



# Canadian Journal of COMMUNICATION

<a href="#">ABOUT</a>	<a href="#">LOGIN</a>	<a href="#">CURRENT</a>	<a href="#">BACK ISSUES</a>
<a href="#">ANNOUNCEMENTS</a>	<a href="#">SUBSCRIPTIONS</a>	<a href="#">BOOKS FOR REVIEW</a>	<a href="#">THESES</a>

[Home](#) > [Vol 19, No 2 \(1994\)](#) > [Howard](#)

## The Confrontation of Modern and Traditional Knowledge Systems in Development

Pat Howard (Simon Fraser University)

*Abstract:* The development project in both capitalist and socialist contexts has augmented the power of technocrats while invalidating alternative knowledge systems rooted in the traditions of local communities, thereby disenfranchising them. Recreating space for the autonomy of such communities requires cross-cultural communication in a collaborative effort to examine the limitations of the reductionist sciences and how they have shaped the development effort. Alternative ways of knowing and ways of sharing knowledge so as to reinforce core community values need to be explored. The paper concludes with a brief description of such an effort between First Nations in British Columbia and minority nations in Yunnan, China.

*Résumé:* Les projets de développement promus autant par capitalistes que socialistes ont augmenté le pouvoir de technocrates tout en rabaisant des systèmes de connaissances alternatives fondés sur les traditions de communautés locales, démunissant ainsi ces dernières. Pour redonner de l'autonomie à de telles communautés, il faut communiquer entre cultures et collaborer, afin d'examiner les limites des sciences réductionnistes et leur impact sur les projets de développement. Il est nécessaire aussi d'explorer les connaissances alternatives et en arriver à un partage de ces connaissances dans le but de renforcer des valeurs communautaires fondamentales. L'article conclut avec une brève description d'un effort de collaboration entre les peuples autochtones de la Colombie-Britannique et des nations minoritaires de Yunnan, Chine.

### DEVELOPMENT AS SOCIAL ENGINEERING

#### JOURNAL CONTENT

Search

Search Scope  
All

#### ARTICLE TOOLS



[PRINT THIS ARTICLE](#)



[INDEXING METADATA](#)



[HOW TO CITE ITEM](#)



Email this article (Login required)



Email the author (Login required)

#### ANNOUNCEMENTS

- [CFP: SENIORS AND TECHNOLOGIES | ISSUES OF INCLUSION AND EXCLUSION](#)
- [FREE SUBSCRIPTIONS TO NEW CANADIAN](#)

In the 1960s the modernization paradigm of development was roundly condemned for its Eurocentric bias, its notion of linear stages of growth, and its positivist reduction of the study of development to measuring and comparing indices of economic growth. Statistics on Gross National Product (GNP) per capita were subjected to particular scorn as a crude instrument unable to reveal the real quality of life and the gross inequities of distribution. Development professionals began to pay closer attention to a spectrum of basic needs--such as adequate nutrition, clothing, shelter, education, and health care--in assessing the impact of development programs and projects in response to critics who argued that development planning must be comprehensive and not piecemeal.

Some of the most scathing critiques of the modernization paradigm were inspired by the achievements of countries like Cuba and China, where governments seemed to be very bold in drafting comprehensive plans for the modernization of both agricultural and industrial production as well as impressive national schemes to provide universal access to adequate food, housing, education, and health care. Neo-Marxists such as Paul Baran (1957), Celso Furtado (1964), André Gunder Frank (1967), and Samir Amin (1974) developed a structuralist critique of the dialectical relation between development and underdevelopment based on an unexamined conviction that eliminating poverty required a thoroughgoing transformation of economic, social, and political structures. Although this critique was scathing in its attack on liberal efforts to revise the modernization paradigm by adding attention to basic needs, it in no way challenged the idea that development must be comprehensive. Many of these authors were deeply affected by what they viewed as the revolutionary and emancipatory process of transformation occurring in China. It was precisely the comprehensive character of the Cultural Revolution that was viewed as most encouraging. This was an all-out effort to revolutionize thinking, behaviour, and social relations in the factories, in the people's communes, in neighbourhoods and apartment buildings, in education from nursery school to university, in health care, and in popular culture. It seemed that no sphere of life was exempt. The goal was to construct a proletarian revolutionary culture, a social context for the emergence of the "new socialist man."

Despite the ideological divide that separated them, there were important parallels between this goal and that of Daniel Lerner (1958) and other early modernizers and architects of the communication and development nexus. They too argued for a broad transformation of culture to facilitate the emergence of modernized peoples no longer fettered by traditional ways of thinking and relating to one another. They felt that only such a transformed population would be able to function efficiently within a modern context of industrialization, wage labour, commercial agriculture, and rationalized structures of authority in workplaces and government bureaucracies. A revolution in thinking would be required if the target population was finally to accept the superiority of scientific and secularized ways of managing their affairs.

Although China was often held up as an alternative model of development in the 1960s and early 1970s, in fact the dominant model and the Chinese model had one fundamental characteristic in common. They were both based on assumptions about an irrefutable need to replace traditional cultural values and practices and the knowledge systems that inform them with a singularly rational, scientific, unquestionably superior cognitive system. Despite the antagonism between these two approaches to development, they were in fundamental agreement about the necessity and legitimacy of a major social engineering crusade to transform traditional cultures to facilitate the ultimately inevitable transition to a new era.

Today both of these models of development have come under major criticism. The target of critiques

SCHOLARS

- NEW BOOKS FOR REVIEW AVAILABLE

USER

Username

Password

Remember me

NOT A USER? REGISTER WITH THIS SITE

SUBSCRIBE/UNSUBSCRIBE to email notifications.

SUBSCRIPTION

Login to verify subscription

FONT SIZE



has not been limited to mistakes of implementation. It includes the ways of conceptualizing the "problem" as well as the "solutions" tried. In China only a minority even talk about socialist transformation anymore. In the West not only has the dominant paradigm of development fallen into disrepute, particularly in the academy, but the very notion of development itself is under fire. This is not the case, however, in China, where such concepts as development (*fazhan*), modernization (*xiandaihua*), and even commodification (*xiangpinhua*) have not yet been recognized as problematic and are used without apology or qualification by party, government, and academic authorities.

In North America, Europe, and much of the Third World, doubts about development have been spawned by the overwhelming evidence of the failure of the project in too many countries where the dimensions and severity of suffering have been increasing exponentially due, among other things, to environmental degradation, loss of jobs, destruction of local product markets, government debt and subsequent elimination or shrinking of social programs and inability to respond to natural disasters. Not only has the development effort not produced prosperity, it has also failed to deliver the promised stability and reduction of social tensions. Class, gender, and ethnic conflict have been exacerbated and violence is of epidemic proportions in many countries. The dark side of development is coming to light not only in India, Afghanistan, Somalia, Russia, and Yugoslavia, but in Los Angeles, Paris, and London as well.

To better understand the causes that lie behind the development débâcle, it is necessary to appreciate the link between technocratic ideology and disenfranchisement. Tariq Banuri has analyzed the debate on the meaning of development as having the effect of "technocratizing the notion of progress, simplifying and quantifying it in such a fashion that anyone equipped with a handy and simple tool-kit could pronounce judgement on the desirability of a course of action or a set of policies for any group of people, whether or not the evaluator had any direct interest in their welfare" (Banuri, 1990, p. 96). To understand why the technical experts are able to get away with the imposition of their quick fixes, it is necessary to examine the knowledge system that is their stock in trade. The legitimacy of the authority of the technical experts is based on the assumption of the superiority of science as an objective, impersonal, rational, and universal knowledge system. Once this assumption has been accepted, it becomes the basis for the legitimacy of regulating all sorts of endeavours to ensure they are managed in the most efficient and effective manner that "science" can devise. This was the rationale, for example, used to justify Frederick Winslow Taylor's project to analyze and reorganize industrial work to enforce its execution in the "one best way" according to principles of scientific management. And just as the social engineering crusade of scientific management required delegitimizing workers' tacit "unscientific" knowledge and centralizing control of labour processes by concentrating responsibility for planning, management, and evaluation in the hands of scientific managers, so, too, the technocratizing of development has involved a massive delegitimizing of alternative knowledge systems rooted in the traditions of local communities and a disenfranchising of these communities.

These alternative knowledge systems include all sorts of subsistence production systems, knowledge regarding ecosystems and related logics of subsistence, traditional methods of healing and prophylaxis, traditional methods of socialization and education, methods for adjudicating disputes and the convictions and experience that inform them, traditional systems of self-government and communal decision making, and a myriad of languages and written and oral traditions, to name a few of the most obvious.

Many of these knowledge systems are not even recognized as knowledge but viewed as superstitious beliefs or irrational behaviour. This is especially true when embedded in ritual and myth as is the case with many traditional agricultural, forestry, birthing, healing, and prophylactic practices.

Numerous critiques of development projects have criticized the imposition of Western values and biases and the destruction of indigenous communities' means of subsistence, social relations, and cultural traditions. A recent long article by Wolfgang Sachs (1992a) has been widely quoted. The author states that if current processes of disintegration of indigenous cultures continues unabated, of 5,100 languages still spoken on earth today, not many more than 100 are likely to survive the next generation. Sachs points out that "with the demise of languages whole cultures are vanishing.... Entire conceptions of what it means to be human are evaporating in the heat of 'development' " (1992a, pp. 23-24). He goes on to observe that in the place of this cultural diversity "a global monoculture is spreading like an oil slick over the planet."

Sachs's "archaeology of the development idea" begins with a discussion of the social construction of the underdeveloped world. He begins by examining U.S. President Harry Truman's inaugural address on January 20, 1949, in which for the first time the diversity of nations outside the circle of the industrial powers is reduced to the simple notion of "underdeveloped areas." Sachs points out that it is clear from the text of Truman's speech before the U.S. Congress that from the very beginning "development meant nothing more than projecting the American model of society onto the rest of the world" for, in Truman's words, "the United States is pre-eminent among nations in the development of industrial and scientific techniques" (p. 5).

Despite the validity of Sachs's archaeology of the social construction of development and the underdeveloped world, it is inadequate to explain the disasters of development as the inevitable outcome of the interference of a self-interested development establishment. In fact, even the best intentioned non-governmental aid agencies, technical consultants, foreign teachers, and health professionals have unwittingly contributed to the destruction. To understand why, it is necessary to look deeper at development as a lived experience and to recognize it as a confrontation not only of cultural values, but of knowledge systems.

## REDUCTIONIST SCIENCE

Development typically involves an attempted transfer of Western scientific knowledge and technologies based on these scientific knowledge systems. The notion of technologies as value-neutral "tools for progress" and science as objective, disinterested knowledge has served to obscure the reasons for resistance to the introduction of these cultural artifacts of modernity and the people who deliver them. Peasants who refuse to use high-yield varieties of seeds, chemical fertilizers, or pesticides are not backward, conservative, and ignorant. Rather they are resisting a view of nature that is purely instrumental and too often downright irresponsible. They are holding on to a different view, a different way of knowing nature and using that knowledge to ensure a sustainable, mutually nurturing relationship between their community and Mother Earth. The work of Vandana Shiva, a physicist closely aligned with women's ecology movements in India, is particularly useful for its articulation of the interpenetration of ecological consciousness and spirituality among marginalized peoples in her country. Shiva argues that the development project has been inherently violent because of its fixation on uniformity, centralization, and control (1989, p. 14). She suggests that it is the scientific knowledge on which the development project is based that is the source of the violence. To explain the violence inherent to modern science, she reviews the work of feminist scholars on the history and contemporary practice of modern science.

Shiva reiterates Carolyn Merchant's pathbreaking work on the scientific revolution. Merchant (1980) documents the transition from an organic to a mechanical view of nature and its significance for the rise of capitalism. She points out that "one does not readily slay a mother, dig her entrails or mutilate her body" (Merchant, 1980, p. 193, quoted in Shiva, 1989, p. 17). The scientific revolution did not replace superstitious beliefs with incontrovertible scientific facts. It replaced one metaphorical view with another--with enormous ethical consequences:

The removal of animistic, organic assumptions about the cosmos constituted the death of nature--the most far-reaching effect of the scientific revolution. Because nature was now viewed as a system of dead, inert particles moved by external, rather than inherent forces, the mechanical framework itself could legitimate the manipulation of nature. Moreover, as a conceptual framework, the mechanical order had associated with it a framework of values based on power, fully compatible with the directions taken by commercial capitalism. (Merchant, 1980, p. 193, quoted in Shiva, 1989, p. 17)

The confrontation between knowledge systems in development should not be interpreted as simply a clash between Western and non-Western world-views. Each culture is constituted by many systems of knowledge. Some are unique to that culture; some are shared by several or many cultures; some are unique to particular groups within a larger culture. Women's ways of knowing in different cultures are an example of the latter.

There are a number of possible ways of trying to conceptualize the similarities and differences between knowledge systems. One can speak of dominant and non-dominant knowledge systems, articulated and tacit knowledge systems, theoretical and practical knowledge systems, universal and local or contextual knowledge systems, analytical and intuitive knowledge systems. Vandana Shiva uses a dichotomy between reductionist science and non-reductionist knowledge systems. She characterizes the epistemological tradition of the "scientific revolution" as "reductionist" because

it reduced the capacity of humans to know nature both by excluding other knowers and other ways of knowing, and it reduced the capacity of nature to creatively regenerate and renew itself by manipulating it as inert and fragmented matter. Reductionism has a set of distinctive characteristics which demarcates it from all other non-reductionist knowledge systems which it has subjugated and replaced. The basic ontological and epistemological assumptions of reductionism are based on homogeneity. It sees all systems as made up of the same basic constituents, discrete, unrelated and atomistic, and it assumes that all basic processes are mechanical. The mechanistic metaphors of reductionism have socially reconstituted nature and society. In contrast to the organic metaphors, in which concepts of order and power were based on interconnectedness and reciprocity, the metaphor of nature as a machine was based on the assumption of separability and manipulability.... The epistemological assumptions of reductionism are related to its ontological assumptions: uniformity allows the knowledge of parts of a system to be taken as knowledge of the whole. Separability allows context-free abstractions of knowledge and creates criteria of validity based on alienation and non-participation, then projected as "objectivity." "Experts" and "specialists" are thus projected as the only legitimate knowledge seekers and justifiers. (Shiva, 1989, p. 22)

## REDUCTIONIST ECONOMICS

The reductionism of modern science is not limited to the natural sciences or the hard applied sciences such as medicine, agronomy, or engineering. It is also reflected in the domination of economic reason in modern life and in social science discussions of underdevelopment and prescriptions for solutions. Furthermore, Western economics is a peculiar subset of possible ways of conceptualizing economic relations and practices that is being used to delegitimize and drive to extinction alternative approaches. Douglas Lummis in a discussion of how development is antidemocratic, opens his argument with the simple observation that development has never been open to the idea of further developing the diversity of approaches whereby different cultures have sustained their collective livelihood. "Rather, it means the elimination of most of those ways and their replacement by certain historically specific practices originating in Europe. Economic development means the development of *those* practices" (Lummis, 1991, p. 31).

The fact that the economic practices and relations that characterize the development models held up for emulation for the "underdeveloped" countries are political in character is hidden by the positivist, reductionist character of mainstream economics. The technical terminology of economics excludes the vocabulary of political analyses; concepts such as power, authority, rule, legitimacy, consent, rights, or responsibilities do not appear in this discourse. The political character of economic choices is obscured by the reduction of economic decisions to technical decisions. Examination of the desirability of different options is reduced to discussion of the technical feasibility of the choices available. Lummis analyzes how "iron-laws of economic development" were created by free-market economists, discovered by Marx, and enforced by Lenin's "bourgeois state without the bourgeoisie." Lummis shows how this turned people's attention away from political goals to economic goals. Even the transformation of relations of production, the revolution's central goal, was reduced to state ownership of the means of production while authoritarian workplace relations were exonerated as modern scientific management practices. Socialism was transformed into a means for achieving economic development. The achievements of Western science and technology were harnessed by the Soviet state for a massive development project: "the organizational reconstruction of the whole social economy, by a transition from individual disunited, petty commodity production to large-scale social production" according to Lenin writing in "Economics and Politics in the Era of the Dictatorship of the Proletariat" (quoted in Lummis, 1991, p. 39). Economic development remained an unproblematic concept, and thus the only version of socialism that could hope to compete with the productive power of industrial capitalism was state socialism.

Lummis observes that "development ideology redefines the classical political demands: freedom becomes the free market; equality becomes equality of opportunity; security becomes job security; consent becomes `consumer sovereignty'; and the pursuit of happiness becomes a life-time of shopping" (1991, p. 34). This perspective is now predominant in the nations of the former Soviet Union and Eastern Europe and growing in influence in China as well. Economic development, reduced to modernization and industrialization, can be viewed as a means for achieving a democratic life only by drastically reducing the meaning of fundamental political aspirations.

## THE DEVELOPMENT METAPHOR AND THE COLONIZATION OF CONSCIOUSNESS

Like Wolfgang Sachs, Lummis views as a watershed Truman's inaugural speech in which he introduced the concept of underdevelopment. Lummis points out that it was only after this speech that the concept of development as a remedy for underdevelopment entered the social sciences as a technical term. It was this policy initiative introduced by Truman that created the incentive, in the

form of research grants and opportunities for publication, to develop entirely new fields of social science devoted to the study of development. The development paradigm constructed by social scientists provided the ideological cover for what Lummis describes as "the most massive systematic project of human exploitation, and the most massive assault on culture and nature that history has ever known" (1991, p. 45). The amazing thing to contemplate is not the enormity of the destruction of biological and cultural diversity wrought in the name of development, but the ideological impact of scientizing the project. The myth of the neutrality of scientific knowledge and the rationality of economic reasoning in particular disarmed the victims of progress by inculcating a conviction that their own ways of knowing and economic, political, and socio-cultural practices based on these alternative knowledge systems were backward and in need of modernization. Most deeply affected were students and exchange scholars brought to the West to study modern science and technology, who would return to play the role of modernizing élites.<sup>10</sup>

Lummis argues that there are essential parallel constructions underlying both the capitalist and non-capitalist paths of development. He views Truman's development theory as "a kind of liberal historical materialism, with the same mixture of voluntarism and inevitability, the same notion of duty without responsibility" (1991, p. 46). This observation is quite provocative. For example, Walt Rostow's (1960) stages of growth is premised on a notion of a certain structure of social change that is inevitable, a sort of law of historical development comparable to Stalin's typology of the progressive development of modes of production. And like the lesson drawn by Marxist-Leninists, the lesson drawn from this observation is not to sit back and watch as history unfolds but rather that those who have understood how history must unfold have a duty to lead the way in destroying that which is moribund and obstructing the emergence of the new society that also must be consciously constructed. The notion of development in the English language contains within it this assumption of the unfolding of something that was predestined to happen. It fits well with the teleological assumptions of both the capitalist and the Marxist-Leninist notions of history and progress.

Both the capitalist and the Marxist-Leninist ideologies of development have had the effect of colonizing the consciousness of marginalized peoples. It is only within the logics of "scientific Marxism" and Western scientific rationalism that economic development becomes an end in itself, subordinating all other spheres of life to its logic. It is only within the logics of these two ideologies of development that the diversity of cultural meanings, convictions, and practices of targeted peoples can be reduced to a single description, "underdeveloped" or "backward" or "pre-modern." Lummis quotes Gustavo Esteva who describes the destructive impact of the development metaphor:

Our culturally imposed limitation of economic ends has been constantly disqualified; it was seen as apathy, conformism and, especially as a serious "obstacle to development," characteristic of a "pre-modern mentality." We ourselves came to see it like this.... The development metaphor, teaching people to see themselves as obstacles to development, promotes a colonization of consciousness of the deepest sort and is profoundly antidemocratic: it takes away from the hands of people the possibility of defining their own ways of social life. (Esteva, 1985a, quoted in Lummis, 1991, p. 49)<sup>11</sup>

When I first read this quotation it brought to mind a story that I have been told a number of times in China with only slight variations. According to the story, when a villager in one of the ethnic minorities living in a remote area wants to take a chicken to market, he hides it under his jacket as he slips out of the village. Why? Because he is embarrassed to have his neighbours see him selling the chicken instead of sharing it. Each time I was told this story, it was to illustrate the "lack of

commodity consciousness among the minorities," which, I was assured, is "a major obstacle to the development of these backward peoples." In reality the story problematizes traditional sociality, community solidarity, mutuality, and reciprocity--which are in contradiction with possessive individualism, euphemistically called "commodity consciousness" (*shangpin yishi*) in contemporary Chinese discourse on development. What this view does is instrumentalize culture, subordinating it to economic ends.

Recent Chinese efforts to develop a whole range of commodity markets (including not only markets for consumer products and producer goods but also labour markets, money markets, real estate markets, land-use contract markets, intellectual property markets, and even stock and bond markets) have elicited considerable comment inside and outside the country. It does appear to be a considerable departure from the "lopping off of capitalist tails" that characterized one political movement after another under Mao Zedong's leadership. Nevertheless, the present leadership can turn to Lenin to legitimate their current development strategy. For it was Lenin who first argued that development of the national economy requires development of commodity relations and elimination of non-commodified modes of production and distribution.

Frederique Apffel Marglin, in presenting a feminist critique of the repression she sees as inherent in both capitalist and non-capitalist development, describes Lenin's argument.

One of the earliest uses of the word "development" was in Lenin's 1899 book, *The Development of Capitalism in Russia: The Process of the Formation of a Home Market for Large-Scale Industry*. In this book Lenin writes a blueprint for transforming the process of industrialization that took place in capitalist Western Europe into a planned project. Even though the evils of capitalism, following Marx, are warned against, the progressive side of the industrialization process is emphasized. This process in Lenin's view is progressive because it separates industry from agriculture by transforming farmers into industrial proletarians working in factories. It takes them from under the control of the traditions of agrarian society and places them under the control of industrial organization. It changes the nature of production by making production a direct, unilinear goal and by organizing all other activities around it. It changes the nature of consumption by destroying the logic of subsistence for any production and, instead, making people dependent on commodity consumption. The subtitle of Lenin's book itself is indicative of such thinking on his part. (Marglin, 1991, p. 10)

The commodification of all resources and elimination of subsistence production is a worldwide characteristic of development strategy. Vandana Shiva's *Staying Alive* describes the development of the market economy as based on an antagonistic relation with nature's economy and the survival economies of marginalized peoples. She argues that the resource-and energy-intensive production processes of not only modern factories but of industrialized agriculture, forestry, and livestock production destroy nature's own economy, in other words, the sustainable processes of regeneration of healthy ecosystems. Knowledge of these ecosystems and ingenious systems for simultaneously harvesting and nurturing them are the basis of the common wealth of the "original affluent societies."<sup>12</sup>

Arjun Appadurai (1990) examines the impact of commodification of agriculture in a village in Western India and concludes that it threatens the very foundations of community solidarity, the web of collective identity and reciprocity that he calls "sociality." He describes how co-operation in the use



of wells is transformed from a manifestation of a fundamental communal value into a necessary evil tolerated only because individual private ownership is unaffordable. A culture of co-operation is instrumentalized when co-operation as a value is transformed into co-operation as a strategy. This observation has important ramifications for those of us who have tended to favour a co-operative strategy of development.

Appadurai examines the simultaneous impact of what might be described as the scientization of agriculture on the village's sociality. He documents how the introduction of the discourse of modern agronomy gradually divorced agriculture from agrarian relations.

More specifically, at the normative heart of the new discourse is a conception of the farmer as a technologically sophisticated, credit-seeking, market-oriented person, whose goals are (in the current commercial sense), to maximize output, profit, and income.... [T]he general thrust of the new commercializing ideology...aspires to create a farmer who is free of complex local ties. This is a farmer who responds to centrifugal pulls, largely commercial ones, which draw him away from the social demands of village life. (Appadurai, 1990, p. 212)

## ON LABELLING TRADITIONAL BELIEFS AND PRACTICES "UNSCIENTIFIC"

At this point I want to clarify that I am not a cultural relativist unwilling or unable to acknowledge the existence of traditional values, beliefs, or practices that ought to be eliminated. However, when such a critique is called for, it matters very much how it is framed. Stephen Marglin also raises the question of whether in defending traditional knowledge systems, one can be justifiably accused of promoting superstition, religious obscurantism, or even barbarism. He asks, "Do we really intend to defend the ritual immolation of widows on the funeral pyres of their husbands? Or foot-binding? Or female circumcision? Would we go so far as to defend the ritual sacrifice of virgins to forestall the anger of the gods?" (Marglin, 1990b, p. 12).

Marglin replies that, first, we must situate particular cultural beliefs and practices within the larger context of the overall cultural whole in which they are embedded. He suggests that, abstracted from consideration of the larger context, in and of itself, the ritual sacrifice of virgins is no more barbaric than the sacrifice of young men on the battlefield by modern societies. Marglin hastens to add, however, that examination of a particular belief or practice within its larger context ought not to be used as a pretext for an indiscriminate attack on an entire culture as "backward" or inferior. This has been a problem, for example, of some discussions of female circumcision in Africa.

Marglin then raises the question as to whether we cannot at least assert the superiority of practices based on beliefs that are verifiable over those based on superstition. His answer is quite interesting. He points out that this common-sense evaluative criterion would logically require evaluating female circumcision more sympathetically if it were embedded in a consciously calculated system by which men controlled female sexuality than if it were based, for example, on a belief that uncircumcised women will bear inferior offspring. But later he points out how the potency of beliefs actually undermines the distinction between practices based on verifiable beliefs as opposed to superstitions. He states that the "unscientific" superstition "may be as well-grounded empirically as any proposition of Western science: if parents, uncles, aunts, grandparents--not to mention the larger society--believe that the offspring of uncircumcised women are inferior, these unfortunate children may be reared in just the fashion that confirms their inferiority" (Marglin, 1990b, p. 14).

Marglin also reminds readers that the power of beliefs is not limited to traditional societies. He uses the example of the social construction of reality by investors in capitalist society, in particular the way investors' beliefs mediate between profit and investment:

In the Keynesian view, the key to prosperity is the "animal spirits" (his phrase) of the capitalist class. If businessmen are optimistic and believe profits will be high, they will invest in new plant and equipment to take advantage of the high level of profits. In this case, production and employment will be high, and growth will be rapid. In a word: prosperity. Moreover, the level of profits will reflect the general prosperity, confirming capitalists' expectations and at the same time providing for the high level of investment which is the basis of successful economic performance. A virtuous circle is closed. By contrast, pessimistic animal spirits lead to low profit expectations, low investment, low production and employment, and slow growth. The low profits that result from general economic misery once again confirm capitalists' expectations and at the same time are in line with the needs of investment. The circle, now a vicious one, is once again closed. (Marglin, 1990b, p. 14)

Thus Marglin argues that in capitalist society, no less than in traditional societies, there is a reality that is socially constructed in which belief creates its own truth in the form of self-fulfilling prophecies. However, Marglin also states clearly that not all reality is socially constructed. He distinguishes between propositions whose truth depends on the beliefs of human beings and propositions whose truth is independent of human beliefs. Here he is cautioning that the sphere of the latter is much smaller than many who would dismiss traditional beliefs as unverifiable (and therefore unscientific and indefensible) would have us believe.

However, there is another reason why I would caution against labeling traditional beliefs and practices "unscientific." Traditional beliefs and practices are embedded in traditional knowledge systems that are directly challenged by such a critique. One can talk about how a particular practice is dangerous or unjust without calling into question the entire tradition of which it is a part. To suggest, however, that the essence of the problem is epistemological, that the way of knowing itself is "unscientific," is to pose a much more profound challenge with potentially far-reaching consequences. It is quite simply to assert that the one and only true source of knowledge is the dominant system of knowledge. This system has yielded power but certainly not peace, security, or happiness in those societies in which it has systematically invalidated alternative ways of knowing one after another.

## SCIENCE AND ETHNOSCIENCE

We need to study the logic and efficacy of traditional practices and beliefs, especially those that are typically labelled "backward." The dominant paradigm of development has been properly condemned for its chauvinist assumptions that less industrialized societies represent earlier stages of human social development. By the same token, no existing knowledge system can be legitimately viewed as "backward," as an archaic relic of humanity's past. Our discomfort with ways of viewing other living things as fellow creatures with rights and needs of equivalent value to our own reflects our own loss of certain cognitive capacities. It has nothing to do with a supposed superiority of our understanding of what exists.

Recent works on the history, sociology, and philosophy of science deconstruct the mythology of the

"objectivity" of the modern sciences by revealing how a community of scientists' shared commitment to presupposed metaphors and paradigms determines the status of observations and accepted facts. At the same time, there is a growing awareness that traditional peoples do in fact have knowledge about properties of the natural world that are important and valuable. This awareness is behind the efforts of pharmaceutical companies to make contact with traditional healers in the rainforests of the world to learn about the healing properties of medicinal plants, their collection or cultivation and preparation. It is also behind the efforts of the major seed companies and genetic engineers to learn about traditional cultivated varieties from indigenous farming populations around the world. The realization that traditional beliefs and practices are not confined to the supernatural has led to the emergence of a new concept for such knowledge. It is called "ethnoscience" because it is seen as essentially rational and rooted in a process of empirical research and scientific testing over many generations. It is "*ethnoscience*" because it is context-specific inasmuch as it is expressed in the everyday languages of the people who developed the knowledge and is shaped by their particular lifeways and cognitive maps. However, as we gain a deeper understanding of the problematic character of the scientific revolution and its European Enlightenment context, the "ethnic" roots and particularity of the knowledge system that lays claim to universality calls into question the logic of this particular way of distinguishing between modern science and ethnoscience.

The role of monopoly corporations in extracting indigenous knowledge for profit has come under fire from anthropologists and activist support organizations. What has not been so closely scrutinized is the work of applied natural and social scientists trying to harness traditional knowledge to promote development. Much research into farming systems has involved careful study of the logic and efficacy of traditional beliefs and agrarian practices. Much of this research has been collaborative and some of it has been participatory as well.<sup>13</sup> Many of the individuals involved in this research are agronomists, soil scientists, or experts in resource and environmental management. They have been trained in Western scientific methods and must examine the reductionist biases of the dominant knowledge system that may affect their appraisal of non-dominant knowledge systems. In particular there is a widespread tendency to view traditional knowledge systems as somewhat inferior cognitive systems. There is a danger of an effort to scientize alternative knowledge systems in the sense of translating those elements deemed rational and effective into the terminology and rational framework of the relevant dominant science. This method of transforming alternative knowledge systems into "ethnosciences" does not lift such knowledge to a higher plane; it merely informs local knowers that their knowledge is of an inferior sort that can be improved by systematization and rationalization according to the logic of the superior "real" science.

At the same time, I think we should avoid constructing a binary opposition between modern and traditional knowledge systems. Much of the work that has already been done reveals that dialogue about different practices and their logics is not only feasible but highly desirable inasmuch as it can yield much new knowledge for practitioners from both worlds. The challenge is to create a context of mutual respect and genuine equality for this dialogue. This is not just a matter of changing attitudes. Ultimately it requires a transformation of the political economy of scientific research.

## PRESERVING SPACE FOR AUTONOMY

The issue is not to preserve traditional beliefs and practices fixed and frozen in time, no matter how fascinating or attractive to the modern urban scholar. The key concern is how to preserve a space for the relatively autonomous transformation of traditional cultures in such a way as to leave their

core self-defining values intact.<sup>14</sup> Traditions are social constructions. They must remain actively constructionist and dynamic or they will die. In October 1992, I had the good fortune to visit the Stein Valley in British Columbia, homeland of the Lytton Band of the Nlaka'pamux First Nation, together with research colleagues from Yunnan province in China. Band manager Eddie Gardner accompanied us on a short walk along the river into the valley. He took us to see the sacred "asking rock," a petroglyph overlooking the river. He described his own wedding ceremony, which had been held at the asking rock the previous autumn. The tribe's pipe carrier presided over the ceremony. The following is a rough transcript of his account taken from my fieldnotes.

The pipe carrier told us to collect pine boughs, dip them in the river, and then sprinkle the water on each other to cleanse ourselves of any ill feelings or contradictions. He asked us to close our eyes and think about the Stein River beginning to flow from its source in the glaciers and how it is nourished by all the little streams whose water is held in the soil by the roots of the ponderosa pine and the other trees. Then he asked us to think about two rivers coming together to become one powerful river able to ride over boulders and other obstacles. This, he said, was like our marriage. Then we spotted an eagle circling overhead. We were overjoyed by such a good omen. The pipe carrier told us to place the pine boughs in a special place. We went on our honeymoon in the Stein Valley. We placed the pine boughs between two beautiful birches covered with colourful fall leaves. We had to bring along a justice of the peace to make the ceremony legal, but he said that in his opinion the real power to consecrate our marriage lay with the pipe carrier. Ours was only the second wedding for many years. It was a really traditional marriage. But, in fact, we no longer know exactly how it was done in the past. We have to recreate such ceremonies in the spirit of our traditions as best we can from what we know and understand of our culture.

The people of the Nlaka'pamux Nation, like all the First Nations of Canada, are collectively waging a resistance struggle to carve out a space for the relatively autonomous transformation of their traditional culture in such a way as to leave their core self-defining values intact. This is the essence of their demand for recognition of their aboriginal right of self-government. Their fight for a land base is not only driven by their need for a collective means of subsistence. It is also intimately linked to their survival as a culture because of the way their link with particular geographic spaces defines their identities. The recent efforts to revive and actively construct traditions only reveals just how vital and dynamic these indigenous cultures remain, despite the systematic efforts of authorities representing the dominant culture to eliminate them through cultural assimilation.

For about two years a group of us in the Department of Communication at Simon Fraser University, together with colleagues from the Yunnan Academy of Social Sciences, have been involved in a collaboration that is meant to open up a space for relatively autonomous discussion, planning, and management of processes meant to foster both a revival and reconstruction of cultural traditions and a revitalization of the local economy in Lijiang County in Yunnan province in southwest China. This project presents many challenges and dilemmas for those of us who have pondered the issues raised in this paper. Our collaboration has been financed by a research grant from the International Development Research Centre (IDRC) for a feasibility study of the prospects for the revival of a co-operative movement that existed in the area in the 1940s.<sup>15</sup> Collaborative research conducted in the spring of 1992 focused on traditional forms of co-operation, existing co-operatives, the "Gungho" co-operative movement of the 1940s, the situation of women, education, forest management, alternative energy, tourism, and the prospects for the development of co-operatives to solve local

problems of environmental degradation, unemployment, inadequate incomes, and the heavy labour burdens of women.

In the fall of 1992 a second phase of research was conducted in British Columbia with the participation of nine research colleagues from Yunnan, of whom seven were from Lijiang, including village and county leaders. This collaborative research included investigation of the organization and management of credit unions and co-operatives as well as planning and management of economic projects and cultural issues in First Nations communities including the Nuu-chah-nulth, Gitsan and Wetsuetsen, Haida, Nlaka'pamux, and Shuswap Nations and the several First Nations of the Nicola Valley and their Nicola Valley Institute of Technology.

The visits to the First Nations communities were premised on an assumption that communication between the peoples of the "minority nations"<sup>16</sup> of Lijiang and the First Nations of Canada could be mutually beneficial inasmuch as there is much that is common in the challenges they face and certain of their cultural traditions as well.

Out of this research has emerged a plan for a co-operative network in Lijiang linked with co-operatives, credit unions, and First Nations communities in British Columbia. A mutual aid savings co-operative linked to village-level savings co-operatives is being established, and there are plans for a training centre for technical and co-op management education. A key idea that has emerged is to establish a co-operatively managed development research centre in a village close to the county capital in order to facilitate participatory research involving peasants and townspeople together with Chinese and international scholars from outside Lijiang.

There are many parallels between the problems and approaches being tried by First Nations communities in British Columbia and by the minority nations communities of Lijiang. Both groups are involved in efforts to develop community-based ecotourism and cultural tourism. In both locations there is a growing interest in studying ethnobotany and preserving local plants. Both groups are experimenting with bilingual education. Both groups are reviving traditional handicrafts and seeking to develop local and external markets for their products. In both locations the role of elders is viewed as essential in healing the wounds of development and helping communities to revive and reconstruct cultural traditions. In both areas local communities are dismayed by the results of a development mindset and practice that has reduced nature to natural resources to be exploited for profit and are searching for alternatives that will restore nature's regenerative vitality.

With this project we are trying to facilitate communication between communities and individuals in these two locations to enable them to form co-operative partnerships. There are plans for educational exchanges, joint ventures, and collaborative research. A key factor in all of this will be exploration of alternative ways of knowing and development of a capacity for sharing knowledge in such a way as to preserve and reinforce core community values. This will require a frank discussion of the limitations of the reductionist sciences and the technologies they have spawned. This paper represents a first effort to at least clarify some of the issues for myself. Much of the work that has been done on this subject to date is full of arcane jargon and written in a painfully convoluted manner that does not translate easily into the languages spoken by the people of Lijiang--or even into Mandarin Chinese, for that matter. We must learn to think about and communicate these issues more clearly. Otherwise, we will only be talking to ourselves and the damage and destruction being done in the name of development will continue.

## NOTES

1  
2  
3  
4  
5  
6  
7  
8  
9

Perhaps this helps to explain the fascination with Chinese methods of mobilization and communication among a rather conservative group of academics interested in communication and development and political culture and modernization. See, for example, Lucien Pye (1988, 1992); Godwin Chu (1976, 1977); and Godwin Chu & Francis Hsu (1979).

See Taylor (1911). For a brilliant analysis of Taylor's scientific management as a technocratic ideology based on the premise that mass production can usher in a conflict-free consumer society in which social control and class peace is mediated through the neutral expertise of a professional middle class, see Judith Merkle (1980).

An earlier version of this article with a useful bibliography attached appeared under the title, "On the Archaeology of the Development Idea"; see Sachs (1990). See also Sachs (1992b).

The notion of studying a discourse archaeologically comes from Foucault. In the *Lokayan* version of this article (Sachs, 1990), the author refers the reader to Arturo Escobar, (1984-85). Escobar explains what Foucault means by studying the systematic structures of a discourse archaeologically: "i.e. by identifying the different elements of which they are composed, the system of relations by which these elements form wholes." Foucault calls this process "writing the history of the present" in order to understand the historical conditions which shape our current conceptualizations (Escobar, p. 379).

The following are examples of such an endeavour: Shiva (1987, 1989, 1991); Nandy (1988); Mies (1986); Sen & Grown (1987); Guha (1989); Davis (1977); and Mander (1991).

For further discussion of the way Western science has been conceptualized as a knowledge system that removes cultural constraints on violence and exploitation, see Harding (1986) and Keller (1985).

These categorizations are borrowed from a typology proposed by Steve Marglin (1990a, p. 234). Marglin develops an overarching dichotomy between two types of knowledge systems he calls *episteme* and *techne*. In this scheme, Western science is an *episteme* while workers' tacit knowledge, women's ways of knowing, and localized traditional and indigenous knowledge systems are all viewed as *techne*.

Marglin also recognizes the reductionist nature of modern science as a knowledge system, though he does not use the term. Instead he contrasts the hierarchical external relations of *episteme* with the more pluralistic external relations of *techne*, which lays no claim to universality because it is context-specific inasmuch as it recognizes constraints of space, time, and purpose and therefore "does not inherently subordinate those outside a particular community of knowledge to those inside the community" (Marglin, 1990a, p. 235).

Alternative systems for conceptualizing economic relations and practices are explored in Gudeman (1986). The consequences of the imposition of reductionist economics on such an alternative economic system and the knowledge system upon which it was based are elaborated in Gudeman's earlier work. See Gudeman (1978).

10

This point is developed most profoundly by Nandy (1983).

11

Lummis is quoting Gustavo Esteva (1985a), whose paper was entitled "Cease Aid and Stop Development: An Answer to Hunger." See also Esteva (1985b).

12

The idea of the "original affluent society" is developed in Sahlins (1972).

13

The following are examples of analyses based on such research: Brokensha et al. (1980); Beauclerk (1988); Clay (1988); Poffenberger (1990); Stanley (1991); and Richards (1985, 1986).

14

See Esteva (1987) for elaboration of this idea.

15

For a more detailed account of this project, see Howard & Howard (1992).

16

The standard translation of the Chinese term *shaoshu minzu* is "national minorities," which I consider unfortunate. My literal translation, "minority nations" (in contrast to the standard translation), does not obscure what they have in common with other indigenous peoples. One important distinction, however, is the fact that the dominant ethnic group in China, the Hans (who make up 94% of the total population), are themselves an indigenous people.

REFERENCES

Amin, S. (1974). *Accumulation on a world scale: A critique of the theory of underdevelopment*. New York: Monthly Review Press.

Appadurai, A. (1990). Technology and the reproduction of values in rural Western India. In F. A. Marglin & S. A. Marglin (Eds.), *Dominating knowledge: Development, culture, and resistance* (pp. 185-216). Oxford: Clarendon Press.

Banuri, T. (1990). Modernization and its discontents: A cultural perspective on theories of development. In F. A. Marglin & S. A. Marglin (Eds.), *Dominating knowledge: Development, culture, and resistance* (pp. 73-101). Oxford: Clarendon Press.

Baran, P. (1957). *The political economy of growth*. New York: Monthly Review Press.

Beauclerk, J. (1988). *Indigenous peoples: A fieldguide for development*. Oxford: Oxfam.

Brokensha, D., Warren, D. M., & Werner, O. (Eds.). (1980). *Indigenous knowledge systems and development*. Washington, DC: University Press of America.

Chu, G. (1976). *Communication and development in China*. Honolulu: East-West Center.

Chu, G. (1977). *Radical change through communication in Mao's China*. Honolulu: University Press of Hawaii.

Chu, G., & Hsu, F. (Eds.). (1979). *Moving a mountain: Cultural change in China*. Honolulu: University Press of Hawaii.

Clay, J. (1988). *Indigenous peoples and tropical forests: Models of land use and management from*

*Latin America*. Cambridge, MA: Cultural Survival.

Davis, S. (1977). *Victims of the miracle: Development and the Indians of Brazil*. New York: Cambridge University Press.

Escobar, A. (1984-85, Winter). Discourse and power in development: Michel Foucault and the relevance of his work to the Third World. *Alternatives*, 10, 377-400.

Esteva, G. (1985a, August 6-9). *Cease aid and stop development: An answer to hunger*. Paper presented at the International Seminar on Food Self-Sufficiency, CESTEM-UNESCO.

Esteva, G. (1985b). Development: Myth, metaphor, menace. *Development: Seeds of Change*, 27(3), 78-79.

Esteva, G. (1987). Regenerating people's spaces. *Alternatives*, 12(1), 125-152.

Frank, A. G. (1967). *Capitalism and underdevelopment in Latin America*. New York: Monthly Review Press.

Furtado, C. (1964). *Development and underdevelopment*. Berkeley: University of California Press.

Gudeman, S. (1978). *The demise of a rural economy: From subsistence to capitalism in a Latin American village*. London: Routledge & Kegan Paul.

Gudeman, S. (1986). *Economics as culture: Models and metaphors of livelihood*. London: Routledge & Kegan Paul.

Guha, R. (1989). *The unquiet woods: Ecological change and peasant resistance in the Himalaya*. Berkeley: University of California Press.

Harding, S. (1986). *The science question in feminism*. Ithaca, NY: Cornell University Press.

Howard, R., & Howard, P. (1992). A collaborative feasibility study for a participatory development strategy among the hill tribes of Southwest China: The "Gung Ho" cooperative enterprises in Lijiang. In A. Pongsapich, M. Howard, & J. Amyuot (Eds.), *Regional development and change in Southeast Asia in the 1990s* (pp. 111-128). Bangkok: Chulalongkorn University Social Research Institute.

Keller, E. (1985). *Reflections on gender and science*. New Haven, CT: Yale University Press.

Lerner, D. (1958). *The passing of traditional society*. Glencoe, IL: Free Press.

Lummis, D. (1991). Development against democracy. *Alternatives*, 16(1), 31-66.

Mander, J. (1991). *In the absence of the sacred: The failure of technology and the survival of the Indian nations*. San Francisco: Sierra Club.

Marglin, F. A. (1991). Development and repression: A feminist critique. *Lokayan Bulletin*, 9(1), 9-26.

Marglin, S. (1990a). Losing touch: The cultural conditions of worker accommodation and resistance. In F. A. Marglin & S. A. Marglin (Eds.), *Dominating knowledge: Development, culture, and resistance* (pp. 217-282). Oxford: Clarendon Press.

Marglin, S. (1990b). Towards the decolonization of the mind. In F. A. Marglin & S. A. Marglin (Eds.),



*Dominating knowledge: Development, culture, and resistance* (pp. 1-28). Oxford: Clarendon Press.

Merchant, C. (1980). *The death of nature: Women, ecology, and the scientific revolution*. San Francisco: Harper & Row.

Merkle, J. (1980). *Management and ideology: The legacy of the international scientific management movement*. Berkeley: University of California Press.

Mies, M. (1986). *Patriarchy and accumulation on a world scale*. London: Zed.

Nandy, A. (1983). *The intimate enemy: Loss and recovery of self under colonialism*. Delhi: Oxford University Press.

Nandy, A. (1988). *Science, hegemony and violence*. Delhi: Oxford University Press.

Poffenberger, M. (Ed.). (1990). *Keepers of the forest: Land management alternatives in Southeast Asia*. West Hartford, CT: Kumarian Press.

Pye, L. (1988). *The mandarin and the cadre: China's political cultures*. Ann Arbor: University of Michigan Press.

Pye, L. (1992). *The spirit of Chinese politics*. Cambridge, MA: Harvard University Press.

Richards, P. (1985). *Indigenous agricultural evolution*. London: Hutchinson.

Richards, P. (1986). *Coping with hunger: Hazard and experiment in an African rice-farming system*. London: Allen & Unwin.

Rostow, W. W. (1960). *The stages of economic growth: A non-communist manifesto*. Cambridge, UK: Cambridge University Press.

Sachs, W. (1990). On the archaeology of the development idea. *Lokayan Bulletin*, 8(1), 7-37.

Sachs, W. (1992a, June). Development: A guide to the ruins. *New Internationalist*, pp. 4-28.

Sachs, W. (1992b). *The development dictionary*. London: Zed.

Sahlins, M. (1972). *Stone age economics*. University of Chicago Press.

Sen, G., & Grown, C. (1987). *Development, crisis and alternative visions: Third World women's perspectives*. New York: Monthly Review Press.

Shiva, V. (1987) The violence of reductionist science. *Alternatives*, 12(2), 243-261.

Shiva, V. (1989). *Staying alive: Women, ecology and development*. London: Zed.

Shiva, V. (1991). *The violence of the green revolution*. London: Zed.

Stanley, D. (1991). Communal forest management: The Honduran resin tappers. *Development and Change*, 22, 757-779.

Taylor, F. W. (1911). *The principles of scientific management*. New York: Harper.

ANNOUNCEMENTS

ATOM 1.0

RSS 2.0

RSS 1.0

CURRENT ISSUE

ATOM 1.0

RSS 2.0

RSS 1.0

THESIS ABSTRACTS

ATOM 1.0

RSS 2.0

RSS 1.0

CONTACT US

EDITORIAL TEAM

EDITORIAL BOARD

JOURNAL POLICIES

ONLINE SUBMISSIONS

AUTHOR GUIDELINES

COPYRIGHT NOTICE

PRIVACY STATEMENT

BOOKS/MEDIA FOR REVIEW

SUBSCRIPTIONS

JOURNAL SPONSORSHIP

ADVERTISE IN THE JOURNAL

JOURNAL HELP

SITE MAP

CCSP PRESS

OPEN JOURNAL SYSTEMS



EXCEPT WHERE NOTED,  
ALL CONTENT IS LICENSED  
UNDER THE [CREATIVE COMMONS](#)

PRINT ISSN: 0705-3657  
ONLINE ISSN: 1499-6642

WE WISH TO ACKNOWLEDGE THE FINANCIAL SUPPORT OF THE SOCIAL SCIENCES AND HUMANITIES RESEARCH  
COUNCIL FOR THEIR FINANCIAL SUPPORT THROUGH THE [AID TO SCHOLARLY JOURNALS PROGRAM](#).



Social Sciences and Humanities  
Research Council of Canada

Conseil de recherches en  
sciences humaines du Canada

