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TECHNOLOGY AND THE LAW: ARTICULATING A WOMEN'S RIGHTS PERSPECTIVE

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I have in my office a poster from the NGO Forum of the World Conference, which closed the United Nations Decade for Women, held in Nairobi, Kenya, in 1985. The design is simple: a black, white, and red drawing of a strong and graceful African woman. Upon her head she carries a sign, in place of the traditional pot or basket. The sign reads, "If it's not appropriate for women, it's not appropriate. Tech and Tools at Forum 85, Nairobi."

The poster's specific reference is to the Appropriate Technology movement. Led by women and grassroots activists during the seventies and eighties, this movement challenged the emphasis on big construction projects in foreign aid packages.¹ An "appropriate technology" may be large or small, crafted or "high tech." The important thing is that it be accessible to its users and not require them to conform to its demands. Instead, the technology serves and sustains their chosen way of life.²

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¹ See generally UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION, BLUEPRINT FOR THE FUTURE: UNESCO'S MEDIUM TERM PLAN 1984-1989 31-33 (1989); *Strategies to Improve the Status of Women Over the Next 15 Years 1985-2000*, DESI BACKGROUND (United Nations Division for Economic and Social Information ed., July 14, 1985); INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY, AN ACCOUNT OF THE ACTIVITIES OF THE INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY 14 (1983); Marie Antoinette Oromen-Myin, *The Involvement of Rural Women in Tanzania*, 6 CANADIAN WOMAN STUDIES - LES CAHIERS DE LA FEMME 37-38 (York University Project ed., 1981).

² For example, one response to deforestation in rural African communities has been to make home fires more efficient by designing stoves which use less fuel. See, e.g., WOMEN AND ENERGY PROJECT, WOMEN AND ENERGY IN KENYA (1985) (pamphlet on file with *St. John's Law Review*) (describing methods used to teach women to build specifically designed clay stoves in areas where soil conditions allow easy access to clay); KENGO (pamphlet on file with *St. John's Law Review*) (describing organization which produced and distributed ceramic wood stoves developed by Appropriate Technology Centre at Kenyatta University College, Kenya). An example of inappropriate technology is the lead-battery production process which was the subject of a sex-discrimination lawsuit brought by female workers in International Union, UAW v. Johnson Controls, Inc., 499 U.S. 187 (1991). In this case, the Supreme Court found the employer's policy barring all women, except those medically demonstrated to be infertile, from parts of the workplace where lead was pervasive and, therefore, potentially harmful to an unborn

The vibrant image depicted by my poster also challenges the deterministic conception of technology, the idea of a "technological imperative."³ Two basic deterministic assumptions have profoundly influenced the law's response to technology: (1) that the pattern of technical process is preordained, and not the product of human choice; and (2) that society must adapt its arrangements in response to technological developments.⁴ These beliefs are widely held and tend to deflect critical reactions to new products and obscure opportunities to make technology more socially responsive.

Today, I want to discuss the status of technology in the law and suggest that, to secure women's rights to health and a viable environment, we must re-evaluate and change the law's treatment of technology. I am going to speak very generally about both medical and reproductive health technologies and production technologies which affect the environment. I will discuss conceptual obstacles to changing the law about technology and suggest that identifying cases in which technology has already been the subject of women's struggles may help orient us toward articulating legal rights to appropriate technology.

A threshold difficulty in considering technology is its peculiar invisibility. The familiar is often invisible and our understanding of technology suffers from this limitation. Technology is pervasive and it constitutes the framework for our lives, so we tend not to see individual technologies as objects nor view technological evolution as a category. Indeed, we do not have much lay vocabulary for the term "technology."⁵

fetus to be facially discriminatory, *id.* at 197-200, and not justified by bona fide occupational qualifications, *id.* at 200-06. In her discussion of the issues raised by the case, Patricia Williams suggests that the practice of Brazilian employers requiring female employees to provide proof of sterilization has contributed to Brazil having one of the highest rates of sterilization in the world. See Patricia Williams, *Fetal Fictions: An Exploration of Property Archetypes in Racial and Gendered Contexts*, 42 FLA. L. REV. 81, 86-89 (1991).

³ ANDREW FEENBERG, CRITICAL THEORY OF TECHNOLOGY 122 (1991) ("The dominant view of modernization is based on the deterministic assumption that technology has its own autonomous logic of development.").

⁴ According to Feenberg, determinist theory is predicated on two theses:

1. The pattern of technical progress is fixed, moving along one and the same track in all societies. Although political, cultural, and other factors may influence the pace of change, they cannot alter the general line of development, which reflects the autonomous logic of discovery.
2. Social organization must adapt to technical progress at each stage of development according to "imperative" requirements of technology. This adaption executes an underlying technical necessity.

Id. at 122-23.

⁵ See LANGDON WINNER, AUTONOMOUS TECHNOLOGY: TECHNICS-OUT-OF-CONTROL AS A THEME IN POLITICAL THOUGHT 8-9 (1977) (arguing that changes to technology's dictionary

Another problem we face is the fact that our principal theoretical disciplines have not adequately accounted for technology. The basic methodologies we rely upon to analyze and understand our situation, such as neoclassical economics and law, generally fail to incorporate a description and explanation of technology. The neoclassical perspective tends to view technology's effects as given, and does not focus on and examine their source.⁶ Technology studies have neither been established as a discipline, nor fully incorporated into the mainstream of other disciplines. In law, for example, until recently, technology has been the exclusive concern of intellectual property law, where the emphasis is on encouraging technical research and development ("R&D"), rather than evaluating its fruits.⁷ Environmental law has generally had a pollution-control orientation based on the model of nuisance law, which focuses on identifying and reducing damage to air, water, and land.⁸ Newer legal approaches to regulation focus on environmental information systems and attempt to encourage better designs in production processes. For the most part, such regulatory strategies are still considered novelties.⁹

A theoretical stance in law or economics which ignores the way in which R&D is conducted can lead to several misleading assumptions that carry through to public policy. If we fail to perceive clearly the way in which technology evolves, then we cannot determine how to develop different technological options. What we have tends to appear "right."¹⁰

definition over century reveals "shift in meaning from something relatively precise, limited, and unimportant to something vague, expansive, and highly significant").

⁶ See generally DAVID W. PEARCE & R. KERRY TURNER, *ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT* 10-15 (1990) (discussing components of neoclassical economic theory and its relationship to technology and environmentalism); RICHARD R. NELSON & SIDNEY G. WINTER, *AN EVOLUTIONARY THEORY OF ECONOMIC CHANGE* 195-205 (1982) (critiquing neoclassical growth theory as method to explain technical change).

⁷ See generally Mary L. Lyndon, *Tort Law and Technology*, 12 *YALE J. ON REG.* 137 (1995) [hereinafter Lyndon, *Tort Law and Technology*].

⁸ See Mary L. Lyndon, *Information Economics and Chemical Toxicity: Designing Laws to Produce and Use Data*, 87 *MICH. L. REV.* 1795, 1817-20 (1989) (discussing *ex post* method for setting standards for human exposure to chemicals). Under an *ex post* method, most environmental controls are applied only "when research establishes both significant exposure to and toxicity of a chemical." *Id.* at 1819.

⁹ See Mary L. Lyndon, *Secrecy and Innovation in Tort Law and Regulation*, 23 *N.M. L. REV.* 1, 38 (1993) [hereinafter Lyndon, *Secrecy and Innovation*] (discussing waste-reduction regulation).

¹⁰ See generally James E. Krier & Clayton P. Gillette, *The Un-easy Case for Technological Optimism*, 84 *MICH. L. REV.* 405, 426 (1985) (contending that technological optimism theory is based "on a package of considerations none of which is sure to materialize"); Nelson and Winter suggest that the neoclassical perspective tends to miss the way in which past choices obscure other options. NELSON & WINTER, *supra* note 6. "The problem with the neoclassical metaphor . . . is

Human needs seem secondary and we are perceived to be dependent on technical evolution. We expect technology to provide improvements to our lives and insist that technical research be supported and given free rein. These are aspects of a stance sometimes labeled "cornucopianism,"¹¹ the belief that technology unfolds in a fated and beneficial fashion and that the market inevitably will provide the good technologies necessary to society.¹² In this view, technology is a bounteous source of goods and is seen as a means of correcting technical dilemmas in which later technological development will cure current problems and prove that we have taken the right path.

Of course, this view is much too optimistic. The work of economists concerned with innovation debunks this mythology¹³ and demonstrates that the evolution of our existing technologies has been the product of two factors. The first factor is private investment; R&D choices are made within market arrangements and are shaped by idiosyncratic commercial rivalries.¹⁴ The second factor is government subsidies and procurement, particularly of military technology. The latter is generally ignored by

not that it connotes purpose and intelligence, but that it also connotes sharp and objective definition of the range of alternatives confronted and knowledge about their properties. Hence, it misleadingly suggests an inevitability and correctness in the decisions made" *Id.* at 250.

¹¹ See PEARCE & TURNER, *supra* note 6, at 13-15. Cornucopianism is one of four basic world views that the authors outline. *Id.* at 13. Cornucopianism takes an extreme view of technocentric environmental economics. *Id.* It takes a resource-exploitative, growth-oriented position, and seeks to maximize a nation's gross national product. *Id.* at 14. Moreover, "it is taken as axiomatic that unfettered market mechanisms or central planning . . . in conjunction with technological innovation will ensure infinite substitution possibilities capable of mitigating long-run physical resource scarcity." *Id.*

¹² See PEARCE & TURNER, *supra* note 6, at 289.

The cornucopian view of technical progress has forecast that rather than adapting existing natural resources to economic end uses, technological advances may soon permit the creation of entirely new synthetic materials. . . . It is then suggested that progress in material science and engineering will supplant resource scarcities as the ultimate constraint on the rate at which key sectors . . . of the economy can grow.

Id.

¹³ See *supra* note 10.

¹⁴ See Lyndon, *Tort Law and Technology*, *supra* note 7, at 143-48.

Private R&D takes place in an idiosyncratic and dynamic setting. The structure of each market and the characteristics of each technology are unique. Firms selectively produce and develop knowledge in response to these learning opportunities, reacting to the behavior of rivals who work on the related projects in a loosely knit group in the same vicinity of the research terrain.

Id. at 146 (citations omitted); see also Lyndon, *Secrecy and Innovation*, *supra* note 9, at 10 (indicating that trade-secret doctrine "operates in the context of commercial rivalry for control of technology and information about it The law seeks to provide some support for the integrity of transactions concerning technical information and to encourage its use to develop and improve technology").

microeconomic analysis and law and economics, though not by innovation economics. The existing R&D system has been very productive, but it also has bypassed many opportunities and created enormous social costs. Today, two fundamental questions dominate health, safety, and environmental law: (1) how the law should treat the people who have borne the social costs of technology, whose lives have been disrupted by pollution or injurious products; and (2) to what extent and in what ways can the law influence producers of technologies to reduce and prevent these costs. As we enter a new era of "free trade," the view that private investment choices should determine the course of technical change is firmly established. R&D decisions are generally made "privately" and screened from public participation by property rules. Since nothing is more public in its effects than is technology, the "privacy" of its origins seems anomalous.¹⁵ Government can affect these choices only indirectly through attempts to structure incentives with taxes and subsidies. While there have been women inventors¹⁶ and entrepreneurs who invest in R&D projects, women, as a group, are largely outside the sphere in which key R&D decisions are made. They, like government, are limited to trying to influence these decisions indirectly.

Moreover, because R&D is not only private but also frequently secret, particular technologies are often developed and marketed before most of society is aware of them. Once a technology exists, it has value and power based, in part, on its mere existence, as it may be hard at that point to change directions. This incumbency also makes the refinement of an existing technique more likely than the development of new approaches.¹⁷ Thus, early decisions about which R&D path to pursue will influence the options exercised by later users or consumers, who had no influence over the early R&D choices.

Today, technology also develops in the context of human rights law and this law should have some impact on its course. While women's rights struggles have redefined basic political rights, economic power remains unevenly distributed. Large numbers of women throughout the world continue to be poor and struggling.¹⁸ Women lack the power to choose

¹⁵ Lyndon, *Secrecy and Innovation*, *supra* note 9, at 39-50 (discussing jurisprudential issues raised by related question of ownership claims to data affecting health of others).

¹⁶ See ETHLIE ANN VARE & GREG PTACEK, *MOTHERS OF INVENTION: FROM THE BRA TO THE BOMB—FORGOTTEN WOMEN AND THEIR UNFORGETTABLE IDEAS* (1988).

¹⁷ Lyndon, *Tort Law and Technology*, *supra* note 7, at 152-53 (discussing path-dependency of technical knowledge).

¹⁸ See Amartya Sen, *More Than 100 Million Women are Missing*, N.Y. REV. OF BOOKS, Dec. 20, 1990, at 61-66 (discussing neglect of women worldwide).

and develop technologies, but are, nonetheless, frequently the objects of these technologies.

The web of existing beliefs and assumptions about technology is laden with gender issues and ideology.¹⁹ As Judith Wajcman has stated, "the close affinity between technology and the dominant ideology of masculinity itself shapes the production and use of particular technologies."²⁰ Familiar stereotypes, such as "man and machine" or "guy with truck," simply represent a surface manifestation of complex and shifting dynamics. These dynamics may include women within technological processes, but often in disturbing ways.²¹ For example, male-dominated pharmaceutical firms research, develop, and market reproduction technologies, such as *Norplant*[®] contraceptive implants,²² for masses of women while large numbers of women working in the electronics industry produce modern military systems. Forty percent of the cost of a contemporary naval cruiser is devoted to its distinctive electronic system. "Thus, an archetypal male artifact is in reality built in large part by women."²³

Can we establish a coherent, legal treatment of technology, including its development, deployment, and effects, which incorporates human rights and women's rights principles? Can we develop a way of thinking about women's right to technologies that are "appropriate" for us? Today, the law's consideration of technology as a social phenomenon is fractured and disorganized. While it is true that we have a great deal of law about technology, it is spread throughout different fields: health law, environmental law, intellectual property law, government programs supporting research, and military development programs. Technology is not perceived as the focal point of any of these fields. In these laws, however, there are opportunities to maximize the capacity of technology to unfold in the direction of greater responsiveness to human needs. Perhaps we can start by examining the areas in the law that focus on technology, and, through

¹⁹ See generally FEENBERG, *supra* note 3 (discussing relationship between ideology and technology).

²⁰ JUDITH WAJCMAN, *FEMINISM CONFRONTS TECHNOLOGY* x (1991).

²¹ *Id.* at 137-59 (examining ideological and cultural influences that create close connection between men and technology and its impact on women).

²² Since its arrival on the American market in 1991, about one million women have used a *Norplant*[®] contraceptive implant. See, e.g., Laura Duncan, *Norplant: The Next Mass Tort: State and Federal Suits Allege Birth Control Device is Defective*, A.B.A. J., Nov. 1995, at 16; see also *For High School Girls, Norplant Debate Hits Home*, N.Y. TIMES, Mar. 7, 1993, at 1 (discussing Baltimore's plan to offer *Norplant*[®] to teenage girls to reduce pregnancy). As the popularity of *Norplant*[®] implants increases, so does the potential for litigation. *Id.* (revealing that federal and state class-action lawsuits have been filed alleging *Norplant* is defective).

²³ WAJCMAN, *supra* note 20, at 149.

studying them, develop a coherent set of legal principles about technology's social dimensions.

Today, feminists are beginning to engage more fully in economic study and argument.²⁴ This is important; we must not abandon economics to libertarians who believe that "good" will automatically arise from free markets. Carol Weisbrod suggests that, because economics asserts the existence of strategic bargaining chips in different sites, it is able to articulate the possibilities of countervailing power.²⁵ In contrast, lawyers are accustomed to traditional European hierarchical schemes of politics, which view women at the low end of a hierarchy. Under the hierarchical models, relative power is difficult to visualize.²⁶

We need to visualize this kind of power for ourselves and make room for it within our legal system. This form of power exists in women's informal networks, art, writing and publishing, political activism, and similar endeavors. In the law, plaintiffs, both individuals and classes, and their attorneys have exercised this kind of power. In toxic tort and environmental citizens' suits, many women have already been fighting for the appropriate technology.

Giving greater recognition to their efforts, rather than seeing them only as victims, is a first step toward a new orientation of technology. For example, we are beginning to document the history of environmental activists' resistance to the "technological imperative." Many of these activists are brave women.²⁷ Some of their actions have resulted in

²⁴ See, e.g., MARTHA FINEMAN, *THE ILLUSION OF EQUALITY: THE RHETORIC AND REALITY OF DIVORCE REFORM* (1991).

²⁵ See Carol Weisbrod, *Practical Polyphony: Theories of the State and Feminist Jurisprudence*, 24 GA. L. REV. 985, 999 n.66 (1990).

²⁶ *Id.* at 999.

²⁷ Two environmental activists who come to mind are Lois Gibbs and Hazel Johnson. Lois Gibbs organized the people of the neighborhoods around Love Canal in Niagara Falls, N.Y., and fought for recognition of the toxic injuries they suffered. See Michael Slackman, *Surprise Package; Flamboyant Lobbyist to Send Whatchamacallit to VIPs to Make Case*, NEWSDAY, Oct. 13, 1995, at A8 (recounting Gibbs' role in Love Canal incident). In 1981, Gibbs founded the Citizens Clearinghouse for Hazardous Wastes, which continues to advise other citizens' groups about how to rid their own communities of toxic dump sites and other pollution-emitting industries. See Denise Reaman, *Love Canal Activist Warns of Dioxin Danger in L.V.*, THE MORNING CALL (Allentown), Nov. 3, 1995, at B8 (discussing Gibbs' visit to Lebanon Valley, Penn., to warn citizens of dioxin dangers); Steve Nearman, *For All of Love Canal's Crazyness, It Did Launch My Career*, WASH. POST, Sept. 11, 1983, at C3 (interview with Gibbs about her role as environmentalist activist). Hazel Johnson is the co-founder of People for Community Recovery, a Chicago citizens' group that is dedicated to addressing and solving local pollution problems. She and her group organized eight communities from the south side of Chicago and got the government to close down the numerous landfills located in the communities. See Hazel Johnson, *A Personal Story*, 9 ST. JOHN'S J. LEGAL COMMENT. 513 (1994) (discussing her

lawsuits.²⁸ The citizen-suit provisions in environmental laws have lent support and some degree of effectiveness to these struggles.²⁹

In tort law, we have a richer, formal record of women's resistance to harmful technologies.³⁰ Plaintiffs range from Judith Sindell, the DES daughter whose landmark lawsuit led the California Supreme Court to adopt principles of industry-wide liability for mass injuries,³¹ to the many women whose names and stories now comprise a substantial history of responses to technological abuses.³²

environmental activism at environmental law symposium held at St. John's University School of Law).

In countless environmental controversies, the community leaders and the foot soldiers of such struggles have been women. See ENVIRONMENT: A READER—CRISIS AND DEVELOPMENT IN THE THIRD WORLD (Sally Sontheimer ed., 1991); VANDANA SHIVA, STAYING ALIVE: WOMEN, ECOLOGY AND DEVELOPMENT (1989); ANNE WITTE GARLAND, WOMEN ACTIVISTS: CHALLENGING THE ABUSE OF POWER (1988).

²⁸ See generally *Mervak v. City of Niagara Falls*, 420 N.Y.S.2d 687 (Sup. Ct. 1979) (identifying Lois Gibbs as claimant against City of Niagara seeking to recover damages for injury to her and her family caused by Love Canal toxic-waste dump). Gibbs' lawsuit was one of over 900 environmental disaster claims filed against Niagara Falls and New York State as of 1982, *id.* at 688; it was her action that spearheaded the movement to get the state and federal government to clean up Love Canal and relocate the residents who were at risk. See *supra* note 27. New York State has spent over \$59 million to clean up Love Canal and relocate its residents. Matthew L. Wald, *Out-of-Court Settlement Reached Over Love Canal*, N.Y. TIMES, June 22, 1994, at B1 (reporting that Occidental Petroleum agreed to reimburse New York State for cleanup work at Love Canal and to take over work). Occidental Petroleum has already paid over \$20 million to 1,400 people who claimed injuries as the result of Love Canal, *id.*, and there are still 690 people with outstanding claims against the California-based corporation. *Id.*

²⁹ See, e.g., Clean Air Act, 42 U.S.C. § 7604 (1988 & Supp. V 1993); Federal Water Pollution Control Act Amendments ("Clean Water Act"), 33 U.S.C. § 1365 (1988); Resource Conservation and Recovery Act, 42 U.S.C. § 6972 (1988).

³⁰ See Leslie Bender, *An Overview of Feminist Torts Scholarship*, 78 CORNELL L. REV. 575 (1993) (examining tort law through gender power relations, gender bias and discrimination, and women's experiences); Martha Chamallas & Linda K. Kerber, *Women, Mothers, and The Law of Fright: A History*, 88 MICH. L. REV. 814 (1990) (providing historical account of law's treatment of "fright-based" physical injuries and contending that it was women, bringing repeated lawsuits for damages, who paved way for contemporary tort recognition of emotional damages).

³¹ See *Sindell v. Abbott Labs.*, 607 P.2d 924 (Cal.), *cert. denied*, 449 U.S. 912 (1980).

³² Listing the names of some of the many women to whom we are indebted seems an incomplete gesture. Perhaps this history is being compiled elsewhere, as others have recognized the important synergism of women's rights and the tort system. See, e.g., Pamela Anagnos Liapakis, *Tort Reform Could Leave Women Shortchanged*, NAT'L L.J., July 24, 1995, at C2 (arguing that Congressional tort-reform laws "represent a grave threat to the health and safety of women in the United States"). The following list emerges from my own teaching experience: Mariann Hopkins, of *Hopkins v. Dow Corning Corp.*, 33 F.3d 1116 (9th Cir. 1994) (resulting in affirmative ruling on acceptable expert evidence in toxic torts cases, which is important achievement in light of many courts' reaction to *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 320 (1993)), *cert. denied*, 115 S. Ct. 734 (1995); Jane King, of *King v. Collagen Corp.*, 983 F.2d 1130 (1st Cir.) (acknowledging normative issue of compensation to individuals

As a regulatory mechanism, one of tort law's strengths is that it works from the particular story of the plaintiff. In this way, tort law can provide useful technical information missed by more abstract approaches to law making, such as regulation.³³ It also presents a vivid literature concerned with personal pain and with the need for care.³⁴ These stories are partial, and are presented in versions that have been refracted through the adjudication process, colored by the perspectives of the law clerks and judges who write the opinions. This process is, in some ways, inherently misleading and, as Kristen Bumiller has suggested of another category of cases, may simply reinforce existing stereotypes.³⁵ Perhaps, however, it need not do so. Women in torts cases have come forward, in their own

who are particularly sensitive to pharmaceuticals), *cert. denied*, 114 S. Ct. 84 (1993); Ann C. O'Brien and her mother, Mary Ann, of *O'Brien v. Eli Lilly & Co.*, 668 F.2d 704 (3rd Cir. 1981) (producing vivid and seasoned dissent claiming majority imposed on plaintiff "insurmountable burden of knowledge, inquiry, and insight"); Ellen Braune and her co-plaintiffs, of *Braune v. Abbott Labs.*, 895 F. Supp 530 (E.D.N.Y. 1995) (citing feminist scholarship and giving reading of New York's statute of limitations); Anne Anderson, of *Anderson v. W.R. Grace & Co.*, 628 F. Supp. 1219 (D. Mass. 1986) (suing for wrongful death of her son from leukemia allegedly caused by toxic waste); Janette Allyn Hawkinson and her co-plaintiffs, of *Hawkinson v. A.H. Robbins Co.*, 595 F. Supp. 1290 (D. Colo. 1984) (revealing corporate negligence and fraud behind Dalkon Shield); Irene Allen, of *Allen v. United States*, 588 F. Supp 247 (D. Utah) (advocating thoughtful, ground-breaking theory of cause to enable victims of government nuclear tests to recover for damages), *rev'd*, 816 F.2d 1417 (10th Cir.), *cert. denied*, 484 U.S. 1004 (1984); Mae and Robert Ayers, of *Ayers v. Township of Jackson*, 525 A.2d 287 (N.J. 1987) (granting damages award for reduced quality of life when town's residents had to use barrels of water instead of tap water because town wells were contaminated and, in tort breakthrough, securing substantial award for medical monitoring until health effects of contamination could be determined); Carol and Clifford Anderson, of *Anderson v. Eli Lilly & Co.*, 557 N.Y.S.2d 981 (App. Div. 1990) (denying husband's claim of loss of consortium from wife's infertility due to DES effects), *aff'd*, 588 N.E.2d 66 (N.Y. 1991).

³³ See Lyndon, *Tort Law and Technology*, *supra* note 7, at 159-65 (providing examples demonstrating that tort law serves as better way to monitor and guide process of technological development than regulatory method). See generally Leslie Bender, *Feminism (Re)Torts: Thoughts on the Liability Crisis, Mass Torts, Powers, and Responsibilities*, 1990 DUKE L.J. 848 (providing ways feminist analysis can change laws controlling corporate forms and corporate decision-making as well as improve flaws in tort system; viewing tort system as result of corporate irresponsibility rather than litigious plaintiffs).

³⁴ See, e.g., Bender, *supra* note 30; Chamallas & Kerber, *supra* note 30; Lucinda Finley, *A Break in the Silence: Introducing Women's Issues in a Torts Course*, 1 YALE J.L. & FEMINISM 41, 50-51 (1989) (examining ways in which potential and true dimensions can be better realized by understanding women's participation in relational and emotional damages and also seeing relational and emotional damages as substantial).

³⁵ Cf. Kristen Bumiller, *Fallen Angels: The Representation of Violence Against Women in Legal Culture*, 18 INT'L J. SOC. L. 125 (1990) (examining ways in which rape trials and other sexual crimes actually reinforce dominant preconceptions concerning men, women, and sexual violence); Kristen Bumiller, *Rape as a Legal Symbol: An Essay on Sexual Violence and Racism*, 42 U. MIAMI L. REV. 75 (1987) (providing personal observations of rape trial to describe how legal discourse imposes restraints on interpretation of events surrounding trial).

names, and not as part of a public prosecution, and demanded a redress for their injuries. In some cases, judges incorporate feminist perspectives into the formal analysis,³⁶ and, in the history of tort law on emotional damages, we have an example of an area in which women's insistence on being heard has effected fundamental changes in the law.³⁷

Tort law and environmental citizens' suits are important legal mechanisms in a society which produces technologies privately and screens them through a centralized regulatory agency only after they have been produced. Tort law and citizens' suits bring important information and perspectives on technology into the law. Yet, we should not feel too secure about these legal options. Not only are they highly imperfect and limited in scope, but both have come under serious attack. Tort law is being assaulted by the "tort reform" movement, which seeks to curtail or eliminate product liability laws, while environmental legislation pending in Congress threatens to further handicap efforts to make technical change socially responsible. We may well lose both legal mechanisms as we move into a globalized legal framework under NAFTA,³⁸ GATT,³⁹ and related international schemes. "Tort reform," new environmental legislation, and the future internationalization of the law must be focal points for working

³⁶ In *O'Brien*, Judge Higginbotham's dissent argues that the majority depersonalized the concepts of knowledge and choice. *O'Brien*, 668 F.2d at 714-21 (Higginbotham, J., dissenting) (criticizing majority's decision to deny nineteen year-old girl recovery for injuries suffered by corporation's negligence because she failed to conduct reasonable inquiry into circumstances surrounding her cancer surgery after she read about similar operation in magazine). In *Braune*, Judge Weinstein made the same point. *Braune*, 895 F. Supp. at 555 (citing CAROL GILLIGAN, IN A DIFFERENT VOICE (1992), as authority for proposition that "[t]he law must take into account the reasonable intellectual and emotional states of people in plaintiffs' particular position"). In *Hawkinson*, Judge Matsch rejected the defendant's argument that engaging in sexual intercourse with several partners, not the defendant's IUD, was the cause of the two plaintiffs' injuries. Instead, the court saw the plaintiffs' sexuality as the context in which the injuries occurred, noting that the product was designed to enable freer sexual activity. See *Hawkinson*, 595 F. Supp. at 1331 (upholding plaintiffs' claims that Dalkon Shield caused severe physical injuries).

³⁷ See Chamallas & Kerber, *supra* note 30.

³⁸ North American Free Trade Agreement, Dec. 17, 1992, 32 I.L.M. 289 (1993) (containing ch. 109), 32 I.L.M. 605 (1993) (containing chs. 10-22). NAFTA is an agreement among the United States, Canada, and Mexico to expand free trade and improve economic relations among those nations. See *id.*

³⁹ General Agreement on Tariffs and Trade, opened for signature Oct. 30, 1947, T.I.A.S. No. 1700, 55 U.N.T.S. 187 [hereinafter GATT]. GATT has not been ratified as a full treaty by the United States Senate. Instead, it has been approved as an executive agreement. See JOHN H. JACKSON, THE WORLD TRADING SYSTEM: LAW AND POLICY OF INTERNATIONAL ECONOMIC RELATIONS 34-35 (1989) (discussing Congress' refusal to ratify GATT). In December 1994, however, a lame-duck United States Congress ratified the Uruguay Round of GATT. See generally David E. Sanger, *Senate Approves Pact to Ease Trade Curbs; A Victory for Clinton*, N.Y. TIMES, Dec. 2, 1994, at A6.

to preserve and expand the human right, and women's right, to appropriate technology.

