Women Carrying Water: At the Crossroads of Technology and Critical Theory

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1. Technology and Critical Theory?

In the rapidly changing arena of global politics today, nothing looms larger than the framework technology provides in determining the cultural, political, and economic fate of a people. Japanese philosopher Kiyoshi Miki observed already in the early 1940s that technology is not merely a sophisticated manipulation of tools but that it is fundamentally a "form of action" expressing a cultural and political orientation through the means of material production.[1] The power of technology, according to Miki, has to do with its ability to make our imagination concrete. But in this process, our values are concretized as well, so while the scientific principles that are used in engineering might be value neutral, the decision-making and actual implementation are always embedded in historical, aesthetic, political, and cultural meaning. If this is true, then a philosophy which claims to theorize about the human condition must also address the realm of *praxis* mediated by technology. A robust philosophical account of our historical development and political struggles would have to consider the real changes technology makes in material conditions and its long- term impact, as these are clearly existential manifestations of our cognitive grasp of the world.

Critical Theory has made an important contribution to analyzing political struggles and examining the various conditions of oppression and cultural transformation. Beginning with the early Frankfurt School thinkers to Marcuse in the 1960s and Habermas in more recent times, updated approaches today cross diverse grounds—feminism, race theory, and globalization, among others. However, despite the fact that technology has indeed been a fundamental medium of culture and politics and many discussions touch upon the topic, the link between a robust critical political theory and technology has been a relatively unexplored territory. Marcuse produced a rather dystopian account of technocracy in the 1960s, but with the exception Andrew Feenberg who has most consistently worked on this theme, a positive connection between Critical

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[1] Miki states, "Technology is fundamentally a form of adaptation to the new environment through the invention of complex forms of actions" (*Miki Kiyoshi Zenshu [Collected Works of Kiyoshi Miki]* 7 (1968), Tokyo: Iwanami Shoten, p. 201). For technology to exist, "the active subject and the environment must confront each other" and that "technology is what mediates this confrontation" (*MKZ* 7: 202). Further, "As formative action, our actions are historical. Historical actions are technological. Indeed, history is created technologically; historicity cannot be conceived of apart from technology" (*MKZ* 7:211).

Theory and technology is still largely missing from the literature today.[2] Yet, to the extent that *any* concrete theory of political agency and identity would have to address their material conditions, and if these conditions are thoroughly mediated by technology, then such a theory cannot evade the issue of the politics and cultural meaning inherent in technology.

What it would mean to "be" a woman, for instance, is not merely a question of identity, symbolism, and political recognition; it involves how each woman actually lives under particular material conditions such as housing and means of employment. This involves real circumstances created through technology and the political culture of technical decision-making. In other words, the *existential* content of what it would mean for one to have a political identity at all—be it gender-based, race-based, or otherwise—cannot be fully addressed without paying attention to the technological milieu that is fundamentally a part of one's cultural identity and meaning. Obviously the more variables one adds, the more complicated the analysis becomes, but no matter how complex, one cannot avoid the issue of the most basic existential constituent of our lives—how we live through engaging with the "stuff" that shapes our existence and survival.

If this is so, a philosophical analysis of technology should be a pressing issue for anyone concerned with justice and the politics of liberation. For our generation and beyond, this is not simply a theoretical question but an existential one with global implications, as technology is a ubiquitous politico-cultural force that encompasses even the remotest regions of the world. It changes people's lives permanently and profoundly. In this context, the analysis of the role of technology in today's complex global situation poses several obvious challenges.

In particular, the issues are delicate as well as politically contentious where they involve the implementation of technology in non-Western countries. We are faced with both theoretical and practical questions such as: What is the relation between the so-called universal applicability of technology and specific cultural traditions? Is the paradigm of "Western, modern technology vs. traditional or non-Western cultural values" still adequate? Who should manage the introduction as well as the maintenance of a new technology in a new cultural setting? How should we analyze the inevitable power struggles involving global capitalism, technology, women, and cultural and economic domination? How does technology relate to human liberation when technology is fundamentally alien to the cultures that employ it?

This paper is an attempt to address some of these issues by reflecting on the existential nature of technology and the politics of liberation. I offer first a brief discussion of what I mean by "existential Critical Theory," and articulate how Feenberg's "Critical Theory of technology" is a version of it. Against this theoretical background, I then introduce an example of what an existential Critical Theory of technology would look like.

The main focus of this paper is a discussion of the work of MIT environmental engineer, Susan Murcott, who is also a feminist and has extensive background in

[2] See also Lorenzo Simpson (1995), *Technology, Time, and the Conversations of Modernity*, New York: Routledge.

Buddhism.[3] Her current project, carried out in conjunction with a nonprofit organization, Women and Water International[4], involves researching and designing household water treatment systems for rural peasant women in Nepal. Her other projects include Burma, Bangladesh, Brazil, and Haiti. Her work illustrates how technology is indeed existential, and at the same time how it can serve as a liberating force without falling into the old pattern of colonizing Westernization. I conclude by relating the theoretical issues to this example, by emphasizing that "technology" is not a unified enterprise nor some kind of an ontologically closed phenomenon (there is no "technology" as such, or to put it differently, technological essentialism is wrong). But more important than this ontological thesis is its political implication. If technology is not a thing in itself but inherently a process of historical and political culture, a technical development can serve as an opening for a new direction not only technologically but also politically. As I will show, this implies that political empowerment itself may have forms other than what is imagined in the West.

Again the significance of the example has to do with the fact that when the actual lives of people are at stake, liberation requires a real intervention, but this intervention may take the form of *technical* cultural change where political subjectivity and identity-formation as conceived in the West are not the most obvious means, as in the case of rural Nepalese women. Thus, the main thesis of this paper, elaborated in the last section, is that for our global Critical Theory today, what we need is a *postcolonial praxis* that is existential, technologically aware, and democratic. Concrete projects such as Murcott's invite us to broaden our political as well as our technical imagination for a more inclusive framework within which to think about our future.

2. Existential Critical Theory

What is meant by "existential Critical Theory?" Among the contemporary heirs of Critical Theory, sometimes referred to as "third wave Critical Theory," Martin Matustik explicitly develops his approach in political-moral terms. In his view, today the "radically democratic existential variant of Critical Theory" is leaving behind "European"

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[3] Cf. Susan Murcott (1991), *The First Buddhist Women: Translations and Commentary on the Therigatha*, Berkeley: Parallax Press.

[4] The mission statement of Women and Water International reads: "Water is life, and without clean water, we cannot live. Water is a women's issue; all over the world, women carry water to their families, and use water for cleaning and for growing food. Now, when water quality and quantity are threatened by pollution and misuse, the need for clean and available water in the world is growing exponentially. Increasingly, women from many walks of life such as educators, artists, mothers, writers, doctors, agriculturalists, activists, scientists -- are addressing this issue.

Women and Water International (W&WI) is at the forefront of this vital endeavor. We develop alliances with women from all parts of the world, supporting efforts to attain clean and available water for our communities, offering training on specific technological options and providing educational programs concerning the global interdependence of water issues. Toward these goals, W&WI produces biennial international conferences and develops community projects that provide scientific and organizational assistance, financial support, and community training programs.

A partnership model guides our work, linking women in countries with developing or emerging economies with one another and with women in the global north. W&WI brings together women with immediate, pressing water needs, and women whose primary concern is to increase understanding about global interdependence and the need for their countries to address issues of overconsumption and misuse of water. W&WI is a women-led organization that welcomes the participation and contributions of men. W&WI is part of the NGO Crabgrass, which serves as our Fiscal Agent, and is currently based in the United States."

debates on existentialism and social theory and is becoming alive in critical race and gender theories.[5] I would also add Enrique Dussel as one of the leading postcolonial existential Critical Theorists. Characteristic of their theoretical approach are various critiques of Habermas; while they recognize his contribution, the points of contention have to do with the formalism and the universalist implication of his theory which neglects the existential life-worlds of women, the marginalized, and the colonized.

For example, despite his overall agreement with Habermas, Matustik criticizes him for not sufficiently developing the "existential-communicative dialectic," rendering the latter's communications theory "insufficiently concrete and critical."[6] The "performative" force of existence is not accounted for in the formal pragmatics of communications."[7] The problem is the gap between formal, procedural "theory" and existential "practice" which includes interactions among moral subjects. Because the theory reifies the category of the "life-world" and lacks a robust analysis of its actual content, it paradoxically undermines Critical Theory's aim of providing a genuine framework for political liberation.

This is particularly so for the politically marginalized, whose moral identity "matters for sustaining communicative competencies concretely and critically" for recognition.[8] Thus, according to Matustik, "only that Critical Theory that articulates communicative competencies in terms of anti-patriarchal, anti-racist, and anti-colonial attitudes in practical discourse is sufficiently concrete and critical."[9]

> The call for concrete analysis is even more succinctly put by Dussel:
> According to Habermas, legitimacy is established in a purely discursive and formal level. He does not comprehend that a political system "*loses* legitimacy" once it does not acceptably treat and thereby maintain human life for its citizens. One must bring to bear the material aspect of human life and interaction when treating the concept of legitimacy, so as to enrich the purely formal or procedural

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[5] Martin Beck Matustik, "Existence and the Communicatively Competent Self," *Philosophy and Social Criticism* 25:3, p. 108. See also Matustik (1998), *Specters of Liberation: Great Refusals in the New World Order*, Albany: SUNY Press, in particular chapter 9, "Radical Multicultural and Existential Democracy," pp. 227-266. See also a symposium on this work, which includes comments by Andrew Feenberg, Bill Martin, and Cynthia Willett, with Matustik's response. *Radical Philosophy Review 2:2* (1999), pp. 139-182. For an example of race-based analysis, see Lucius Outlaw (1996), *On Race and Philosophy*, New York: Routledge, especially chapter 7, "Life-Worlds, Modernity, and Philosophical Praxis: Race, Ethnicity, and Critical Social Theory," pp. 159-182. For a gender-based critique of Habermas which also focuses on the lack of concrete specificity in his discussion of life-worlds, see Nancy Fraser, "What's Critical about Critical Theory?" in Johanna Meehan (1995) ed., *Feminists Read Habermas*, New York: Routledge, pp. 21-55.

[6] Matustik, "Existence and the Communicatively Competent Self," p. 101 and 104. The problem, according to Matustik, is that "Habermas operates with a two-term communications model of practical discourse"-- those of "ethical self-understanding" (which raises questions about "personal and group identity") and "moral deliberation" (which deals with questions of "valid norms of conduct") -- but this two-tiered model essentially obscures the "existential" questions (105-6). In place of Habermas' two-pronged model, Matustik calls for a three-pronged model of communicative theory which includes the "existential."

[7] Matustik, p. 106.

[8] Matustik, p. 108.

[9] Matustik, p. 108. For an application of Critical Theory to the issues of globalization and post-colonialism, see Held, David, Anthony McGrew, David Goldblatt, & Jonathan Perraton (1999*), Global Transformations: Politics, Economics and Culture*, Stanford: Stanford University Press.

> conception of political justice. In postcolonial, peripheral, and poor communities, economic production is an essential political dimension of legitimacy.[10]

Granted that Habermasian formalism was specifically aimed at avoiding particularism and achieving a sufficiently universalist framework for a more effective theorizing across the localized practices, Dussel notes this approach may be valid only for those late-capitalist countries that already "practice the *Rule of Law,* and which due to their level of development guarantee the survival of all their citizens."[11] The reality, however, is that 85% of the world's population lives under conditions of impoverishment and economic underdevelopment where the "rule of law is in a precarious state, and mere survival is in no way guaranteed for the majority of the populations…"[12]

Thus the existential development in Critical Theory is a step forward in trying to remedy Habermasian formalism, but the problem of bridging the gap between theory and practice has not been fully solved yet. Matustik's focus is on existential models for political identity formations, dissent, and negotiations by groups and individuals at the margins. But presupposed by this approach is still the framework of Habermasian communicative theory which takes for granted the existence of rational, political subjects who can negotiate in these terms to begin with. But as Dussel explains, marginalization often involves the fact that the marginalized may not even think in terms of the political conception of identity-formation, either because they are systematically disempowered, or the powers of agency are made systematically unavailable, or because the very idea of the "political" or "critical consciousness" is foreign, as we will see in the case of the Nepalese peasant women. Thus, while it is true that *political* existential Critical Theory can be a vehicle of liberation among marginalized groups with political consciousness, it may not empower those who are truly outside such a framework.[13] Dussel calls for a more robust analysis of political reason as tied to economic material production, but his theory still does not reach a level of specificity in this domain that would give us insight into the situation of a majority of women in the world. Could there be another path? This is where I think Feenberg's Critical Theory of technology offers a possibility. I would also classify his work as a kind of existential Critical Theory, one which identifies technology as the primary medium of concrete existence.

3. Critical Theory of Technology

In his most recent work, *Questioning Technology*, Andrew Feenberg defends what might be called an "antiessentialist" and "politico-existentialist" approach to technology and modernity (a culture said to be marked by rationality and technical progress).[14] His work merits attention among today's Critical Theorists, in that the analysis goes well

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[10] Enrique Dussel, "Six Theses toward a Critique of Political Reason: The Citizen as Political Agent," *Radical Philosophy Review 2:2* (1999), p 86.

[11] Dussel, p. 80.

[12] Dussel, p. 80.

[13] Nancy Fraser's attempt to reconcile the social justice concerns and cultural identity politics in what she calls a "critical theory of recognition" broadens the scope of the discussion within an already highly developed academic and political debates such as in the U.S., but as Fraser herself notes, the problem is still that for most of the people whose lives are at the level of basic sustenance, explicitly political and identity-based concerns may not be the most effective means of empowerment. For Fraser's work, see *Justice Interruptus: Critical Reflections on the "Postsocialist" Condition* (1997), New York: Routledge. For a review and critical commentary, see Jose-Antonio Orosco, "Grasping for Utopia," *Radical Philosophy Review* 2:2 (1999), pp. 133-138.

[14] Andrew Feenberg (1999), *Questioning Technology*, New York: Routledge.

beyond the usual discourse on politics. What it does is to problematize and politicize the very process of material production and decision-making, and this process, Feenberg argues, is what is meant by the "technological." As such, there is no "essence" to technology that can be properly defined on its own terms. Technology is always a particular configuration of patterns of actual stuff, an engineering design, a project, a budget, planners, users, a series of decisions, location, cultural milieu, and so on. The scientific principles of engineering—mathematics, physics, and chemistry—are universal (at least they are not contested between dominant and subordinate social groups in modern societies), but for a particular technology to emerge, they must be implemented as a particular, concrete project in the world. In this process of materialization, a piece of technology becomes *ready-to-hand*, a value-laden thing with a practical existence for us. If there is no "essence" which determines the nature of technology or modernity in themselves, then these notions take on their specific forms within a context of particular social, historical political, and aesthetic cultures. Forms of technology and modernity are themselves socio-political and cultural institutions, reflecting the power structures which establish them and the resistances they encounter. In other words, technology is through and through integral to the ontological make-up of the life-world itself. If so, even at the level of design and production, a political critique may be applied and the call for democratization is in order.

This is the main idea behind Feenberg's "non-neutrality" thesis regarding technology.[15] Technology appears to be "neutral" in that a diesel engine is a diesel engine whether it is created in the U.S. or in Japan; cultural difference seems irrelevant. From such an observation, many theorists of technology treat it as if it has a purely instrumental nature of its own. Feenberg denies such a separation of the "technological" from the rest of the politico-cultural milieu and argues that technology is never culturally neutral. The apparent neutrality comes from the fact that the cultures in question have enough similarities that the particular technology in question *functions* similarly in them. If there is functional equivalence, then a particular technology appears "neutral," but it is not "essentially" so. It is only a contingent fact about cultures and not about technology. This idea challenges technological determinism and most conceptions of modernity which implicitly rely on a reified conception of "technological progress." Feenberg claims that modernity need not develop according to some principles inherent in technical progress as such, but develops in culturally specific ways.

As with Matustik's critique of Habermas' lack of the "existential-communicative dialectic," Feenberg criticizes what might be called Habermas' lack of "existential-technological dialectic." According to Feenberg, Habermas distinguishes technical and communicative modes of action too sharply and concedes too much to technological determinism. This is again a result of abstractly separating out the "technical" and "communicative" modes in the life-world, and obscuring the normative implications of technical rationality.[16] Going beyond Habermas, we must explain "how technical choices both presuppose normative choices and have normative consequences, how they function

[15] For a more detailed discussion on neutrality, see Andrew Feenberg (1991), *The Critical Theory of Technology*, New York: Oxford University Press, pp. 5-8 and also Chapter 8, pp. 163-198.
[16] Feenberg (1991), pp. 81-83.

within groups, and how iterative group processes can take on qualities of self-expansion."[17]

Feenberg's work on technology carves out a new domain of social and philosophical criticism in-between the abstract speculations on modernity of Heidegger/Habermas and the narrow empiricism of recent science and technology studies. The existential aspect comes in because technology is through and through a process of concretization of the theoretical (knowledge) in the material life-world (praxis). From this ontological thesis follows the more important political thesis that technology is inherently "politico-existential"; the process is always a particular set of negotiations with economic, political, and technical concerns, involving the question of who controls the actual design in whose interest, and the question of availability, means, and ends. Furthermore, because the tangible material result has the power to shape our real living environment, the "existential" is not merely a question of the symbolic or of political identity but has to do with *things* that exist in the world. So responsibility for decision-making may go far beyond the realm of the human into a much bigger concern for the physical environment, as witnessed by current ecological debates. Here the "historical" acquires a real material meaning.

With these examples of "concrete Critical Theory" in mind, I would like to turn now to the case of the rural Nepalese women. I wish to show that in this particular case, technology does serve as the primary empowering and liberatory factor, since political self-consciousness is a much less plausible path given the overall spiritual and cultural settings.

4. Women and Water

Those of us who live in the industrialized world take our access to clean water for granted. Water is the barest necessity for human survival, and for millions of people today the lack of access to adequate potable water is an issue of critical struggle on a daily basis. But why "women and water?" Because water is so much a part of daily *domestic* life, in most of the rural parts of the developing world women have been assigned the care and maintenance of life surrounding water. In this context, Susan Murcott's work is a groundbreaking example of how water engineering can be used as a real tool of liberation for the women. But first let me introduce some facts about her work.

Murcott is a Boston-based engineering consultant at Ecosystems Engineering and a Lecturer at MIT. She is an environmental engineer who specializes in water treatment. Her past projects included establishing a local water-purification lab for a small community in north Burma, where more than half of the patients at a local hospital were there on account of preventable waterborne diseases. Murcott learned the local water practices with the local residents as well as chemical and bacterial components of the water itself, and successfully established a purification system using local Burmese aluminum sulfate and other metal salt products to reduce turbidity as well as contamination. Because she was consciously attentive to the local social and cultural practices surrounding water and the claims made by the residents at every step of her way, she introduced very simple methods of water purification which could be easily adopted by the residents into their social structure and "water wisdom" that was in already place. Partly inspired by Murcott's work, and partly motivated by their

[17] Feenberg (1991), p. 83.

recognition of the water-borne disease problem and by their own cultural values, the local residents themselves undertook the design and construction of a new water treatment system. They could therefore integrate the new system into their lives without the sense of foreign intervention. After participating in two International Conferences on Women and Water, her current project involves working with rural peasant Nepalese women.[18]

More specifically, Murcott identifies three reasons for the significance of the coupling, "women and water":

First, women in rural Asia (and elsewhere in developing countries) are predominantly responsible for providing water for the family and community, and they "suffer on account of scarce and/or polluted water."[19] The women literally spend 3-4 hours a day carrying heavy loads of water, sometimes for long distances from remote sources because of the general scarcity of water in the region.[20] Moreover, "when children or other family members become ill because of water-borne diseases, diseases which are preventable and which have largely been eradicated from the developed world in the past 100 years, women are burdened with the responsibility of caring for those who are ill."[21] Even when these women themselves become ill, they must still carry loads of water to care for the rest of their family and community. Malnutrition caused by extended water-borne sickness can cause severe dehydration, stunted growth, and mental retardation in young children. "One in three children in Nepal die of waterborne illnesses before the age of three."[22] Water-borne illnesses affect those with a compromised immune system much more severely, such as the elderly, often causing death. In this way their day-to-day lives are largely defined by their relation to the water the family and community need for survival.

Second, despite the fact that these women's lives revolve around water, they are "not empowered to make important decisions about water."[23] Decisions, especially technical decisions about water management, are often made by men who are politically in charge. Murcott notes:

> Sometimes these decisions by the male-dominated engineering and water management professions are in the best interest of all. But other times, there are serious oversights that are the result of women's nonrepresentation. These

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[18] In January 2000, Murcott worked in Nepal with some graduate students from MIT on this project. For a collection of photos from her previous trip to Nepal, visit http://www.sustainableliving.org/nepal.html

[19] U. N. statistics from 1990 show that "1.23 billion people did not have adequate access to clean drinking water; 2.1 billion people did not have access to adequate sanitation" (Murcott's report in *Crabgrass: Report from the Field* 5:3 (1998), p. 1). For more information on Crabgrass, a San Francisco-based women's organization which co-hosted the Second International Women and Water Conference in Kathmandu, Nepal in August of 1998, visit http://www.crabgrass.org

[20] From her recent water project trip from Haiti, Murcott remarks: "In Haiti, where there is a drought currently, I witnessed the women carrying the water. The mountain road/path they had to climb up and down was about 2 miles each way. The women carried 5 gallon buckets on their heads, filled with water (= 40 lbs). The water source in the valley was practically dry, a mere trickle of water, and that source served 8,000 people. When we visited homes to check if they were properly using the household water treatment systems that are part of the Haitian program, like what we want to implement in Nepal, some houses didn't have any water at all, because of the scarcity. It was a most humbling experience. ... I barely washed at all for 4 days, because I didn't want the women to have to work so hard just to bring me water"(personal email correspondence).

[21] Murcott, p.1.

[22] Murcott, p.3.

[23] Murcott, p.1.

> decisions might be as simple as the design of a latrine or repair of a pump handle or as major as a decision to build a multi-million dollar hydro-electric dam or water treatment plant.[24]

Often local women must fight to gain some control over decisions about water, but this is often a path practically unavailable because of already very heavy domestic responsibilities as well as a cultural setting in which women do not normally participate in such decision-making processes. About 80% of Nepal's population is rural, and only 23% of Nepalese women are literate. For most Nepalese women, though they control much of day-to-day domestic life, access to political power is virtually nonexistent.

Murcott's third reason is symbolic: "What women and water have in common is that both are the source of life." The Bagmati river in Nepal as well as the Ganges in India are both revered as goddesses that give life, and this mythic-spiritual symbolism which connects women and water is why women have been assigned throughout history as the caretaker of water in many traditional cultural settings, including Nepal where the majority of the people are Hindu and the rest Buddhists. The division of labor is not simply pragmatic; it is embedded with deep spiritual significance and the women often view themselves in this role. In much of Hindu and Buddhist traditions, domestic work is a form of spiritual exercise. As a former Buddhist scholar and practitioner pre-dating to her engineering work, Murcott is acutely aware of these women's spiritual self-understanding which places them in domestic contexts which are very different from those of Western women.

These reasons show clearly that "women and water" is indeed a globally significant problem not only of politics and technology but involving cultural significance and most importantly, survival.[25]

5. "Homeplace" and Life-world

In phenomenological-ontological terms, water is one of the most, if not *the* most significant factor in the life-world of these women.[26] One's daily routine begins with fetching water and the entire social life of the women surrounds water-related activities—gathering at the water source, exchanging conversation, washing, bathing, and caring for the animals. Carrying heavy loads of water is not merely an act of necessity; it also materializes the woman's wish for the survival and well-being of her family members, or her despair that she has no choice but to carry out an endless and repetitious duty she resents. Through this daily activity, she may understand herself as a carrier of the way of life of her own people. Or she may experience frustration in her inability to transcend to a better way of life. The pitchers and water pots are not merely containers; they are the very vessels of life, the extension of a way of being. Their particular shape and size affect the body and posture of the woman over many years. As a girl grows up, her bodily being-in-the-world adapts to carrying water and becomes a part of who she is. The particular set up of the wells and springs is more than an accidental geographical configuration; it is a gathering place, a place of solidarity as well as conflict that cross

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[24] Murcott, p.1.

[25] For an analysis of the situation in Bangladesh, see Suzanne Hanchett, Jesmin Akhter, and Kazi Rozana Akhter, "Gender and Society in Bangladesh's Flood Action Plan," in *Water, Culture, and Power: Local Struggles in a Global Context* (1998), John Donahue and Barbara Rose Johnston, eds. Washington DC: Island Press.

[26] I was told by several women from India that the analysis applies just as well to the situation in India. If so, the number of women affected is not insignificant indeed.

over generations. The location of the water source also determines where they live and how they live.

It is not an exaggeration to say that their very existence, self-understanding in the cosmic scheme of things, and the continual day-to-day struggles are defined in terms of their lived experiences that surrounds water; in short, relation to water is their Being-in-the-world and expresses their spiritual-mythic worldview. The geographical and the cultural are ontologically co-dependent in the life-world. The everydayness of their existence in relation to water is decidedly different from those of us who turn on a faucet for clean hot water every day, and this difference involves the totality of the life-world of the women. But if so, changing their relations to water could fundamentally change not only their lives in the practical sense but their very sense of cultural selfhood. Thus, any intervention would have to pay attention to this level of understanding, as there is a good possibility that changing an aspect of their relation to water could have unforeseen consequences and trigger a dynamic change in the lives of these women.

Murcott is in a unique position. In both the Burmese and Nepalese cases, the usual model based on development economics might have suggested building a modern, centralized system modeled after designs that maximize efficiency. In fact, this is very much a standard model used in civil engineering based on the general conception of "technical progress and rationality," fueled also by global capital exchange. Had such a method of development been applied in the Burmese and Nepalese situations (not that anyone was ever interested in such an intervention), it would have disrupted the lives of these women significantly. There would have been too much of an incongruity between the "system" and the "life-world." The women would have been disempowered in the midst of foreign devices which would have made them even more dependent on those who controlled the technology. In fact, in India and elsewhere, the construction of dams has displaced thousands of people and created hundreds of semi-permanent refugee camps.[27] As an activist, Murcott explicitly opposes such a model in favor of the self-sustainability of the local residents.

In addition, as someone who understands Buddhist as well as feminist concerns, Murcott is acutely sensitive to both the political and spiritual significance of women's existential involvement with domestic work in Nepal, as well as its consequence regarding empowerment and what it would mean for these women's lives to "improve." At the same time, she is a civil engineer who can provide them with water-treatment technology, as modern as the residents would like or as simple. Because of the uncomplicated and easy-to-operate systems she sets up, the children and the elderly are less sick, and because her systems are a co-creation with the local women, they gain control over the actual manipulation and maintenance of the system, rather than relying on some outside power disconnected from their lives. She notes,

> The challenge to me was how to give women, especially rural women, direct control over their water quality. Just as we in the West want our personal computers and private automobiles, the Nepalese village women want to have control *in their own hands*, personally, instead of being controlled by outside forces—upstream villages, local, state, or national government agencies, whatever.[28]

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[27] See Arundhati Roy (1999), *The Cost of Living*, New York: Random House.

[28] Murcott, p.3.

Though important, the point is not simply that Murcott is able to facilitate the transfer of technology into a new cultural setting in a women-friendly manner. The more important point is that she adopts a democratic procedure in doing so, and in this process the local women gain a new sense of awareness and control regarding their own lives. This is a form of empowerment that comes from working together, and because Murcott works *on behalf of* these women, listening to their stories, needs, and wishes, rather than simply "giving them Western tools," the system becomes integrated into their local practices with minimum sense of cultural disruption. It may be a small step, but the women come to feel that not only are they the owners of the system, but also that by being in charge, they are actually *enhancing* even their spiritual lives as well.

6. Postcolonial Praxis and Existential Critical Theory of Technology

I would now like to return to the theoretical issues raised earlier, in the context of the concrete example of Murcott's work. What interests me about her work is that not only are her efforts making real differences in the lives of women in rural Asia, but they are also a beautiful illustration of the theoretical points raised at the beginning of this discussion.

Matustik's emphasis on the "existential" in Critical Theory is well taken, but in order for his call that a truly existential Critical Theory must be anti-patriarchal, anti-racist and anti-colonial to be concretized, the very conception of Critical Theory itself may have to be questioned from the bottom up. Critical Theory, if understood in terms of identity formation and political theorizing, is much too deeply rooted in the post-Enlightenment Western European political tradition and much too abstractly formulated. As noted, it empowers those who already participate in this particular political consciousness, but it remains still quite alien for those who are outside it. Dussel expands the framework, but his Marxist formulation may oversimplify the specificity of the day-to-day content of the lives of women. Postmodern and the usual theory-heavy postcolonial interventions which aim to de-stablize the essentializing categories, are also just as deeply embedded in the European and American-style theorizing and language, and ultimately unhelpful in terms of really changing the lives of people who are outside power and knowledge. Thus, if Critical Theory is to become truly global in substance, its methodology would have to go beyond *theorizing* radical postcolonial and feminist perspectives and include a robust analysis of the realm of *praxis* able to critique the very assumptions of Critical Theory itself. In short, it would have to become a *postcolonial praxis*. This would require a broadening of the existential conception beyond abstractions, but this procedure has always been at the heart of Critical Theory, so what I am suggesting here is to use Critical Theory's own method to do a complete overhaul of itself. In fact, what needs to be examined at this point just might be the very conception of "political agency" itself.

The Nepalese women who gain control over their water quality are becoming empowered, and to the extent that they are much less subject to the control of other villages, the state, and the government, their new lifestyle is indeed a form of political subjectivity, though it does not explicitly refer to identity concerns or economic reconstruction. As such, it looks very different from what that notion might imply within Western political contexts. In fact, if one were to ask these women about "political agency," a blank stare would be the most likely response. Yet, a technically-mediated method such as Murcott's is precisely what is needed to empower these women

"politically," because that would be the most effective, if not the only way for them to gain more self-sufficiency and control. Thus in this case, a democratic technical intervention opens up a new direction both in terms of material conditions and political agency, albeit in a new form. To appreciate the different forms of the political beyond the usual Western version, one must pay close attention to local norms, practices, and value systems, such as those women in rural Nepal, and understand from their own cultural perspective what it means to be liberated. The very notion of liberation would look very different indeed in such a context.

To illustrate this point further, a disasterous example of an introduction of a new technology might be instructive. It is a well-known case, but steel axes were introduced to the Australian aboriginal hunter-gatherer tribe of Yir Yoront by the missionaries at the end of the nineteenth century. Up till then, the Yir Yoront lived with stone axes, but the axes were not simply tools but also served an important symbolic function that was thoroughly and elaborately integrated in their kinship patterns, social discourse, and totem and mythic worldview. The production and handling of stone axes shaped their daily activities, interpersonal relations, and various ceremonies and rituals. However, because the steel axes were so much more efficient, the Yir Yoront welcomed them, and increasingly they became highly sought-after objects. The missionaries believed that the steel axes definitely indicated "progress" over primitive stone axes and introduced them in large quantities, so as to increase the number of axes per capita. Unfortunately, the introduction had a devastating effect—it disrupted the social patterns so much and the Yir Yoront had no way of handling the new changes, and as one anthropologist noted, the "result was a mental and moral void which foreshadowed the collapse and destruction of all Yir Yoront culture, if not, indeed, the extinction of the biological group itself."[29] The missionaries' conception of progress and penchant for efficiency have led to confusion, resentment, and general unhappiness in the daily lives of the people; it turned out to be no liberation at all for the Yir Yoront. The failure results from an insufficient understanding of the value-laden nature of a particular technology and its total embeddedness in the cultural system of the Yir Yoront. A better understanding of the situation may have avoided such a collapse.

If technology is existentially understood at the basic level of the life-world, i.e., at the level of things we use to live and how they transform us in *particular* cultural instances, then one can begin to notice its political import. The Nepalese women's desire for independence and a better life is not cast in terms of the usual political subjectivity and society-building that we are accustomed to in modern societies, but rather in terms of improving their day-to-day lives through implementing and controlling technologies that fit their cultural self-understanding. It is also important to note that the women desired better quality water and self-management of it, but not necessarily a waterline to the house that would eliminate the practice of carrying water. Carrying water is not "lack of technology" as we might imagine in the West; it is an integral daily activity that enlivens their cultural and spiritual significance. To the question, "wouldn't you want to have an indoor plumbing?" one Indian woman answered, "but if the water comes to the house, where do we see each other and talk about everything?"

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[29] Lauriston Sharp, "Steel Axes for Stone Age Australians," in *Human Problems in Technological Change* (1952), Edward Spicer, ed. New York: Russel Sage Foundation, pp. 85-86.

Let me introduce another example to discuss the cultural nature of technology. In Japan, except for the major passageways, streets have no names.[30] From the point of view of maximizing efficiency, one can hardly call this a successful picture and one would think that people would opt for a change—just imagine giving directions to a complicated place in Tokyo, where streets inherit the meandering ancient patterns without even a clear sense of north, south, east and west. However, despite the American occupation in the 1950s from which the Japanese have adopted many American practices, people have never felt the need for naming the streets and have never even raised the issue. The long-standing practice of recalling landmarks and the system of indicating how one finds one's way have been such an ingrained part of life that having names to the streets appear superfluous. Children are taught instead to be more orientationally aware and be mindful of where they are and how to get around and to make up mental maps, and learn the system of navigation without street names. Because giving directions is generally much easier by drawing a map with key landmark items rather than in a linear, written form, the Japanese automobile makers adopted the GPS (global positioning system) technology—originally developed by the U.S. military—as a visual map display feature for navigation (called "*car-navi*") and the system took hold and became widely used earlier than anywhere else and such systems are currently used more widely than anywhere else. With other hand-held models which are now combined with cell phones and palm-size computers and the general love of the people for creating more gadgets, there is even less need for naming streets. So what appears inefficient to an outsider is no guarantee that the users find it so, and it may lead to an adoption and development of different technologies.

A more political example might be a use of home security systems. In the U.S. metropolitan areas and suburbs, having such a system in one's home is becoming more and more common, and the implementation of the technology is supposed to indicate "better security sense and improved protection" against burglary. But is it really so? Imagine installing such a system at a home in a small town (in the U.S. or perhaps in rural France). It will likely *not* indicate better security and improved protection, but rather it would be a display of something like a paranoid distrust of other people. The home security industry sells fear, and as such technology becomes a part of the suburban American culture, so do perhaps paranoia, distrust, and isolation, and even a self-fulfilling prophesy of our quiet defeat that home invasion and burglary must be reality. Since the return to the good old days of happy neighborhoods may not be available to us any longer, a better use of technology to move forward might be alternative urban planning that gathers rather than isolates people, so as to foster more a common sense of community and well-being.

These cases show that the question of technology is really a question of our collective actions and decision-making that shape our culture, and this is why it is important that not only the designers, planners and the financial superstructure, but also the users and consumers are all part of the civilizational picture that must be involved.

[30] In other words, city blocks and their subdivisions are numbered, and the smallest unit may contain several houses and they may share an identical number address. Individual houses are marked by the last names of the residents and the mail is delivered to the proper family according to the name designation.

More politically progressive technologists, such as Murcott or the Bioneers, are certainly needed to begin the process of change.[31]

One may argue that these are examples from already Westernized practices. But when the issue involves groups outside the West, is it really true that technology can be used in a liberatory manner? Isn't technology inherently a Western tool of domination, in that the powers and structures which dominate are in the very nature of technology? Despite Murcott's approach, isn't the Nepalese rural culture already beginning to erode? Finally, let me address these and other possible objections.

Contrary to these popular objections, Feenberg argues that technology is not essentially the product of the West but only contingently so. In order to see this point, it is important to realize the implications of de-essentializing technology; there is no "technology" per se that can be captured on the scene. After all, way before the "West" appeared on the map, there have been long traditions of various technology for thousands of years around the world, and today, there are many different kinds of technological practices in other parts of the world, such as technologies involving boat-building, construction methods, and indigenous medicine. So the problem of domination is not so much a problem of technology per se, but rather the political problem of who is making relevant technical decisions. Moreover, one must remember that cultures are not static; they are always in the state of dynamic transformation, so in essence there is no "original" culture to be found, destroyed, or "preserved" for originality's sake. We must be wary of the myth of "us Westerners" claiming the "preservation of the natives." The introduction of new technology of course alters cultures, some quite dramatically, but that is not in itself the problem. The changes are sometimes brought about entirely within a cultural group without the issue of foreign invasion. The problem is again *how* such a transformation occurs and *who* controls the direction. As noted, and I agree that technology is itself a form of culture, so it is in principle adaptable to different cultural forms, norms, practices, and value-systems, and the same piece of technology (a water purification system) could acquire radically different significance and "place" in the larger scheme of things. (For instance, in the U.S., a new water purification system might be understood as a "means of sanitation," but in Nepal it might in addition be something like a "means for a better spiritual life and karma." In both cases, people would think that their lives are "improved.") If so, there is no reason to believe that technology *must* be dominating *in itself*.

But to the extent that carrying water was also a common practice in Europe which was taken for granted for centuries but easily became abandoned, wouldn't the Nepalese women, given time, also would abandon it, because, objectively speaking, is it not simply a better way of life not to have to carry loads of water a day? If so, perhaps technical progress does move in a similar direction no matter where it occurs, and if so, perhaps there really is some essential feature about technology. To this worry I answer that it is probably true that every culture recognizes efficiency as a good, and this fact partically contributes to the spread of technology all over the world (the Yir Yoront preferred the steel axes), but again this is not a feature of technology per se but rather a feature of cultures. But if so, the notion of "efficiency" itself should have variations across cultures; our motto "more and faster equals better" may only be a particular American version that connects the means-to-ends value line. If other cultures become

[31] For more information on the Bioneers, see http://www.bioneers.org

Americanized, then this particular norm might also be adopted (and along with it technologies that realize it), but this is not a guarantee that all cultures favor and adopt this particular model. The French people who reject fast-food chains do not thereby consider themselves inefficient; neither do people in Japan who do not want street names. Likewise, the Nepalese women who opt for carrying water probably do not consider themselves to be choosing inefficiency.

However, for my purposes, the more important question is not so much whether technology inherently carries certain features that would alter cultures, but rather the extent to which the users are participants in the decision-making process. The Nepalese women very well might decide some day that they would prefer living like Western women, with indoor hot-water plumbing and having access to Evian water at the stores nearby. The issue is who is making that decision. If that is what they wish and if they work to attain that end, then it should be within their own cultural self-determination. The point here is that it is not for us to decide, as it were, that the Nepalese should or should not modernize. The decision-making power should rest with the women themselves, and this is why the question of empowerment is crucial. Here I admit that the negotiations are quite delicate and difficult, especially given the problem of false-consciousness, and probably the future cannot be predicted very well, but the hermeneutical loop is not closed and the cultural exchange and communication should flow in all directions, and no one in this process should dominate or silence other voices.

In the Nepalese case, the hybrid situation of "modern technology but not Westernization" is achieved because of Murcott's particular method of working with the local women from their perspective, in contrast to the case of the missionaries. She remains faithful to the actual content of the life-world of the women. These women are indeed empowered by adopting the technology; they gain a sense of independence, and their lives are definitely improved, but they are not thereby "Westernized" because Murcott did not import the ideological, economic, and political framework and the underlying rationalistic assumptions which shape *our* technology today. It is not the IMF, World Bank, some multi-national water-purification firm, or the Nepalese government that is making the decisions as to how the women ought to live. Other technologies besides water purification may be successfully introduced, while others, however minor, may seriously disrupt the patterns of their lives. This will depend upon mutual cooperation and negotiation and most importantly, not imposing any agendas by those who will introduce a new element. The whole point is again the fact that the ultimate decision-making power is shared democratically, in spite of the obvious difference in knowledge, both technical and cultural. It is also important to note that it is inappropriate for us to judge that the Nepalese women are still not "liberated" because they are tied to domestic work or that they continue carrying water; such a critique does not take into consideration the overall understanding of such issues as domesticity in a larger cultural context. (Would we complain that men who won a strike and improved their working conditions and wages dramatically had achieved little because they still had jobs?) Again, what counts as "liberation" is itself a cultural question in such a way that we must be sensitive not to impose a particular European norm.

But what about the very notions of self-empowerment, autonomy, liberation, and control? By projecting these categories onto the situations of the Nepalese women, are we not imposing Western norms to judge? Celebrating that the Nepalese women are

gaining self-empowerment--isn't it a Western story to tell? To this worry I would answer that the notions of self-empowerment and liberation from external control have to do with a basic welfare question that is not limited to the West. The European tradition has made an explicit agenda of these political notions and therefore it appears that these are Western preoccupations, but in fact these are fundamental concerns that have developments other than the particular form that developed in the West. With or without the Western notion of human rights (as in Nepal), for instance, people still suffer or prosper under various constraints of empowerment, liberation, and control, and adopting the so-called Western political system is no guarantee that these fundamental welfare questions would be answered adequately. Thus, it is too simple to equate these notions with Western political ideas. What is more interesting would be to develop and support alternative visions of self-empowerment, autonomy, and liberation, as I try to argue.

If the overall *aim* of Critical Theory is liberation, this notion itself needs to be understood in a wider cultural context if it is to be truly cosmopolitan. Technology is indeed a ubiquitous global phenomenon today with rich existential, political and cultural meaning. If Critical Theory is to be updated for the coming generation, technology must therefore be one of its essential components. In this context, the case of Nepal shows that what should be the object of critique is not technological interventions as such, since they can enter the life-worlds of different cultures if the process of adaptation is executed in a culturally sensitive, democratic and liberatory manner such as Murcott's. Our object of critique is rather the ways in which the adoption is occurring—who is defining the design, power, dissemination, control, for whom and for what purpose, in what context. Murcott's case also shows that a truly global Critical Theory would also need strong feminist and postcolonial perspectives as Matustik suggests, but not simply in theory but in actuality, in order to remain vigilant against the tendency to define liberation in a way limited to "European Man."

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Notes