

Of “Zipper Rings” and “Tatum Ts”, Chile – USA: Intrauterine Devices, Men of Science, and Women in Need

Jadwiga E. Pieper Mooney

ABSTRACTS

Der Beitrag untersucht die zur Verhütung eingesetzten „Intrauterine Devices“ (IUDs. Zu deutsch: Intrauterinpeßare) als „reisende Objekte“, die weltweit auf Konferenzen und in Arztpraxen Gegenstand von Verhandlungen waren. Ebenso wirft er ein Schlaglicht auf die politischen und vergeschlechtlichten Machtstrukturen, die zwischen den “men of science” und “women in need” bezüglich der Einführung und Anwendung der IUDs bestanden. Während die Intrauterinpeßare in Nord- und Südamerika im Kontext des Kalten Krieges vorrangig von männlichen Experten mit dem Ziel der Bevölkerungskontrolle entwickelt wurden, offenbart die Nachfrage nach dieser Form der Schwangerschaftsverhütung den dringlichen Wunsch von Frauen, über ihren eigenen Körper bestimmen zu können. Der Beitrag verdeutlicht damit auch die “embodiedness” von Dingen und ihre enge Beziehung zum Körper.

The contribution frames the “intrauterine devices” (IUDs) as “travelling objects,” which were debated and negotiated at conferences and in doctor’s offices on a global scale. It also sheds light on the political and gendered power structures between the “men of science” and “women in need,” especially concerning the introduction and usage of the IUDs. Whereas the IUDs were developed by male experts in North and Latin America in the context of the Cold War with the main aim of population control, the women’s demands for this new form of contraception pointed to their ardent desire to control their own body. The chapter therefore also illustrates the “embodiedness” and close relation of things to the body.

I also remember my first knowledge of the IUD. That was having cocktails with Frank Notestein [...] who came into the cocktail party and announced the development of the IUD as one of the great instruments for holding the world's population down to reasonable levels.¹

Everett S. Lee, President of the Population Association of America (PAA), 1969/70, in a 1979 interview.

Two or three doctors at Chulalongkorn Hospital in Bangkok decided they'd like to begin to supply patients with intrauterine devices. We gave them a supply of IUDs. The word got out, entirely by word of mouth, and people came in from all over the country for services. Monday morning was the registration day and there might have been as many as 800 women sitting out on the grass waiting to register for this service.²

Amos H. Hawley, PAA President, 1971/72, on his time in Thailand in 1964/65.

In 1966, Christopher Tietze, US physician and consultant to the Population Council, claimed that “no other contraceptive method has undergone so rapid and thorough a change of medical reputation as that experienced by intrauterine devices (IUDs)”.³ The attention doctors paid to improving the materiality of IUDs – long-acting, reversible birth control devices inserted into a woman's uterus – was one of the reasons for their growing reputation. In the late 1920s, German obstetrician Ernst Gräfenberg introduced intrauterine devices made of metal, silkworm gut, and silver wire. Gräfenberg moved to the United States, where other researchers picked up his work and used stainless steel to invent the short-lived Hall-Stone Ring. In the 1950s, Jack Lippes introduced the Lippes Loop, a device made of flexible thermoplastic for easier insertion; thermoplastic became the most widely used material for IUDs. In the 1960s, Howard Tatum concluded that a T-shaped design would better fit the shape of the uterus, thereby preventing easy expulsion. Chilean Jaime Zipper and Tatum found that copper would work as an effective spermicide, and the copper Tatum T was first marketed in the 1960s.⁴

Tietze also claimed that new research results were instrumental in the dramatic turn of the history of IUDs in the 1960s. Scientists in many places (including Japan, Israel, and the United States) reported positive results from experiments with variations of the ring, made of different metals or plastic, and tested in different shapes and sizes. Their efficacy, allegedly evident in low pregnancy rates and limited side effects for users, prompted

1 E.S. Lee, PAA President in 1969/70 (No. 33), Interview by Abbott Ferriss (29 June 1979), p. 206, http://www.populationassociation.org/wp-content/uploads/PAA_Presidents_1961-76.pdf (accessed 4 October 2018). Frank Notestein was president of the PAA from 1947 to 1948, founding director of the Office of Population Research at Princeton University, and later president of the Population Council.

2 A.H. Hawley, PAA President in 1971/72 (No. 35), Interview by Jean van der Tak (6 April 1988), p. 234, http://www.populationassociation.org/wp-content/uploads/PAA_Presidents_1961-76.pdf (accessed 4 October 2018).

3 C. Tietze, Contraception with Intrauterine Devices: 1959–1966, in: *American Journal of Obstetrics and Gynecology* 96 (1966) 7, pp. 1043–1054, at 1043.

4 For context, see C. Takeshita, *The Global Biopolitics of the IUD: How Science Constructs Contraceptive Users and Women's Bodies*, Cambridge 2011.

further action. Scientific meetings generated interest in a new generation of IUDs. In 1962, about 40 physicians from eleven countries convened for the First International Conference on Intrauterine Contraception in New York City. They secured funding for large-scale collaborative international research programmes. Promising research results contributed to the skyrocketing attendance rates at the Second International Conference on Intrauterine Contraception. In 1964, more than 500 experts from over 40 countries attended the meeting.⁵ In the same decade, the US-based Population Council, which hosted both conferences, asserted its leading role in IUD research worldwide.⁶



Researchers and female patients experimented with a wide variety of shapes and forms of IUDs over the years. Image used with permission by Dittrick Medical History Center, Case Western Reserve University.

Tietze's chronology reveals several vital characteristics of IUDs as travelling objects, but their trajectory can hardly be reduced to a story of scientific achievements alone. Tietze alerts us to the centrality of IUDs in transnational, collaborative research; he frames IUDs as evidence of medical progress by "men of science" who exchanged data on clinical studies, laboratory experiments, and field research. He also draws our attention to

5 C. Tietze, *History of Contraceptive Methods*, in: *Journal of Sex Research* 1 (1965) 2, pp. 69-85, at 80.

6 E. Moss, *The Population Council: A Chronicle of the First Twenty-Five Years, 1952-1977*, New York 1978, p. 62; C. Tietze and S. Lewit (eds.), *Proceedings of the First International Conference on Intra-Uterine Devices*, Amsterdam 1962; S. J. Segal, A. L. Southam, and K. D. Shafer (eds.), *Proceedings of the Second International Conference on Intra-Uterine Contraception*, Amsterdam 1965.

the sites of international conferences, where IUDs brought medical scientists together to exchange their perspectives on the device.⁷ Here, I am inspired by multiple perspectives of people's encounters with IUDs, and I expand Tietze's focus to include political and gendered dimensions of the transnational object history of IUDs. First, former presidents of the Population Association of America (PAA), cited above, testified to the role IUDs played in international population control, where the devices represented "great instruments for holding the world's population down to reasonable levels".⁸ Second, IUDs reached women differently depending on location, as medical doctors and population planners employed the devices in regionally specific contexts and found problems of "overpopulation" predominantly in the developing world. Third, IUDs had different and changing meanings for medical doctors ("men of science") and female users ("women in need"): while the changes IUDs brought to individual users cannot be documented, evidence such as the "800 women sitting out on the grass waiting to register [for IUD service]" that PAA President Amos H. Hawley encountered on his travels to Thailand speaks volumes about women's hopes to regulate pregnancies.⁹

This study follows the transnational travels of IUDs in order to explore the complex relationships between scientific research about contraceptive technologies, global discourses on overpopulation, nation-state politics aimed at regulating population size, and the changing degrees of attention that medical scientists and policy-makers paid to women's demands and health. IUDs offer object lessons of the category that historian Lorraine Daston calls "things that talk", first, because the device was much talked about, and, second, because talk became revealing evidence as a compliment "paid to the roles that certain bits of matter [...] play in the lives of certain people".¹⁰ As IUDs were entangled in webs of cultural and political-economic significance linked to changing material practices, they offer object lessons about political and economic competitions of policy-makers and about women's changing practical derivations.¹¹

I argue that IUDs as travelling objects, while shaped by the transnational neo-Malthusian scientific paradigm of the threat of overpopulation, also acquired new meaning as they travelled. Concurring with Arjun Appadurai's assertion that the meaning people attribute to objects ("things") derives from human transactions and how things are used and circulated, I assert that IUDs accumulated meaning in human transactions, which involved not only transnational but also local dimensions.¹² In Appadurai's words, we can learn about the relationship between "things" and humans by analysing the societies in which they circulate. To that effect, "we have to follow the things themselves,

7 C. Tietze and S. Lewit, Evaluation of Intrauterine Devices: Ninth Progress Report of the Cooperative Statistical Program, in: *Studies in Family Planning* 1 (1970) 55, pp. 1–40.

8 Lee, Interview, p. 206.

9 Hawley, Interview, p. 234.

10 L. Daston, *Things That Talk: Object Lessons from Art and Science*, New York 2004, p. 520.

11 Much like the scientific objects that Daston traces. See L. Daston, *Biographies of Scientific Objects*, Chicago 2000.

12 A. Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective*, Cambridge 1986.

for their meanings are inscribed in their forms, their uses, their trajectories. It is only through the analysis of these trajectories that we can interpret the human transactions and calculations that enliven things. Thus, even though from a *theoretical* point of view human actors encode things with significance, from a *methodological* point of view it is the things-in-motion that illuminate their human and social context”.¹³ In the history of IUDs as travelling objects, we find information exchanges over and above object exchange, and gain insights into the political and gendered power dimension that connects “men of science” and “women in need”.

This analytical lens contributes to recent scholarship that recognizes the force of objects and materialities to either disrupt or consolidate existing sex-gender systems as well as gendered rights and responsibilities. Objects, examined in their relationships to men and women, offer important clues about the changing meanings of masculinity and femininity, of gendered responsibilities, and of hierarchies.¹⁴ Contraceptive devices, as objects of everyday life, reveal specific dimensions of relationships of gender and power that begin when population planners and medical professionals make new objects “appropriate” for women. We find evidence of the reproduction of unequal access to power in vertical approaches to family planning that “targeted vast populations of women, delivered large quantities of contraceptive commodities, and focused on ‘motivating’ them to ‘accept’ contraception, especially long-acting methods such as intrauterine devices and sterilization”.¹⁵ However, the hierarchical relationships between medical professionals and female patients also created new spaces for women’s empowerment that increased women’s choices about their lives.

Population is Political: Remembering Malthus and Marx

The work of medical researchers, the search for contraceptive devices, and the discourse and action of those who promote the circulation of such devices never take place in a political vacuum. At times, we forget just how political (and subjective) allegedly rational scientific research may be; population research is a case in point. Scholars like David

13 Ibid., p. 5.

14 Scholars in the growing field of gender archeology have offered new approaches to the study of objects to provide evidence of variations in gender relations, showing that such relations are not reproduced over time, but continuously made. See M.L.S. Sørensen, *Gender Archaeology*, Cambridge 2000; M.L.S. Sørensen, *On Gender Negotiation and its Materiality*, in: S. Hamilton, R. Whitehouse, and K. I. Wright (eds.), *Archaeology and Women: Ancient and Modern Issues*, Walnut Creek 2007. They have inspired my interest in the impact that material forms of gender systems have on gender hierarchies, on unequal access to decision-making processes that are maintained through gendered object-codes (and that become evident if such codes are violated). Linkages between gender and objects have also been important for the maintenance of hierarchical gender systems. Just as “proper” uses of objects of everyday life serve to confirm and reproduce what is “appropriate” for women or men, “subversive” uses of gender-coded objects disturb existing gender-systems to changing degrees. See P. Kirkham and J. Attfield (eds.), *The Gendered Object*, Manchester 1996.

15 See S. Correa, A. Germain and G. Sen, *Feminist mobilizing for global commitments to the sexual and reproductive health and rights of women and girls*, in: E. Chesler, and T. McGovern (eds.), *Women and Girls Rising: Progress and Resistance Around the World*, New York 2016, pp. 51–68, at 53.

Harvey and Armand Mattelart remind us that scientific research on human population is often flawed, that scientific methods to determine the ratio between population and resources are highly problematic, and, most importantly, that science is neither politically nor ethically neutral.¹⁶

Some contemporaries of Englishman Reverend Thomas Malthus's *An Essay on the Principle of Population* in 1789, for example, read his work as a much-desired antidote to revolution, as a way to eliminate other people's hopes for increased human equality and social progress after the French Revolution. Malthus warned of what he saw as the dangerous consequences of uncontrolled population growth, when exponential increase of the human population would surpass and then deplete resource and food production. As the poor in England – as in the rest of Europe – far outnumbered the rich, Malthus's study conveyed not only that human populations were headed for a troublesome future unless they learned to limit their own reproduction, but also that the rising numbers of poor foretold uncontrollable and horrible consequences if reformers stood by idly: "The power of population is so superior to the power in the earth to produce subsistence for man, that premature death must in some shape or other visit the human race."¹⁷

Considering the fears of European elites who dreaded a loss of power and privilege in the aftermath of the French Revolution, it is not surprising that Malthus's text became one of the most frequently read of the time and, arguably, the most useful anti-revolutionary weapon and ideological tool that justified elite control over the impoverished masses. Simply put, concerned political leaders and wealthy citizens argued that excessive procreation, rather than political and economic institutions that reproduced social inequalities, caused the misery of the poor and the social problems that plagued their nations.¹⁸ In this context, sociologist John Bellamy Foster may have been right to assert that "[n]o other work was more hated by the English working class, nor so strongly criticized by Marx and Engels".¹⁹ Malthus's theory could be applied to blame the poor for their own misery and thus to be alleviated through population control.²⁰ Yet, with or without Malthus, effective population control remained difficult because of the limited range and reliability of contraceptive technologies. For centuries, couples depended on condoms, interrupted intercourse, sexual abstinence, and self-induced abortions to prevent or end pregnancies.

16 D. Harvey, Population, Resources, and the Ideology of Science, in: *Economic Geography* 50 (1974) 3, pp. 256–277; A. Mattelart, Prefiguración de la ideología burguesa. Lectura ideológica de una obra de Malthus, in: *El Trimestre Económico* 38 (1971) 149/1, pp. 145–188.

17 T.R. Malthus, *An Essay on the Principle of Population*, Oxford 1999, p. 61.

18 For a discussion of such critical readings of Malthus, see J.B. Foster, Malthus's Essay on Population at Age 200, in: J.B. Foster, *Ecology against Capitalism*, New York 2002, pp. 137–154.

19 *Ibid.*, p. 137.

20 According to Karl Marx, it could even provide a justification of warfare against revolutionary France. For discussion of Malthus in England of the 1790s, see I. Angus and S. Butler, *Too Many People?: Population, Immigration, and the Environmental Crisis*, Chicago 2011, p. 7; I analyse this subject in the context of challenges to women's reproductive rights in J. Pieper Mooney, Entre Marx y Malthus: El camino rocoso desde el control de la población hacia los derechos reproductivos, in: *Revista Chilena de Salud Pública* 19 (2015) 2, pp. 140–153.

In the 1960s, IUDs gained attention in transnational debates on fertility regulation when medical researchers made available another method of fertility regulation that promised to be a contraceptive revolution: the pill. The understanding that pregnancy could be prevented by scientific means stimulated debates on fertility control and family planning among women and couples, as well as by scholars, physicians, politicians, and clergy. For some, it implied increased control over population size both globally and nationally. For others, new and effective contraceptives represented unprecedented choices they could make about pregnancy and family size. Nevertheless, alliances between women who sought reproductive choices and neo-Malthusians who aimed to save the world from overpopulation remained uneasy at best.²¹ From the perspective of the latter, post-World War II developments and the rising fronts of the Cold War heightened the urgency for the search for methods to control population threats.

The prominence of IUDs benefited from the advent of the pill, but the latter also fuelled object competitions, revealing that conflicts of population planners over the most suitable methods were more often power struggles between agencies rather than actual concerns about the suitability of contraceptive methods for users. Population researcher Phyllis Tilson Piotrow, in her 1973 book, documents competitions among US agencies and compares them to the characteristics of rivalries in weapons development, where

*debates take the form of technical reviews, susceptible to prolonged research and objective evaluation, [but] they are as much issues of power as issues of science. The real question is not only whether this army missile actually performs better than that air force missile but also whether the army or the air force will dominate the program. The pill-IUD debate [...] can be seen in terms of a power struggle.*²²

Piotrow's evidence elucidates specific inter-agency rivalries that followed changes in US policy, when USAid began to support population programs and became, in 1969, the "largest single supporter of population and family planning programs in the world". When USAid officials started promoting the pill, they challenged established practices by institutions like the Population Council that had prioritized IUDs. Drug companies accelerated the competition when they published information about negative side effects of competitors' devices.

IUDs embarked on their journey just as the political dimension of population questions, reminiscent of the old conflicts between Malthus and Marx, gained new significance after the Second World War. In the United States, the Population Association of America (PAA) increased its membership from about a hundred at the time of its foundation in 1931 to over a thousand by the late 1950s.²³ New organizations mushroomed because of concern about "population problems". In 1952, John D. Rockefeller III brought togeth-

21 D. Hodgson and S. Cotts Watkins, *Feminists and Neo-Malthusians: Past and Present Alliances*, in: *Population and Development Review* 23 (1997) 3, pp. 469–523.

22 P. Piotrow, *World Population Crisis: The United States Response*, New York 1973, p. 155.

23 F. Notestein, *Memories of the Early Years of the Association*, in: *Population Index* 47 (1981) 3, pp. 484–488; F. Notestein and F.W. Osborn, *Reminiscences: The Role of Foundations*, the Population Association of America,

er scholars, demographers, and population activists and founded the Population Council to build international networks among researchers. In 1957, eugenicist Clarence Gamble founded the Pathfinder Fund and extended his contraceptive campaigns from the United States to Latin America. In 1961, the Hugh Moore Fund created the Population Crisis Committee to increase government involvement in population control by sponsoring large-scale newspaper advertising designated as the "Campaign to Check the Population Explosion".²⁴ In 1964, John D. Rockefeller III stoked fears of overpopulation:

*Until recently, I believed an even greater problem [than population growth] was the control of nuclear weapons. However, there is a justifiable hope that the use of these weapons can be prevented; but there is no hope that we can escape a tremendous growth in world population. Therefore, it becomes a central task of our time to stabilize this growth soon enough to avoid its smothering consequences.*²⁵

Rockefeller lobbied international political leaders to support the "Statement on Population" he presented to the UN secretary-general in 1966. He urged heads of states to recognize overpopulation "as a principal element in long-range national planning", not only to advance goals of economic development, but also to help secure peace.²⁶ The Population Council became one of the primary institutions to fund research on IUDs.²⁷ The loud echo that followed the emergence of neo-Malthusian discourse – evident in the drastic measures proposed to curb population growth in the Americas and in the aggressive images of population campaigns – was linked to the tensions of the Cold War and new fears that could be soothed by controlling the populations perceived as political threats. In the United States, population planners primed fears of potential revolutions and communist takeovers to garner public support. In advertisements and information campaigns, they presented images of "hungry nations" filled with people who could ignite the "population bomb". The poor would "imperil" or "threaten the peace of the world" when their growing discontent would inspire social revolution.²⁸ Ads warned that "the ever mounting tidal wave of humanity now challenge[d] us to control it, or be submerged along with all our civilized values".²⁹ Combined with the beginning of the

Princeton University and the United Nations in *Fostering American Interest in Population Problems*, in: *The Milbank Memorial Fund Quarterly* 49 (1971) 4, pp. 67–85.

24 L. Lader, *Breeding Ourselves to Death*, New York 1971.

25 S.J. Segal, *Introductory Remarks*, in: S.J. Segal, A.L. Southam and K.D. Shafer (eds.), *Proceedings of the Second International Conference on Intra-Uterine Contraception*, Amsterdam 1965, p. 1.

26 United Nations World Leaders' Statement on Population, John D. Rockefeller 3rd Papers, Sub series 4, Population Interests, 1965 (1970–1978), Folder 513, RFA, Rockefeller Archive Center (RAC).

27 See also C. Takeshita, *The Global Biopolitics of the IUD*, pp. 13–15.

28 *Campaign to Check the Population Explosion, Hungry Nations Imperil the Peace of the World, and The Population Bomb Threatens the Peace of the World*, in: *New York Times*, 23 February 1969, sec. IV, p. 5, and 9 February 1969, sec. IV, p. 5.

29 *Campaign to Check the Population Explosion, The Population Bomb Threatens the Peace of the World*, in: *New York Times*, 9 February 1969, sec. IV, p. 5, and 23 February 1969, sec. IV, p. 5. Ads had different titles and images but the same text; they were signed by the same people, such as Eugene Black, former head of the World Bank; General William Draper Jr, former ambassador to the North Atlantic Treaty Organization; Philip Hauser, University of Chicago; and Hugh Moore, Founder, Dixie Cup Company.

1959 Cuban Revolution, some people feared the possible threat of radical upheavals even more than the lack of food supplies and declining living standards. In 1964, in an open letter to President Lyndon B. Johnson, population planners warned:

*The population explosion w[ould] inevitably lead to chaos and strife at home and abroad – to more Cubas and Vietnams – to revolutions and wars, [...]. All of it grist for the Communist mill.*³⁰

IUD research and distribution were often caught between the fronts of those who claimed that peaceful human development and economic stability depended on population control, and of others who declared it a weapon of imperialism in an unequal war. In the United States, President Lyndon B. Johnson increased his support of population control only gradually, but sectors of the Latin American left nonetheless termed his strategy the “‘Johnson genocide,’ approach to economic development”.³¹ Initially, Johnson’s position, in fact, did not exclude the United States from policy measures; in 1965, he declared,

*Let us in all our lands – including this land – face forthrightly the multiplying problems of our multiplying populations and seek the answers to this most profound challenge to the future of all the world. Let us act on the fact that less than five dollars invested in population control is worth a hundred dollars invested in economic growth.*³²

Yet, policy-makers and population activists, who often framed arguments in favour of population control as a solution to underdevelopment, provoked some Latin Americans. Many leftists took the side of Marx in the old battle of the two “prophets”, emphasizing the anti-revolutionary component of Malthusian thought. According to this position, the notion of overpopulation was but a poor excuse for the poverty of the working classes, arguing that birth control only served to artificially prolong an economic system that produced underdevelopment and that fertility regulation reproduced class hierarchies.³³ Prolific writer Eduardo Galeano, one of the best-known spokespersons for the Latin American left, saw IUDs as part of the global offensive led by the United States:

While intrauterine devices compete with bombs and machine-gun salvos to arrest the growth of the Vietnamese population, in Latin America it is more hygienic and effective to kill guerrilleros in the womb than in the mountains or in the streets. [...] Now that

30 New York Times, 13 December 1964, sec. IV, p. 5, sponsored by the Hugh Moore Fund; I explore the role of the population control establishment in J. Pieper Mooney, *The Politics of Motherhood: Maternity and Women’s Rights in Twentieth-Century Chile*, Pittsburgh 2009.

31 For reference to the term, see Piotrow, *World Population Crisis*, p. 1.

32 “Address in San Francisco at the 20th Anniversary Commemorative Session of the United Nations, June 25, 1965”, *Public Papers of the Presidents of the United States: Lyndon Johnson, 1965* (Washington: Office of the Federal Registrar, Archives and Records Service, General Services Administration, 1966), pp. 703–706, at 705.

33 J. Consuegra, *Birth Control as a Weapon of Imperialism*, in: T.L. McCoy, *The Dynamics of Population Policy in Latin America*, Cambridge 1974, pp. 163–181.

*the Alliance for Progress is dead and buried, the Imperium proposes, more in panic than in generosity, to solve Latin America's problems by eliminating Latin Americans.*³⁴

When political interest groups framed their views of IUDs as possible tools for controlling alleged population threats, or as supposed weapons to control unruly Latin Americans, they discounted women's reproductive health and the overwhelming evidence that women sought to limit pregnancies. Activists who rejected the neo-Malthusian bent and who, instead, demanded reproductive choices and women's right to bodily integrity, asserted their language of rights only gradually. The UN endorsed reproductive rights for the first time at the International Conference on Human Rights in Tehran, Iran, in 1968, confirming that "couples have a basic human right to decide freely and responsibly on the number and spacing of their children and a right to adequate education and information in this respect".³⁵ In 1979, the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) set an unequivocal standard for women's rights and sought to pressure governments to adhere to the norms of gender equity. National leaders could ratify CEDAW or support a modified version of the original document. The Declaration and Program of Action of the 1993 World Conference on Human Rights, in Vienna, officially stated that "women's rights are human rights".³⁶ Women's rights remained crucial to subsequent definitions of reproductive rights, which included references to reproductive and sexual health, specifying that "reproductive health [...] implies that people are able to have a satisfying sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so."³⁷ In short, an effective language of reproductive rights gained transnational prominence only in the 1990s. In the meantime, many physicians resorted to their own approaches to treat the health of their patients, assuming "the doctor knows best". In Chile, one medical doctor sought to help his patients through his own experiments with a new IUD: the Zipper Ring.

Testing the "Zipper Ring" in Chile: From Local Experiments to Transnational Research Collaboration

Examples from Chile, where female patients became, unknowingly, the first people to test the Zipper Ring, offer insights into the webs of cultural and political-economic sig-

34 E. Galeano and C. Belfrage (trans.), *Open Veins of Latin America: Five Centuries of the Pillage of a Continent*, New York 1997, pp. 6–7.

35 United Nations, *Human Rights Aspects of Family Planning*, Final Act of the International Conference on Human Rights, UN Doc. A/CONF. Resolution XVIII, 32/41, p. 15.

36 Vienna Declaration and Programme of Action, UN GAOR, World Conference on Human Rights, 48th Session, 22nd Plenary Meeting, UN Doc. A/CONF.157/24 (1993), reprinted in 32 I.L.M. 1661 (1993), para. 18, as cited in A. S. Fraser, *Becoming Human: The Origins and Development of Women's Human Rights*, *Human Rights Quarterly* 21 (1999) 4, at 903.

37 As cited in Center for Reproductive Law & Policy and Foro Abierto de Salud y Derechos Reproductivos, *Women Behind Bars. Chile's Abortion Laws. A Human Rights Analysis*, New York 1998, at 25.

nificance of IUDs, into the changing material practices in their access and use, and, most of all, into the different degrees of power that separated the world of the “men of science” from that of the “women in need”. Some pioneering Chilean local developments in IUD technology took shape not in response to the widely articulated need for population control, but in response to an acute public health crisis, manifest in maternal mortality rates due women’s self-induced, unsanitary abortions. Female patients made ample use of novel contraceptive technology that their doctors offered, even though they had only limited information about side effects. The innovative practices of medical researchers like Jaime Zipper allowed “men of science” to assert their authority; they also reproduced multiple unequal relationships of power.³⁸

In Santiago, where Jaime Zipper practiced medicine, doctors had long recognized the problem of self-induced, unsafe backstreet abortions, yet few dared to address the subject as a public health matter related to women’s unmet contraceptive needs. Legislated in the Chilean Penal Code of 1974, induced abortion remained a criminal offence. The criminalization of abortion restricted open discussions about the problems of women of childbearing age who could have testified to the need for access to family planning devices.³⁹ Furthermore, Chilean moral-cultural codes limited the “admissible” subjects for public debate, imposing silence on sexuality and procreation. As any references to birth control technologies remained taboo, health officials were reluctant to propose “public” initiatives in response to the “private” problems of women who died because of botched abortions.⁴⁰ In fact, more than two decades before Zipper tested his first Chilean IUD, some doctors tried to interrupt the public silence on abortion through such exceptional events as the 1936 Medical Convention in the port city of Valparaíso. Their forceful quests for the legalization of abortion and the distribution of contraceptive technologies were shut down by moral concerns. Deep social conservatism shushed public contemplations on voluntary motherhood or women’s need for birth control. Members of the medical establishment – including groups of health professionals such as midwives – judged all deliberations about abortions as immoral and as direct attacks on the family and the nation.⁴¹

Starting in the late 1950s, medical doctors gathered testimonial and statistical evidence as part of new public health projects in select urban communities, which also encouraged unprecedented attention to women’s lack of access to contraceptive devices. Women’s testimonial accounts confirmed that they employed abortion as a means of fertility regulation, that women of childbearing age terminated about one-third of all pregnancies,

38 I discuss the context of Zipper’s initiatives in J. Pieper Mooney, *The Politics of Motherhood: Maternity and Women’s Rights in Twentieth-Century Chile*, Pittsburgh 2009.

39 Induced abortion was declared a criminal offence under the Chilean Penal Code of 1874.

40 Bonnie Shepard convincingly argues that women’s health also was harmed by a Chilean “double discourse system” that helped maintain a public silence on subjects of sexuality and reproduction and limited women’s access to information and medical advice. See B.L. Shepard, *Running the Obstacle Course to Sexual and Reproductive Health: Lessons from Latin America*, Westport 2006.

41 A. del Campo, *La nación en peligro: El debate médico sobre el aborto en Chile en la década de 1930*, in: S. Zárate (ed.), *Por la salud del cuerpo, historia y políticas sanitarias en Chile*, Santiago 2008, pp. 133–188.

and that serious health consequences or death were the overwhelming results of clandestine backstreet abortions. In 1961, 4,000 interviews of women between 20 and 49 years of age showed that one in every four women admitted to having had between 1 and 35 induced abortions.⁴² Hospital statistics revealed that complications resulting from induced abortions accounted for 8.1 per cent of all hospital admissions in the country. Post-abortion patients made up close to one-third of all admissions in obstetrical services.⁴³ Cases admitted to the hospital for complications following an abortion accounted for 35 per cent of surgeries in obstetric services and 26.7 per cent of the blood used in all emergency services.⁴⁴ Indeed, women expressed their need to prevent pregnancies by inducing abortions under life-threatening circumstances. Doctors concluded that illegal abortions had reached "epidemic" proportions.⁴⁵

Jaime Zipper's personal experience in one of Santiago's public hospitals gave him first-hand insights into the health crisis of maternal mortality and of women's unmet needs for contraception. Engaged in clinical work in the obstetrical and gynaecological service of the Barros Luco Hospital and conducting research at the Institute of Physiology of the University of Chile, he sought to resolve his patients' needs with the tools of a researcher-scientist. Local women of the Barros Luco Hospital community – whose poverty and lack of control over their lives made them vulnerable subjects – were the first patients in Dr Zipper's unauthorized trials with his own invention: the Zipper ring. Most of the women struggled with the burden of feeding large families with limited resources. The hospital served a low-income population, characterized by high fertility rates. Many of the mothers who came to the hospital had no social security or health insurance. About 35 per cent of the patients who delivered at the hospital had given birth to five or more children. A high proportion were women over 35 years of age, had nutritional problems as well as a high incidence of abortions in the past, and found it difficult to withstand another pregnancy and add yet another child to their impoverished family.⁴⁶

In the process of exploring existing IUD technology – and its flaws – Jaime Zipper stumbled across a useful research opportunity in 1959. In an article on experiments with modified metal intrauterine rings, first used by Ernst Gräfenberg in 1929, Zipper read about the medical problems physicians had encountered with the first-generation intrauterine devices. Described as "tailless", they were difficult to remove, and their proper

42 R. Armijo, in: R.K.B. Hankinson et al. (eds.), *Proceedings of the Eighth International Conference of the International Planned Parenthood Federation*, Santiago, Chile, 9–15 April 1967, London 1967, p. 143; See also R. Armijo and T. Monreal, *Epidemiology of Provoked Abortion in Santiago, Chile*, in: *Journal of Sex Research* 1 (1965) 152, pp. 143–159.

43 S. Plaza and H. Briones, *El aborto como problema asistencial*, in: *Revista Médica de Chile* 91 (1963) 4, pp. 294–297.

44 International Planned Parenthood Federation, *Family Planning in Chile: A Profile of a Development of Policies and Programmes*, London 1979, at 3.

45 H. Romero, *Chile: The Abortion Epidemic*, in: B. Berelson (ed.), *Family-planning Programs: An International Survey*, New York 1969, pp. 134–145.

46 A. Faúndes and E. Hardy, *Contraception and Abortion Services at Barros Luco Hospital, Santiago, Chile*, in: H.P. David et al. (eds.), *Abortion in Psychosocial Perspective: Trends in Transnational Research*, New York 1978, pp. 284–297.

placement could not be easily checked. Zipper conducted a series of experiments with nylon thread, material otherwise used for fishing. Winding it several times around two fingers, he made a ring whose loose end could be used as a tail for removal. To validate his discovery, he tried the ring on patients in his office at the hospital. “Just like that!” Zipper remarked in the interview, “and I got so excited with the idea! I started with as many women as I could, took them with me into the little room, and fitted them with the ring.”⁴⁷ When asked about the information he made available to his patients, Zipper claimed that he “told them what he was about to do to them,” but, characterizing his typical patient as a poor woman, he added that, “of course, within her lack of culture, I don’t think that she could have understood much of it. So I said that I would insert the ring, and that she should not worry about it.”⁴⁸ His personal account of the proceedings in his first contraceptive clinic conveys the chasm that separated medical scientists from their female patients. Women became part of studies for the sake of medical advancement and the development of new technologies at a time before researchers considered the need to seek informed consent.⁴⁹



Jaime Zipper, 1955, experimenting with the Zipper ring, MD0006313, © 2018 COLECCIÓN MUSEO NACIONAL DE MEDICINA. Facultad de Medicina Universidad de Chile.

47 Jaime Zipper, interview by author, Santiago, October 1997.

48 Ibid.

49 In the Americas, the term “informed consent” began to be used only in the 1950s; it represented a relatively new idea in the history of medical practice. For thousands of years, medical doctors felt that information should reach patients only selectively, and that deception was an integral part of medical practice. See P. M. Murray, *The History of Informed Consent*, in: *The Iowa Orthopedic Journal* 10 (1990), pp. 104–109.

From the perspective of many Chilean doctors, research results such as the Zipper Ring could, in fact, lower the rates of maternal mortality and the ill effects of illegal abortions. Zipper’s experiments came to light only when a woman who started bleeding sought help and reported to a physician-colleague at the hospital. The patient could only say that she got “the ring” from “a grey-haired guy in the second floor, who put these things into women”.⁵⁰ The colleague reported Zipper’s malfeasance and the latter’s expulsion from the medical community seemed imminent. Yet, the subsequent moderate reaction of Zipper’s doctor-colleagues, and his ability to justify unprofessional behaviour in a world of medical professionals, stemmed from the long-standing crises of induced abortions and maternal mortality, as well as doctors’ inability to cope with these problems. In the end, their daily encounters with butchered abortions and troubled mothers of large families led colleagues to support official clinical trials with the ring. Zipper placed a sign, “Contraceptive Clinic”, on his office door and between October 1959 and June 1963, an additional 6,500 women were fitted with the new contraceptive device.⁵¹

Jaime Zipper shared his research results on the Chilean ring at the Second International Conference on IUDs in New York City, an event that US physician Christopher Tietze, cited above, had praised as an international success. Zipper, addressing “results obtained with the first 3000 ring wearers” in the Barros Luco Hospital experiment, did not talk about the unscientific sample selection of the first 600 women he fitted with the ring; he focused on quantifiable test results instead.⁵² Satisfied with the results, the low expulsion rates, and a total of 155 unintended pregnancies, Zipper made clear that for him and his team of physicians,

*despite the complexities of an experimental program of population control, or a campaign to replace illegal abortion by a preventive technique, [...] intrauterine contraception [wa]s the only method known that offer[ed] hope in the developing countries.*⁵³

Research Connections and Travelling Scientists

The projections by population planners and medical researchers to supply women with IUDs encouraged ongoing transnational research collaboration, such as the one between Jaime Zipper and Howard Tatum. From 1961 to 1962, Jaime Zipper was a postgraduate research fellow in Massachusetts, working in reproductive physiology with Gregory Pincus, best known for his research on the contraceptive pill. In 1964/65, Philadelphia

50 Jaime Zipper, interview by author, Santiago, October 1997.

51 J. Zipper, M. L. García and L. L. Pastene, Intra-Uterine Contraception with the Use of a Flexible Nylon Ring: Experience in Santiago de Chile, in: S. J. Segal, A. L. Southam, and K. D. Shafer (eds.), *Proceedings of the Second International Conference on Intra-Uterine Contraception*, Amsterdam 1965, p. 88; I present more details on these developments in J. Pieper Mooney, *The Politics of Motherhood: Maternity and Women’s Rights in Twentieth-Century Chile*, Pittsburgh 2009.

52 *Ibid.*, p. 120.

53 *Ibid.*, p. 93.

native, physician-researcher Howard Tatum spent his sabbatical year working with Zipper at the University of Santiago. Jointly, they improved Zipper's nylon-plastic IUDs and postulated that T-shaped devices would be less likely to causing bleeding, pain, and expulsion. Zipper's ongoing experiments with IUDs other than his own nylon ring showed that copper enhanced the effectiveness of intrauterine devices, and he shared his research results at international conferences. In the United States, Howard Tatum combined the outcomes of Zipper's study with his own research on the best possible shape of IUDs. He designed a T-shaped intrauterine device for easier insertion and maintenance. Transnational collaboration between scientists, thereby, permitted the manufacturing of the first copper-containing IUD, Cu T 200, also known as Tatum T.⁵⁴ By 1969, they completed their first tests, and Tatum's new copper-bearing T, an IUD with spermicidal effect, reached the market.⁵⁵ Research funds from the Population Council eased collaboration between Tatum and Zipper and promoted the copper-enhanced Tatum T as a new tool of population regulation with improved effectiveness.⁵⁶

In the United States and in Chile, population planners found ample evidence to celebrate IUDs as useful tools to maintain political stability in the Cold War and to mediate the ill effects of economic underdevelopment. Addressing an international group of medical researchers, Bernard Berelson, then vice-president of the Population Council, praised the reliability of the IUD and the "great value of having available a contraceptive method of this character". He commented on "the value of th[e] device from the medical standpoint" and foresaw success "on the road to an historically important, even unique accomplishment".⁵⁷ The IUD, as a new and highly controllable method, represented

*at least potentially, a tremendous contribution to the welfare of individual families and national communities, with all that this mean[t] for the economic prosperity, the political stability, and the freedom of mankind. Indeed [...] this simple device can and will change the history of the world.*⁵⁸

The claim to the "success" of IUDs remained complex – undisputed from the position of physicians and population planners, yet more uncertain from the perspective of women users. In the late 1960s, Chilean physicians declared that the number of "program acceptors", (women who agreed to use family planning technologies) had increased significantly, and that IUDs had become the most widespread contraceptive device in Chile.

54 Zipper's professional home also became the site of a study of the Copper-T 200 (CuT 200) intrauterine device, which was inserted in 1,142 post-partum patients. See P. Lavin, C. Waszak and C. Bravo, Preliminary Report on a Postpartum CuT 200 Study, Santiago, Chile, in: *International Journal of Gynecology & Obstetrics* 21 (1983) 1, pp. 71–75.

55 M. Thiery, Pioneers of the Intrauterine Device, in: *European Journal of Contraception and Reproductive Health Care* 2 (1997) 1, pp. 15–23.

56 Population Council, Advancing Long-Acting Reversible Contraception, 3 April 2013, <http://www.popcouncil.org/news/advancing-long-acting-reversible-contraception> (accessed 4 October 2018)

57 B. Berelson, Application of Intra-Uterine Contraception in Family Planning Programs, in: S. J. Segal, A. L. Southam, and K. D. Shafer (eds.), *Proceedings of the Second International Conference on Intra-Uterine Contraception*, Amsterdam 1965, p. 13.

58 Ibid.

Personal accounts by some Chilean doctors relayed that doctors, rather than patients, prioritized specific methods. In the western health sector of Santiago, with a population of 460,000, headed by Dr Benjamín Viel, gynecologists inserted IUDs at a rate of about 60 devices a day in 1966.⁵⁹ In his progress evaluation of seven family planning services in the western health sector, Viel documented that the number of births and abortions fell. Between 1964 and 1969, birth rates declined by 33 per cent. The number of women hospitalized for abortion complications decreased by almost the same rate, in the same time period and geographical area. Viel emphasized that these declines were significantly greater than those documented "in countries where the family planning programme has been using 'pills' as the major contraceptive" and attributed his success to the effectiveness of the IUD. When Viel suggested that "[t]he greater continuation rate among IUD acceptors" might have been responsible for the difference, he also knew that continuation rates were directly related to doctors' control over IUD insertion, a control they did not have over women's reliance on the pill.⁶⁰

Women users, meanwhile, still lacked access to reliable information on contraceptive devices such as IUDs. In a medical survey conducted by epidemiologist Mariano Requena in Santiago's urban neighbourhood of Quinta Normal, patients revealed how multiple factors shaped their trust in contraceptive methods. Many women remained suspicious of unfamiliar technologies and often acquired their information on birth control from neighbours, mothers, or sisters rather than health professionals. Only 20 per cent of a group of 448 women had consulted a physician or midwife regarding contraception. Requena documented how at the time rumours and fears transformed women's contraceptive choices overnight. At the start of his fieldwork, Requena found that most women listed IUDs as their first preference. When the same women's responses suddenly shifted to the contraceptive pill, he learned that that new information had spread in the neighbourhood, warning women that IUD insertion could lead to cancer. Given these fears, many continued to resort to abortion to limit pregnancies and births.⁶¹

In Chile, the new discourse of contraceptive choices and the evident decline in maternal mortality showed that IUDs, indeed, saved lives. Yet, by and large, doctors' efforts failed to address women's need to make informed reproductive decisions of their own – and in the contexts of their individual lives. Zipper understood that "women were desperate

59 See A. L. Southam, Ford Foundation, Notes on Chile, University of Chile, March 28–April 4, 1966, Southam, 4/8/66, Folder: FC-O Chile 1964–66, Chile, University of, Collection: Population Council, Box 6, Accession II. Unprocessed material: 8–10.

60 B. Viel, Results of a Contraceptive Program based on IUD's in Chile, in: A. Goldsmith and R. Snowden (eds.), Proceedings of the Family Planning Research Conference; A Multidisciplinary Approach, Exeter, England, 27–28 September 1971, International Congress Series 260, Amsterdam 1972, pp. 103–107, at 106.

61 M. Requena, El problema del aborto inducido en una población obrera de Santiago. Uso y actitudes frente al empleo de anticonceptivos, in: Celade, Serie A (1963) 63, distribución interna; M. Requena, Studies of Family Planning in the Quinta Normal District of Santiago: The Use of Contraceptives, in: Milbank Memorial Fund Quarterly 43 (1965) 4, part 2, pp. 69–99; A. Faúndes and E. Hardy, Contraception and Abortion Services at Barros Luco Hospital, Santiago, Chile, in: H. P. David et al. (eds.), Abortion in Psychological Perspective, New York 1978, pp. 284–297.

for contraceptives”, adding, “for them, a contraceptive was an aspirin they inserted”. He appeared to recognize women’s limited access to information about methods.⁶² As such, Zipper and other doctors not only expected female patients to relinquish control of their bodies to the more knowledgeable professional, but also reinforced women’s position at the lower end of multiple social and gendered hierarchies: physician and patient, husband and wife, man and woman. Jaime Zipper, again, articulated the dominant view among medical practitioners who continued to improve family planning technologies and present their work at international conferences, pronouncing “the medical profession rather than the patient must ultimately decide on the efficiency of any [contraceptive] procedure in light of the relevant factors”.⁶³

Physicians and population planners at international gatherings proposed agendas that intentionally left women few choices. Women’s reproductive behaviour had taken on new meaning in its relationship to concerns over development and political stability – and it needed to be controlled. In this context, they often conveyed a message of female ineptitude, which was shared by the general medical establishment and by the male world of science. Some physicians ignored women’s preferences altogether: Too much was at stake to tolerate a “cafeteria-choice” allowing women to choose among several contraceptive methods. Many contraceptives, other than IUDs, required a high level of motivation and continuous incentive to be effective, so the mass application of such methods was “not advisable from an economic and demographic point of view”.⁶⁴

Conclusion: Science, Politics, and the Gendered Boundaries in Technologies of Change

The travels of IUDs confirm that fertility regulation, one of the largest projects of global governance of the twentieth century, also affected the most intimate aspects of people’s lives. In the Americas, this global project entailed the regulation of women’s bodies, involved the study of women’s behaviours, and targeted these behaviours if women threatened communities and nations by giving birth to too many children. Population planners insisted that fertility regulation depended on experts’ control, which justified surveillance of women deemed too unreliable and ineffective to regulate their own fertility. Amid neo-Malthusian interpretations of population threats after the Second World War, health officials, medical doctors, population planners, and other “men of science” transnationally discussed intrauterine devices in the capitalist language of efficiency, development, and profit. From the perspective of population planners, IUDs were relatively cheap, reliable, and did not require everyday medical or user attention. As a device

62 Jaime Zipper, interview by author, Santiago, October 1997.

63 J. Zipper, M. L. Garcia and L. L. Pastene, *Intra-Uterine Contraception with the Use of a Flexible Nylon Ring: Experience in Santiago de Chile*, S. J. Segal, A. L. Southam and K. D. Shafer (eds.), *Proceedings of the Second International Conference on Intra-Uterine Contraception*, Amsterdam 1965, p. 90–91.

64 Ibid.

that could easily help the poor limit their number of children, IUDs appeared especially useful in the developing world. From the perspective of users, IUDs posed health risks and had side effects such as bleeding, pain, and infections. Medical doctors have, in fact, linked intrauterine devices to women's infertility and even deaths.⁶⁵ Yet, IUDs and contraceptive choices could also empower individual women who sought to prevent or plan pregnancies and whose lives could improve dramatically as a result.⁶⁶ IUDs have remained among the most widely used contraceptive methods today.⁶⁷

This history also demonstrates how improving women's reproductive choices may, at times, depend on profoundly anti-feminist research practices by experts whose priorities align with the goals of scientific exploration and the politics of the capitalist marketplace. Both neo-Malthusian concerns and the political-economic priorities of the post-World War II development paradigm sparked the crucial initial funding and development of contraceptive devices that, potentially, could revolutionize women's lives by allowing them to control pregnancies and, thereby, plan their lives. Doctors, medical researchers, and demographers who led transnational debates often promoted neo-Malthusian positions. They not only crafted arguments in favour of controlling population size, but also explored the most effective technical means to achieve this end.

As we relate the work of "men of science" to women's everyday lives, we find new opportunities as well as new boundaries placed on women's reproductive choices. IUDs, as travelling objects, reveal dynamics of power structures and gendered hierarchies and confirm that both production and consumption are gendered processes. "Men of science", such as medical doctors, often placed women's bodies in what they saw as prescribed gender orders in which objects, such as IUDs, consolidated existing power differences and gendered hierarchies. For women who sought to regulate their fertility, IUDs represented new opportunities to avoid pregnancies. My historical evidence supports the assertion Chikako Takeshita makes in her recent study on the 50-year history of the IUD, affirming that "politically versatile technology such as the IUD defies the notion that technologies can be simply neutral, bad, or good".⁶⁸ Nonetheless, we can conclude that IUDs as travelling objects, shed light on the reproduction of unequal gender systems in which "men of science" mediate or limit the potential choices of "women in need", the latter in search of the most suitable ways to limit pregnancies.

Arjun Appadurai's assertion that the meaning people attribute to objects derives from human transactions and how things are used and circulated also has a gendered dimen-

65 D. A. Edelman, G. S. Berger and L. G. Keith, *Intrauterine Devices and Their Complications*, Boston 1979; See also the history of the Dalkon Shield, which reveals the slow reaction to evidence of serious health hazards, even women's deaths, before the device was taken off the market. M. F. Hawkins, *Mary Florence, Unshielded: The Human Cost of the Dalkon Shield*, Toronto 1997.

66 United Nations Fund for Population Activities, and United Nations Population Fund *Inventory of Population Projects in Developing Countries around the World*, New York 1974.

67 Scholars claim that while the use of the device has gone down in some countries, Chinese leaders put major family planning emphasis on the use of IUDs; between 65–70 per cent of the world's users are in China. A. M. Findlay and A. Findlay, *Population and Development in the Third World*, London 1991, p. 71.

68 C. Takeshita, *The Global Biopolitics of the IUD*, p. 168.

sion. Gendered hierarchies reveal those unequal relationships of power that we need to consider in future planning of reproductive policies and strategies of public health. In the 1960s, some physicians who “prescribed” IUDs to address the “epidemic” of maternal mortality due to backstreet abortions, or who sought to “heal” problems of poverty and underdevelopment by limiting population size, relied on models of doctor-patient relationships in which the former ordered a cure and expected the latter to follow. These relationships have not gone unchallenged. In the twenty-first century, we find that a more outspoken feminist health agenda – and a global discourse of reproductive rights – empowers a growing number of women in the Americas to take charge of their reproductive decision-making.