


Making PATH: The Ford Foundation and Appropriate Technology for International Health

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In 1977, Dr. Gordon Perkin, a Canadian obstetrician-gynecologist, and his colleague Dr. Richard Mahoney, an expert in contraceptive development, left their jobs at the Ford Foundation. Together with reproductive health expert Dr. Gordon Duncan, a consultant to the Foundation, the three researchers formed their own non-profit organization, the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT). The trio left Ford on very good terms. Their former boss, Chief Program Officer Dr. Oscar Harkavy—known to friends and close colleagues as “Bud”—helped to ensure that the Ford Foundation became PIACT’s first funder and one of its most consistent early boosters. With a pledge of \$92,000 in seed money from the Foundation and donated office space in Seattle, the three co-founders set to work designing novel contraceptive programs for the developing world.¹

After a few short years of working on family planning programs, primarily in China and South East Asia, Perkin, Mahoney, and Duncan realized that the needs of those communities extended well beyond contraceptives. What made their approach novel, at a time when concern over the “population bomb” and family planning programs was at its peak, was their attention to the specific needs of local communities in mind at the outset, rather than advancing the technology first and then finding an application for it.² Early on in the development process for a new drug or device, PIACT would engage with local stakeholders and also find a commercial manufacturing partner, so that the end users and manufacturers were both able to shape the technology as it unfolded. This bottom-up model of development resonated with a growing movement in the 1970s towards “appropriate technology,” and in 1980, the organization was re-christened the Program for Appropriate Technology in Health (PATH).

My dissertation, “Making Technology Appropriate: Modernization, Health, and Development in the Global Cold War” traces how appropriate technology for health was theorized, interpreted, mobilized, and, eventually, came to form the backbone of the techno-centric logic of global health today. Appropriate technology has historically been loosely defined as technology which is appropriate to the social, cultural, economic, and environmental context of the region in which

it is to be used. Given the subjectivity built into this definition, what “appropriate” meant in practice for development programs was often hotly debated. The concept grew out of economist Ernst Schumacher’s idea of “intermediate technology”—that which was designed to be between “traditional” and “modern,” which he believed would create jobs in rural communities of developing countries.³ As a matter of US policy, the appropriate technology movement took hold at a moment when the government faced a significant balance of payments problem due to the 1973 oil shocks, and thus offered the promise of cost-savings within its international development programs.⁴ A central tenet of PATH’s projects was that the technology had to be affordable in the local markets, as well as convenient and effective for community-level health workers.

The choice of technology in community-level development programs was therefore key to their success. In their classic study of the Zimbabwe Bush Pump, a locally-designed and manufactured community water pump, Marianne de Laet and Annemarie Mol posit the fluidity of the technology—that its boundaries are “vague and moving” and its functionality highly adaptable—as the main driver of its utility, which in turn constitutes the technology itself as an *actor*.⁵ de Laet and Mol situate the Bush Pump as an “appropriate technology” which has helped not only to develop but to define modern Zimbabwean statehood. Although they leave this term undefined, a major focus of their work is the way in which the Bush Pump defies profit-driven market logic—it is low cost, locally manufactured, and assembled by the community. Just as the fluidity of the Bush Pump is integral to its ability to be transferred—installed and used successfully in a wide variety of settings—the fluidity of what defines an appropriate technology has allowed the concept to travel and be used to a wide variety of ends.

In a recent response to de Laet and Mol’s work on the Bush Pump, Peter Redfield, looks at 21st century global health technologies—“ingenious, small-scale gadgets”—such as the LifeStraw (a point-of-use water filter for individuals). He argues that, though these new technologies are very much in alignment with market prerogatives, they nevertheless seek to do good.⁶ In theory, the development of appropriate technology is an iterative process done at the village

level. As with the Bush Pump, community buy-in is necessary to the technology's functioning and it seems to function against market incentives. In practice, however, my preliminary research indicates that appropriate technology programs have historically more closely resembled those of Redfield's study, where devices are designed in the Global North for use in the Global South, without ignoring profit margins.⁷ Appropriate technology, though intended for humanitarian aid, has been subject to the same economic incentives as other commodity flows to and from the Global South.⁸

PATH's focus on local affordability—with many interventions designed to cost less than \$1 per patient—meant that the margins it could offer manufacturing partners were often below the level that would interest major international pharmaceutical companies. For many of its early projects, therefore, PATH turned to lesser-known firms in countries like China and India which were more willing and able to work within extremely tight profit margins. In its attempt both to innovate and keep things cheap, PATH ran counter to most Western governments' prevailing notion of "appropriate technology," which, while also low-cost, was decidedly less innovative. Far from heat-sensitive vaccine labels and rapid-diagnosis Hep B test kits, their vision was largely one of bamboo tube wells and wheelchairs made from re-purposed bicycle parts.

Of course, innovation is certainly not a universal good. Recent scholars within the history of technology have developed a keen literature celebrating less innovative, more mundane, everyday technologies and the importance of maintenance.⁹ Within this turn is the work of David Edgerton, who argues for different ways in which mundane technologies can produce the "shock of the old," and David Arnold, who considers the politics inherent in everyday Indian technologies such as the bicycle.¹⁰ Yet PATH's emphasis on interventions, which were both technically advanced and contextually appropriate, resonated far more with the sensibilities of many Global South governments in the New International Economic Order, which viewed science and technology as key to the development process.¹¹

As a key actor in the larger scope of my dissertation, I was therefore delighted to find that the Rockefeller Archive Center (RAC) housed not only all of the Ford Foundation files related to PATH's early programs, but also records pertaining to its British predecessor, the Intermediate Technology Development Group, as well as many files on both Rockefeller Foundation and Ford Foundation involvement in the 1979 United Nations Conference on Science and Technology for Development. Rather than attempt a comprehensive accounting of these many and varied programs, I will highlight here a few representative examples.

Many of PATH's early programs supported by the Ford Foundation centered on the development and adaptation of educational and health communications materials. These media, while perhaps not "technologies" in the traditional sense, often conveyed highly technical information on everything from the correct preparation and administration of oral rehydration salts to prevent child deaths from diarrheal diseases, to prenatal care and contraceptive use. A primary focus was on making these materials "culturally appropriate" for the intended audiences both in the United States and in the developing world. Adaptations involved alterations to images to portray people in traditional dress or home environments, simplifying language so that materials could be easily understood by those with low literacy levels, and changing the format of materials presented—from booklets and pamphlets, to comic books and dramatic plays.

In the cover letter written to Bud Harkavy, for a 1982 project on child survival which included materials on oral rehydration, breastfeeding, and immunization, for example, Gordon Perkin wrote:

PATH has found that once the materials have been developed in one country, they can be adapted for use in another location. The messages frequently remain the same, but the symbols and individual pictures will, of course, differ. There are definite economies in transferring the successful materials from project to project and country to country.¹²

This transferability, like Mol and de Laet's concept of an appropriate technology's "fluidity," meant that the materials were highly cost-effective, as they could be perennially recycled and re-adapted.

Another example of this feature can be found in PATH's 1988 Ford Foundation-funded "Plain Talk" program, which developed "culturally appropriate" materials for low-literate communities about sexually-transmitted diseases and prevention of teen pregnancy.¹³ Originally developed with focus groups of vulnerable populations in the United States (the concept used for "inner city" African-American foster children in Washington, DC; Hispanic, Haitian, and African American migrant workers in the Delaware, Maryland, and Virginia Peninsula; Alaska-Native youth in Juneau, AK; and Spanish-speaking immigrants in Austin, TX), these materials were then adapted for use in the developing world. Drawing from their experience with the Plain Talk program, PATH staff Margot Zimmerman, Nancy Newton, Lena Frumin, and Scott Wittet wrote "Developing Health and Family Planning Print Materials for Low-Literate Audiences: A Guide," most often referred to as the "Materials Development Guide." Published in 1989, it was widely disseminated to and supported by NGOs, academic centers, and government agencies concerned with family planning, including the World Health Organization. Subsequently, the Guide was referenced extensively in the US government's own programs that address health communications for populations with low-literacy rates, such as the CDC's "Simply Put," the NIH's "Clear & Simple," and Health and Human Services' "Plain Language" strategy. The program had come full-circle--PATH Vice President Mary Beth Moore framed Plain Talk as a form of "transfer of technology from developing to developed countries [which] is seldom demonstrated."¹⁴

PATH was also developing new "appropriate technology" devices throughout this period, although these projects were generally supported by bodies like the World Health Organization and not by the Ford Foundation. Interestingly, in an internal memo about a PATH grant proposal to his colleague, Investment Officer John Foster-Bey, on January 12, 1988, Bud Harkavy pointed out the Foundation's historic lack of investment in technology development. "The problem

of program relevance, however, arises,” he wrote, “because we typically are not involved with technology development in our grant-making, hoping that appropriate technology will be developed and made available by others. My own sentiment is that we’ve gone overboard in our lack of interest in technology and I’d hope, if [Program Related Investments] funds were available and the business plan made sense to you, this proposal could be considered.”¹⁵ “Are you willing to put grant funds into this?” was Foster-Bey’s one-line reply.¹⁶ The proposal in question, for funds to put toward the development of new child survival technologies, was one of the few PATH made to the Ford Foundation in the 1980s that was unsuccessful.

The Ford Foundation consistently lent its support to appropriate technology projects that had more conceptual and educational applications. In addition to PATH, it made grants to the Intermediate Technology Development Group (ITDG), a British non-profit established by economist Ernst Schumacher, the originator of the appropriate technology concept. A 1988 project, cleverly titled “Tinker, Tiller, Technical Change,” was intended to incorporate indigenous technical innovations into larger development programs and to help foster small-scale industries.¹⁷ The project sought to correct the “erroneous assumption” within technical assistance work in developing countries “that technological improvements can be devised and introduced only by outside specialists because local people are inherently resistant to change.”¹⁸ Rather, the project positioned “rural producers” as innovators in their own right, and reframed the issue as one of inadequate documentation and visibility for indigenous innovations. Appropriate technology, for the ITDG, was not only developed with local needs in mind, as with PATH’s bottom-up, community-centered approach, but also came from *within* the community—conceptually and materially.

The ITDG, now known as Practical Action, is still operating in the United Kingdom and in many countries in the Global South. Perhaps true to Schumacher’s mantra that “small is beautiful,” it has not achieved the same growth that PATH has experienced over the last two decades. Focused on providing technical information and assistance—often in the form of publications: handbooks,

pamphlets, and blueprints meant for easy implementation by development practitioners—the ITDG circulated expertise and know-how rather than developing new drugs and devices. This latter approach has become PATH’s primary focus in the 21st century. With major grants from the likes of the Gates Foundation, PATH has transformed into a major player in global health programming. Both organizations played key roles in the evolution and application of appropriate technology, from a loose economic concept to a real-world development strategy, and are thus central actors in my dissertation. In particular, PATH’s early work in bridging appropriate technology and international health represents a crucial juncture in my larger narrative. My study follows the organization through the last decades of the 20th century and the increasing shift towards non-governmentality in global health with the rise of another Seattle-based organization, the Gates Foundation.

By way of conclusion, I would like to thank the supportive staff at the RAC for providing such a productive atmosphere throughout my multiple visits to Sleepy Hollow, which enabled me to complete this research. Conversations with Patricia Rosenfield, Tom Rosenbaum, and Renee Pappous were immensely helpful in shaping the direction of my research. The RAC’s support of this project has been invaluable.

¹ PATH, “The Birth of PATH.” Available at: <http://www.path.org/about/birth-of-path.php> (accessed July 14, 2017).

² For more on the history of family planning programs, see: Matthew Connelly (2008) *Fatal Misconception: The Struggle to Control World Population*. Cambridge, MA: Harvard University Press.

³ E.F. Schumacher, “Establishing a New Level of Technology.” *The Times* August 14, 1965, p. xiv

⁴ Within the broader context of international development in the 1970s, there was also pressure from developing countries that formed the New International Economic Order (NIEO), and the precedent set by Robert McNamara as head of the World Bank, which moved the organization away from large capital development projects towards low-tech poverty alleviation programs. See: Randall Packard (2016) *A History of Global Health: Interventions into the Lives of Other Peoples*. Baltimore: Johns Hopkins University Press.

⁵ Marianne de Laet and Annemarie Mol (2000). “The Zimbabwe bush pump: Mechanics of a fluid technology.” *Social Studies of Science* 30, No. 2, pp. 225-263.

⁶ Peter Redfield (2016) “Fluid Technologies: The Bush Pump, the LifeStraw and Microworlds of Humanitarian Design.” *Social Studies of Science*. 46, 2, pp. 159-183.

⁷ Raphael Kaplinsky (2011) “Schumacher meets Schumpeter: Appropriate Technology below the Radar.” *Research Policy* 40, pp. 193-203.

⁸ For example, see Burke (1996); Peterson (2014); Thomas (1991). This is particularly true as the balance of technological assistance programs has shifted away from collective infrastructure projects, like the Bush Pump, towards individual consumables, like the LifeStraw, over the course of the later decades of the 20th century.

⁹ On maintenance, see the work of Lee Vinsel, e.g.: Lee Vinsel and Andres Russell, “Hail the Maintainers” *Aeon*. April 7, 2016. Available at: <https://aeon.co/essays/innovation-is-overvalued-maintenance-often-matters-more> (accessed January 7, 2017).

¹⁰ David Edgerton (2006). *The Shock of the Old: Technology and Global History Since 1900*. Oxford: Oxford University Press. David Arnold (2013). *Everyday Technology: Machines and the Making of India's Modernity*. Chicago: University of Chicago Press.

¹¹ The New International Economic Order (NIEO) was a series of proposals advanced by a coalition of developing (and, in particular, newly independent) states which aimed to replace the Bretton Woods monetary system with one that improved terms of trade for developing countries and increased development assistance, among other initiatives.

¹² Dr. Gordon Perkin to Dr. Oscar Harkavy, May 20, 1982. Rockefeller Archive Center, Ford Foundation Grant Files. Program for Appropriate Technology in Health. Microfilm reel L-456, Grant L82-32.

¹³ “Recommendation for Grant/FAP Action” September 8, 1988. Rockefeller Archive Center, Ford Foundation Grant Files. Program for Appropriate Technology in Health. Microfilm reel 6169, Grant No. 88-1064. p. 3.

¹⁴ Mary Beth Moore to Dr. Jose Barzellato (Ford Foundation Population Office), May 18, 1990. *Ibid*, p. 5.

¹⁵ Oscar Harkavy to John Foster-Bey, January 12, 1988. Rockefeller Archive Center, Ford Foundation Grant Files. Program for Appropriate Technology in Health. Microfilm reel L-536, Grant No. L-87-214.

¹⁶ *Ibid*.

¹⁷ “Tinker, Tiller, Technical Change.” July 12, 1988. Rockefeller Archive Center, Ford Foundation Grant Files. Intermediate Technology Development Group. Microfilm reel 5751, Grant No. 885-0823. The title, presumably, is a play on John le Carré’s 1974 novel *Tinker, Tailor, Soldier, Spy*.

¹⁸ *Ibid*, p. 2