is a fundamental incommensurability between Western and indigenous knowledge in the narrower sense relating natural science and technology given (a) the more inclusive and open boundaries of contemporary postempiricist (post-Kuhnian) theories of knowledge and science; and (b) the imperative of indigenous knowledge to become self-reflexive and engage in dialogue with other scientific traditions. This approach is thus postfoundationalist in the epistemological sense of rejecting any understanding of the relative superiority of Western science on the basis of some unified, reconstructed model of universal science. Science is understood in more historical and sociological terms as a complex set of institutions and practices, of interlinked communities of academic knowledges constantly in flux as part of a long process of historical change that has become a “postmodern adventure” (Best and Kellner 2001; Burke 2000).

Further, this approach is emancipatory in the sense that it is grounded in a developmental model of the human subject that has, to use Freire’s term, an “ontological vocation” to overcome obstacles to “humanization”. Or, to use the terminology of Habermas, this perspective gives normative priority to the realization of the diverse possibilities, the developmental potentials, revealed by a critical social psychology (Morrow and Torres 2002: ch. 2,5). Such an approach is acutely aware of the failures of modernization theory (and its sibling, neoliberal globalization theory), Marxism and dependency theory (Leys 1996), even though dependency itself needs to be rethought as a dimension of globalization (Castells and Laserna 1994). Moreover, to use the terminology of Habermas’s critical theory, such failures can be traced in part to the “selective” and “one-sided” applications of technology that did not incorporate adequately social rationalization at the level of the lifeworld (Ray 1993). Despite the limitations of “development” defined as GNP, this does not preclude developing multiple indicators of the material and social conditions of “human development”, goals that can be achieved through diverse strategies (United Nations Development Programme (UNDP) 2000). What is also required, moreover, are new forms of social theory that can address the problem of collective creativity (Domingues 1995; Domingues 2000).

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

The priority given to individual freedom and autonomy from this emancipatory perspective is not understood in terms of a narrow conception of the possessive (male) individual found in much liberal thought. Rather, the focus is on the capacity of individuals to engage in forms of mutual recognition through which solidarity can be reconciled with the struggle for individual self-realization (Honneth 1996). The importance of this emancipatory focus in the present context is that it rejects the tendency of both postdevelopment theories and multicultural theories of subjugated knowledge to rather uncritically embrace indigenous models of subjectivity as equally acceptable or even superior alternatives, even though they may embody repressive and authoritarian processes of subject formation. Abandoning an emancipatory standpoint, on the supposed grounds that it represents a culturally biased and local “Western” perspective, has especially grave consequences for the status of women (Benhabib 1995).

Another way of situating such an emancipatory postfoundationalism would be an alternative reading of the implications of the kinds of questions posed by Sandra Harding in her *Is Science Multicultural?* (Harding 1998). In surveying post-Kuhnian accounts of science, as well as feminist theory and postcolonial science studies, she provides a carefully argued case for an account of knowledge and science in terms of a multiplicity of local standpoints. This perspective argues for the dysfunctionality of universal knowledge and truth claims. It is beyond the scope of this paper to directly engaged her complex and subtle arguments here, except to note that the educational theorists of subjugated knowledge claim to be inspired by her conception of “borderlands epistemology” (Semali and Kincheloe 1999a: 52-3). Serious doubts can be raised, however, whether their dogmatic and simplistic application of a multicultural theory of knowledge in educational theory does full justice to many of the questions posed by Harding.

In any case, the task at hand is not so much to justify and detail an alternative reading of constructivist theories of science, as opposed to illustrating some of the key differences of interpretation. Above all, an emancipatory postfoundationalism resists a reductionist and simplistic interpretation of Foucault’s subjugated knowledge thesis that is often used to frame such discussions. Though it argues for the necessity of a critique of Western science and the dominant discourses of development (Crush 1995), as well as for a partial de-colonization and selective indigenization of knowledge, these are understood in terms that are often quite distinct from the multicultural subjugated knowledge approach. The present preliminary formulation can only attempt to give a basic idea of this approach and its relation to Freire’s overall strategy. Some of the key alternative arguments include the following:

- “Western” or scientific rationality – now understood more inclusively and pluralistically in post-Kuhnian, constructivist terms - continues to play a strategic role for marginalized groups in need of universalistic challenges to oppression based on traditional authority and magical practices.<sup>6</sup>

---

<sup>6</sup> See, for example, the insightful account of the Deweyan influenced resistance movement of the pariah caste in India that used modern science as the basis of a critique of Hinduism (Nanda 2001).

RAYMOND A. MORROW

- Decolonization and indigenization need to be understood as processes involving a critical hermeneutics – necessitating an intercultural public sphere - that attempts to mediate between the translocal and the particular problems of the local.
- The focus on the politics of knowledge should not be allowed to distract from urgent problems relating to abject poverty and excessive inequality and the increasingly urban and global forms of crisis.
- As part of a contingently universal normative framework, it is argued that knowledge should facilitate the development of critical, autonomous, hybrid subjects sensitive to difference, the imperatives of mutual recognition, and the need for human solidarity.

#### POSTFOUNDATIONALIST CRITIQUES OF WESTERN RATIONALITY

The point of departure of an emancipatory postfoundationalism is that the “hegemonic” position of the Western model of critique and the sciences is not merely the result of colonial imposition. In contrast, defenders of multicultural epistemologies argue, “when knowledge plurality mutated into knowledge hierarchy, the horizontal order of diverse but equally valid systems was concerted into a vertical ordering of unequal systems” (Shiva 2000: vii). Rejecting the notion of “equally valid systems” preserves a form of knowledge hierarchy, but not an authoritarian one of the type plausibly linked with classic scientism, e.g. Cartesian-Newtonian epistemologies. Within the emerging hierarchy of networks of scientific knowledges as understood in postempiricist theories of science, new contenders for validation (e.g. forms of indigenous knowledge) may potentially gain recognition. Within this more pluralistic conception of knowledge, diverse claims to knowledge can be negotiated and adjudicated in relation to weak universalistic claims and local contexts of application (Longino 2002). Those who keep insisting that these are merely “Western” criteria necessarily invoke vague claims to “alternative ways of knowing” to defend the local from criticism.

#### DECOLONIZATION AND INDIGENIZATION: CRITICAL HERMENEUTICS AND INTERCULTURAL PUBLIC SPHERES

Another way of describing the strategy of an emancipatory postfoundationalism is in terms of the insistence that indigenous knowledge subject themselves to the same kind of constructivist critiques that have transformed the self-understanding of Western knowledge systems. Otherwise decolonization and indigenization become transformed into xenophobic processes of purification that restore “local” traditions of dubious authenticity or validity, often at the cost of other local individuals or groups, while providing legitimation to the potentially authoritarian elites that can gain credit for such a transformation.

Constructive strategies of decolonization and indigenization presuppose the formation of something like an “intercultural public sphere” within which such more particularistic claims can be adjudicated persuasively in relation to universal procedural criteria of evidence and participation. Such issues have been apparent,

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

for example, in legal contexts involving self-government among North American natives where “collective” or indigenous rights conflict with those of individuals. As has been argued in response to such dilemmas on the basis of the approach of Habermas and others, “a universalistic orientation to cultural pluralism is crucial to a just democratic theory, since it can demonstrate how tribal sovereignty can facilitate fair and critical communication among Native and non-Native communities” (James 1999).

Similar principles could be applied to problems relating to the negotiation of relations between traditional and modern knowledge. Such a model of self-governance would require a forum for dialogue within which the relative merits of different modes of knowing would not be determined a priori, in favor of either the “new” or the “old” ways. Instead, both would be required to confront the forces of the reasons and evidence as interpreted from diverse, representative points of view. Such a strategy would provide a more theoretically elaborated basis for the kinds of dialogical approach anticipated in Freire’s early critique of agricultural extension education.

## INEQUALITY, GLOBALIZATION AND KNOWLEDGE

Paradoxically, one of the arguments invoked against the appropriation of Western science and technology and development strategies generally is that they merely reinforce the power of existing elites. Though this is particularly true for neoliberal globalization, this effect can be partly avoided in projects involving participatory action and appropriate or intermediate technologies. Furthermore, there is little basis for assuming that simply reproducing the existing local systems of production, indigenizing educational curricula, or facilitating “people’s science” will not also reinforce existing class relations in rural areas (Nanda 1999). Critiques of inequality depend crucially on processes of empowerment for which “modern” educational systems are a necessary, though not a sufficient aspect.

Furthermore, attempts to legitimate the transformative effects of indigenous knowledge derive from an excessively rural focus. Whatever limited merits the re-appropriation and partial validation of indigenous knowledge systems may have in rural areas based on high levels of agricultural self-sufficiency, such strategies become of marginal significance in the context of the urban crises of the Third and Fourth Worlds. Given this demographic context, any comprehensive reliance on traditional productive techniques and cultural adaptations is unsustainable. Economic growth in the appropriate, more sustainable forms and income redistribution remain indispensable ingredients of any development process that is to be coupled with “human” development. Abandoning these issues in the name of indigenous knowledge and resistance against Western scientific imperialism is extremely problematic.

RAYMOND A. MORROW

#### THE HYBRID SUBJECT OF TRANSFORMATIVE CRITIQUE

The facts of massive urbanization and globalization also provide reminders of the increasingly hybrid character of individuals with “indigenous” origins in the various possible senses. The resistance of theorists of subjugated knowledge to the notion of hybrid subjects needs to be regarded with suspicion as a symptom for deeper problems. This resistance stems from the assumption that indigenous knowledge as local knowledge is embedded in a total way of life. Consequently, it is feared that any effort to engage in piecemeal reform or adoptions of externally induced “development” strategies will undermine that way of life and the efficacy of these “other ways of knowing”. This is not a new argument, of course, because it originates from a traditionalist resistance to change that can now be dressed up in the theoretical legitimacy of “postmodern” critiques of development. This defensive response disregards, however, the possibility that hybrid subjects may be able in practice to develop complex bi-cultural strategies of adaptation that allow them to creatively respond to the pressures of globalization and the formation of new identities (García Canclini 1990). In this respect, Freire’s account of the “peasant” as a social subject needs to be updated in relation to recent work on the transformation peasant identities in the context of globalization (Kearney 1996). The Zapatista movement in Mexico can also be viewed as exemplifying many Freirean principles (Johnston 2000). Nevertheless, such contemporary approaches are consistent with Freire’s emphasis on how conscientization should have at its goal critical subjects capable of assessing the multiple realities that impinge on their practical and political engagements of the world. It is also broadly compatible the Foucault’s later ethics of the self, which seeks to problematize but not reject the Kantian (and Freirean) question of “enlightenment,” of “whether we will ever reach mature adulthood” (Foucault 1997: 318). But the formation of such competences is seriously inhibited by any exclusive focus on forms of education designed to reproduce some putatively subjugated “traditional way of life”, or “alternative ways of knowing,” strategies that must necessarily suppress some modes of thinking as dangerously “modern” or “Western”. Hence Foucault, in defending an experimental attitude, regards with suspicion “all projects that claim to be global or radical” in avoiding putting themselves to “the test of reality”: “ In fact, we know from experience that the claim to escape from the system of contemporary reality so as to produce the overall programs of another society, of another way of thinking, another culture, another vision of the world, has led only to the return to the most dangerous traditions” (Foucault 1997: 316).

#### CONCLUSION

It has been argued that the first approach discussed – postdevelopment theory - is quite alien to Freire’s approach to education and development, a point reinforced by the virtual lack of reference to his work. Not surprisingly, one symptomatic source of postdevelopment theory is the pioneering work of Ivan Illich’s critique of technology (Morrow and Torres 1990). Illich and Freire briefly crossed paths in the late 1960s and initially expressed admiration for each other’s projects. To the surprise of many, they parted ways very early on for reasons that were never fully



## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

clarified, but now can be retrospectively understood in relation to subsequent developments. Illich's call for "de-schooling" was imbedded in a radical critique of technology and rationalization and aversion to modernity that ultimately could not be reconciled with the Freirean vision of emancipatory education. Recently remarking on his disillusionment, Illich acknowledges having to "learn the lessons of our powerlessness in order truly to renounce development" (Illich and Rahnema 1997: 108). Similar differences from Freire are evident in the influence of the Gandhian tradition on the postdevelopment approach, especially its focus on local self-sufficiency, rejection of modern technology, and a conception of education that reinforces local traditionalism (Zachariah 1986)

The second approach, on the other hand, draws extensively on Freire's concept of dialogue and cites his contribution to giving respect for popular culture and knowledge. While there are certain a number of affinities, it was argued that on certain key epistemological, educational, and political issues, Freire's thinking is clearly incompatible with what are here referred to as multicultural accounts of subjugated knowledge. While the present critique acknowledges that the decolonization and indigenization of knowledge are strategically important tasks, it has also tried to provide some warnings and cautions. Paradoxically, if all definitions of knowledge can be reduced to power, indigenous knowledges have no hope in the power/knowledge regime of neoliberal globalization. The only glimmer of hope lies in having more powerful reasons that can both sway emotions and change minds.

Finally, in a more constructive vein, it has been suggested that the anticipations of Freire's approach can best be appreciated in the context of his greater affinities with emancipatory postfoundationalism, an epistemological and theoretical strategy that remains compatible with such disparate literatures as ethnoscientific research in anthropology, participatory agricultural research, the Gramscian critique of common sense, the critique of science, technology and communication found in the later Frankfurt tradition (e.g. Habermas), some readings of Foucault, and some versions of postfoundationalist science studies.

In constructing this debate, an effort has been made to construct a dialogue in the name of Freire's ghost, or at least, the spirit of one of his voices – the Gramscian historicist one that always insisted that popular knowledge could become powerful only through becoming self-critical and engaging itself with appropriating the previous cultural and scientific achievements of humanity. That may have begun as a local project, and it certainly continues to be plagued by these Eurocentric origins, but it may be the first knowledge system to potentially achieve a degree of contingent universality through the articulation of its constructionist self-critique (Bourdieu 2000).

## REFERENCES

- Benhabib, Seyla (1995). Feminism and postmodernism. In: *Feminist contentions: A philosophical exchange*, edited by S. Benhabib, et al. New York and London: Routledge.
- Best, Steven and Douglas Kellner (2001). *The postmodern adventure: Science, technology, and cultural studies in the third millennium*. New York and London: Guildford Press.

RAYMOND A. MORROW

- Bourdieu, Pierre (2000). *Pascalian meditations*. Translated by R. Nice. Stanford, CA: Stanford University Press.
- Bowers, C. A. (1983). Linguistic roots of cultural invasion in Paulo Freire's pedagogy. *Teachers College Record*, 84:935-953.
- Burke, Peter (2000). *A social history of knowledge: From Gutenberg to Diderot*. Cambridge: Polity Press.
- Castells, Manuel and Roberto Laserna (1994). The new dependency: Technological change and socioeconomic restructuring in Latin America. In: *Comparative national development: Society and economy in the new global order*, edited by A. D. Kincaid and A. Portes. Chapel Hill and London: University of North Carolina Press.
- Crush, Jonathan (Ed.) (1995). *Power of development*. London and New York: Routledge.
- Dei, George Jerry Sefa, Budd L. Hall, and Dorothy Goldin Rosenberg (Eds.) (2000a). *Indigenous knowledges in global contexts : Multiple readings of our world*. Toronto: OISE and University of Toronto Press.
- Dei, George J. Sefa, Budd L. Hall, and Dorothy Rosenberg (2000b). Foreword: Cultural diversity and the politics of knowledge. In: *Indigenous knowledges in global contexts : Multiple readings of our world*, edited by G. J. S. Dei, B. L. Hall, and D. G. Rosenberg. Toronto: OISE and University of Toronto Press.
- Domingues, José Mauricio (1995). *Sociological theory and collective subjectivity*. Houndmills, Basingstoke, Hampshire and New York: Macmillan Press/St. Martin's Press.
- (2000). Social creativity, collective subjectivity and contemporary modernity. London and New York: Macmillan/St. Martin's Press.
- Escobar, Arturo (1995a). *Encountering development: The making and unmaking of the third world*. Princeton, NJ: Princeton University Press.
- (1995b). Imagining a post-development era. In: *Power of development*, edited by J. Crush. London and New York: Routledge.
- Foucault, Michel (1980). *Power/knowledge: Selected interviews and other writings 1972-1977*. New York: Pantheon.
- (1997). *Essential works of Foucault 1954-1983, Volume 1: Ethics, subjectivity, and truth*, Edited by P. Rabinow. New York: New Press.
- Freire, Paulo (1973). *Education for critical consciousness*. Translated by M. B. Ramos. New York: Seabury.
- (1983). *Pedagogy in process: The letters to Guinea-Bissau*. Translated by C. S. J. Hunter. New York: Continuum.
- Freire, Paulo and Antonio Faundez (1989). *Learning to question: A pedagogy of liberation*. New York: Continuum.
- García Canclini, Néstor (1990). *Culturas híbridas: Estrategias para entrar y salir de la modernidad*. México, D.F.: Grijalbo.
- George, June M. (1999). Indigenous knowledge as a component of the school curriculum. In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- Gutting, Gary (1994). *The Cambridge companion to Foucault*. New York: Cambridge University Press.
- Hacking, Ian (1995). *Rewriting the soul: Multiple personality and the sciences of memory*. Princeton, N.J.: Princeton University Press.
- Harding, Sandra (1998). *Is science multicultural? Postcolonialism, feminisms, and epistemologies*. Bloomington and Indianapolis, IN: Indiana University Press.
- Heyd, Thomas (1995). Indigenous knowledge, emancipation and alienation. *Knowledge and Policy*, 8, pp.63-73.
- Honneth, Axel (1996). The struggle for recognition: The moral grammar of social conflicts. Translated by J. Anderson. Cambridge, MA: MIT Press.
- Hunn, E. S. (2002). Traditional environmental knowledge: Alienable or inalienable intellectual property. In: *Ethnobiology and biocultural diversity: Proceedings of the Seventh International Congress of Ethnobiology*, edited by J. R. Stepp, F. S. Wyndham, and R. K. Zarger. Athens, GA: International Society of Ethnobiology/University of Georgia Press.

## INDIGENOUS KNOWLEDGE AND EUROCENTRIC CRITIQUES OF DEVELOPMENT

- Illich, Ivan and Majid Rahnema (1997). Twenty-six years later. In *The Post-development reader*, edited by M. Rahnema. London and New Jersey: Zed Books.
- James, Michael Rabinder (1999). *Tribal sovereignty and the intercultural public sphere. Philosophy and Social Criticism*, 25, pp.57-86.
- Johnston, Josée (2000). Pedagogical guerrillas, armed democrats, and revolutionary counterpublics: Examining paradox in the Zapatista uprising in Chiapas Mexico. *Theory and Society*, 29, pp. 463-505.
- Kearney, Michael (1996). *Reconceptualizing the peasantry: Anthropology in global perspective*. Boulder, CO: Westview Press.
- Knijnik, Gelsa. 1999. Indigenous knowledge and ethnomathematics: Approach in the Brazilian landless people education. In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- Leys, Colin (1996). *The rise and fall of development theory*. Bloomington: Indiana University Press.
- Longino, Helen E. (2002). *The fate of knowledge*. Princeton, NJ: Princeton University Press.
- Macedo, Donald (1999). Preface: Decolonizing indigenous knowledge. In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- McGovern, Seana (1999). *Education, modern development, and indigenous knowledge : An analysis of academic knowledge production*. New York: Garland Pub.
- Mies, Maria and Vandana Shiva (1993). *Ecofeminism*. London: Zed Books.
- Morrow, Raymond A. and Carlos Alberto Torres (1990). Ivan Illich and the de-schooling thesis twenty years after. *New Education*, 12, pp.3-17.
- (2002). *Reading Freire and Habermas: Critical pedagogy and transformative change*. New York: Teacher's College Press, Columbia University.
- Nanda, Meera (1999). Who needs post-development?: Discourses of difference, green revolution and agrarian populism in India. *Journal of Development Studies*, 15, pp.5-31.
- (2001). A 'broken people' defend science: Reconstructing the Deweyan Buddha of India's Dalits. *Social Epistemology*, 15, pp. 335-365.
- Nederveen Pieterse, Jan. (1998). My paradigm or yours? Alternative development, post-development, reflexive development. *Development and Change*, 29, pp.343-373.
- Pichón, Francisco J., Jorge E. Uquillas, and John Frechione (1999). *Traditional and modern natural resource management in Latin America*. Pittsburgh, Pa.: University of Pittsburgh Press.
- Prakash, Madhu Suri (1999). Indigenous knowledge systems - Ecological literacy through initiation into people's science. In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- Rahnema, Majid (Ed.) (1997). *The post-development reader*. London: Zed Books.
- Ray, Larry J. (1993). *Rethinking critical theory: Emancipation in the age of global social movements*. London and Newbury Park, CA: Sage.
- Reynar, Rodney (1999). Indigenous people's knowledge and education: A tool for development? In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- Roberts, Peter (2000). *Education, literacy and humanization: Exploring the world of Paulo Freire*. Westport, CN: Bergin & Garvey.
- Sachs, Wolfgang (Ed.) (1992). *The development dictionary: A guide to knowledge as power*. London and New Jersey: Zed Books.
- Santos, Boaventura de Sousa (1995). *Toward a new common sense: Law, science and politics in the paradigmatic transition*. New York and London: Routledge.
- Sardar, Ziauddin (1999). Development and the locations of Eurocentrism. In: *Critical development theory : Contributions to a new paradigm*, edited by R. Munck and D. O'Hearn. London and New York: Zed Books.
- Semali, Ladislaus and Joe L. Kincheloe (1999a). Introduction: What is indigenous knowledge and why should we study it? In: *What is indigenous knowledge?*, edited by L. Semali and J. L. Kincheloe. New York: Falmer Press.
- (1999b). *What is indigenous knowledge? : Voices from the Academy*. New York: Falmer Press.

RAYMOND A. MORROW

- Shiva, Vandana (2000). Foreword: Cultural diversity and the politics of knowledge. In: *Indigenous knowledges in global contexts : Multiple readings of our world*, edited by G. J. S. Dei, B. L. Hall, and D. G. Rosenberg. Toronto: OISE and University of Toronto Press.
- Slikkerveer, L. Jan. 1995. INDAKS: A Bibliography and Database on Indigenous Agricultural Knowledge Systems and Sustainable Development in the Tropics. Pp. 512-516 in *The Cultural Dimension of Development : Indigenous Knowledge Systems*, edited by D. M. Warren, L. J. Slikkerveer, D. Brokensha, and W. H. J. C. Dechering. London: Intermediate Technology Publications.
- Stepp, John R., Felice S. Wyndham, and Rebecca K. Zarger (Eds.) (2002). *Ethnobiology and biocultural diversity: Proceedings of the Seventh International Congress of Ethnobiology*. Athens, GA: International Society of Ethnobiology/University of Georgia Press.
- Titilola, S. Oguntunji and David Marsden (1995). Indigenous knowledge as reflected in agriculture and rural development. In: *The cultural dimension of development : Indigenous knowledge systems*, edited by D. M. Warren, L. J. Slikkerveer, D. Brokensha, and W. H. J. C. Dechering. London: Intermediate Technology Publications.
- Toledo, V. M. (2002). Ethnoecology: A conceptual framework for the study of indigenous knowledge of nature. In: *Ethnobiology and biocultural diversity: Proceedings of the Seventh International Congress of Ethnobiology*, edited by J. R. Stepp, F. S. Wyndham, and R. K. Zarger. Athens, GA: International Society of Ethnobiology/University of Georgia Press.
- United Nations Development Programme (UNDP) (2000). *Human development report 2000*. New York and Oxford: Oxford University Press.
- Zachariah, Mathai. 1986. *Revolution Through Reform: A Comparison of Sarvodaya and Conscientization*. New York: Praeger.