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A Technological Revelation:
**An Ideological Examination of the Technology of Contraception
and Population Control**

By

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Abstract

A Technological Revelation: An Ideological Examination of the Technology of Contraception and Population Control

To many women the explosion of modern contraception has signified a increase in personal liberation and reproductive freedom. Therefore, it is a common belief that the mass distribution of modern contraceptive devices would only serve to benefit the lives of women everywhere. It is for this reason that, amidst the purported crisis of a population explosion and the impending disaster, the global distribution of North American and European designed contraceptive technologies has been flourishing and is rarely subject to public scrutiny. Premised upon the idea that a global population crisis does not exist, it is the purpose of this paper to uncover the primary agenda of participants in the design and distribution of contraception, and more importantly, to discover what is the true nature or essence of contraceptive technologies. It is through an examination of the relationship between technology and ideology that the *essence* of technology will be revealed. Contemporary thinkers such as Jacques Ellul, Herbert Marcuse and Martin Heidegger have formed a foundational philosophy concerning the relationship between the technological artifact and ideology or the *idea*. A brief investigation into the ideological roots from which the technology emerges will reveal the essence of contraception. Through a comparative analysis of western thought and western technology consistent patterns will be examined, serving to uncover a reality of the current system of contraceptive development and distribution. By looking closely at the framework of *ideas* from which the technology was fostered, and how the *idea* co-exists with the *technology*, a clarity of purpose of the technological system being examined will come to light. An exploration of contraceptive technologies and the technological system of population control revealed the *inherently* abusive characteristics of modern contraception, which eventually forces one to conclude that, by design, contraception and the *idea* of what contraception should be is evolving into what has evidently become characteristically anti-health, anti-choice, and anti-woman.

Heather A. Gordon
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INTRODUCTION

Modern perceptions of birth control and reproductive rights have been formed largely as a result of highly publicized debates popularized through global media technologies. Contemporary discussion has often failed to consider the existence of birth control as a consistent historical phenomenon while historical evidence suggests that the desire to control birth has preceded the age of modern technology by thousands of years (Riddle, 1992).

The last century has lead to not only the politicization of contraception, but an explosion of contraceptive selection and design. Modern birth control has adopted a multitude of connotations: safer sexual experience; expression of choice; expansion of freedom; bastion of religious controversy. Birth control has acted as a catalyst for western feminist politics and has become a modern symbol for women's empowerment.

With the emergence of the United States as a major economic and military power after World War II and the concurrent population "explosion" of the southern continents, American leaders began to perceive the growing disparities between the South and the U.S. as a threat to national security. For the last fifty years contraception has been expressly connected to a population control movement that has quickly become a world-

wide phenomenon accumulating well known and powerful supporters who profess of a global crisis that arises from an overpopulated planet (Hartmann,1995:93). It is not only the dominant world institutions and political bodies such as the U.S. government, World Bank, and United Nations who support a neo-malthusian renaissance. Major movements for social change such as the environmental movement (Paul Ehrlich) and the liberal feminist movement in the North (International Planned Parenthood Federation, IPPF) have increasingly accepted fertility control and population stabilization in the name of sustainable development and women's reproductive freedom.

Historical names such as Margaret Sanger and Paul Ehrlich gave momentum to the notion of high populations as a threat to natural resources and eventually to a way of life. The South and its 'rampant' fertility, and more specifically the unchecked fertility of women, have become the primary targets of the population control agenda. Each decade global population conferences have further entrenched population control into the international development agenda. Today powerful personalities such as Al Gore, Warren Buffet, Ted Turner and Bill Gates, with both their names and their financial contributions have created a virtually uncontested force that has popularized the idea of overpopulation as an international crisis (Laing,1997).

As a result of this global and multi-billion dollar phenomenon, a cult of high-tech birth control has emerged. In the name of saving the planet from an overpopulated demise the population control establishment has amalgamated the goals of controlling population with issues of reproductive rights, the argument being the more expansive the selection of contraception provided for women, the greater the service to women's reproductive rights and freedoms. Recently the United Nations Fund for Population

Activity (UNFPA) stated clearly that the solution to the population crisis is to provide women with an arsenal of birth control (Sadik,1994). UNFPA publications during the 1990's emphasize the central role of general education and general health care in the empowerment of women, objectives that were reinforced in the International Conference on Population in Cairo. At the same time the UNFPA continues to increase the allotment of resources dedicated to the dispensing of high-tech contraceptives (Sadik,1994; United Nations,1994). Most importantly, evidence suggests that these contraceptives are subject to very little public scrutiny and are being distributed to millions of women throughout the globe. These contraceptive technologies that have so rapidly emerged over the last thirty years will be the focus of this examination.

This study is premised upon the notion that over population as a global crisis does not exist (Eberstadt,1997; Laing,1997; Simon,1990; Bahr,1972). Although this argument is not an unfamiliar one, it has consistently been overshadowed by more politically and financially powerful opponents.

It is the goal of this thesis to discover and define how we, as a global culture, are going about the business of contraception, which includes an exploration into its development, distribution, institutional policies and stated goals. The purpose of contraception, both real and abstract, from the perspective of an individual woman and her needs is not to be debated in this thesis; rather, I would attempt to reveal what contraceptive technology is in *essence* and its relationship to the very fundamental feminist issues of choice and freedom. Through understanding the intrinsic qualities of contraception as a modern technology, and the role it plays in the technological systems

of its distribution and design - that being the population control establishment - I hope to uncover some assumptions made as to the very nature of modern high-tech contraception. There are two components of this argument, the first is to propose that there exists a fundamental relationship between technology and ideology and that that relationship is most often dialectical in nature. This is to say that there exists a direct and animated relationship between the idea and the constructed physical world in which we live. The second and central argument is that a truth concerning the construction and distribution of modern contraceptive technologies will be revealed as a result of a close examination of the dialectical relationship between ideology and technology. Through a comparative analysis of selected western thought and western technology, consistent patterns and continuities will be examined, ultimately serving to reveal a reality of the current system of contraceptive development and distribution. By looking closely at the framework of *ideas* from which the technology was fostered, and how the idea co-exists with the technology, a clarity of purpose of the technological system being examined will come to light.

The structure of the argument consists of four major components. The first is an examination of relevant literature in order to reveal the most compelling arguments concerning the nature of the relationship between technology and values, followed by a review of literary critiques of new reproductive technologies. This section will conclude with a definition of technology, ideology and what relationship exists between the two. The second component will consist of a brief synopsis of four ideological roots of modern western culture. These four western ideologies have been chosen for their relevance to the modern institution of population control and contraceptive technologies.

These ideologies include patriarchy, western science, the capitalist market economy, and the concept of race since the enlightenment.

The third component of this thesis will be a detailed examination of the contraceptive technologies themselves. A closer inspection of how contraceptives are expected to successfully function as birth control in women's lives will demonstrate a pattern of physical design that will reveal how contraception has increasingly become deleterious to women's health and autonomy. The fourth component will be an examination of population control, its evolution, and how it exists within the definitions of ideology and technology.

The conclusion will consist of an examination and evaluation of the connection between contraceptive technologies and the ideological roots of the West. This will ultimately reveal an agenda that has successfully hidden a truth regarding the role of contraceptive technology in women's lives in both the North and the South.

LITERATURE REVIEW

Intrinsic to the generally accepted definition of technology is the question of technology as a value-free or value-laden phenomenon. This argument has held steadfast within intellectual debate for millennia, and although the context of this dialogue has changed in many fundamental ways, the nature of the argument has remained constant. Revolving around the need to understand the relationship between ourselves, as the engineers and benefactors of technology, and the technological artifacts themselves, the concept of 'value' has anchored the debate since ancient Greece.

Aristotle ignited the dialogue by declaring that technology is *extrinsic* to the nature of humanity, and that the value or meaning of technology is attributed to 'the ordering toward something else' (Hood,1972: 347). According to Aristotle, technology must be equated solely with its use, does not have meaning in and of itself, and it is only through practical and theoretical knowledge that the ends of technology become justified (Hood,1972). In accordance with this argument, Immanuel Mesthene clearly argues for what Mary Tiles and Hans Oberdiek entitled the "Optimists" argument (Tiles and Oberdiek,1995). The Optimists' side of the debate argues that technology is a product of rationally acquired universal knowledge based upon the laws of nature. The most recent historically relevant circumstance used in support of this argument is the Cold War, whereby it is demonstrated that capitalism and totalitarianism (or state capitalism) used, produced, and desired the same technologies, thereby proving that the technologies are in

fact value neutral. Failures in the transfer of technology are explained by Mesthene using the fundamentals of this argument. The failure in the transfer of the technology is not inherent in the mechanism itself, but rather, as defined by Mesthene, lies in the failures of human morality. Therefore, this can be more clearly defined as irresponsible use of technology.

In accordance with the previous value-neutral proponents, Jurgen Habermas approaches the issue from a number of directions. Konneman explains that Habermas construes present day technology as entangled in the dynamics of capital accumulation and should therefore be considered value neutral (Konneman,1990). In accordance with this argument, Habermas concludes that the development of sciences results in the production of true knowledge, and therefore can only result in politically neutral applications to solve technical problems (Habermas,1970). This argument is based on the belief that the “process of research and technology – which obeys immanent laws” results in the understanding of technology “to mean scientifically rationalized control of objectified processes” (Habermas,1970: 57-58).

The structure of the above argument has been based upon an instrumentalist approach to technology, that is that technology is comprised of a series of tools waiting passively to be used. Although historically this idea had taken centre stage dominating the argument concerning technology and values, contemporary debate appears to be dominated by the opposition.

The premise on which the value-laden side of the debate rests is in the belief that technology and its use and context are inseparable. Tiles and Oberdiek define this argument as belonging to the pessimist attitudes towards technology, which proposes that

technology are systems which embody values beyond those 'which are evident in selection of the ends intended to be achieved by technological means' (Tiles,1995:19). The proponents of this theme vary in their optimism for the future possibilities of the technological society, but all fundamentally agree that it is artificial and even dangerous to conceive of technology as anything but value-loaded.

Of the most well known critical writers on the topic of technology, Herbert Marcuse, in his book *One Dimensional Man*, creatively communicated a startlingly pessimistic and yet comprehensive substantialist perspective of technological society. Marcuse equates technology with progress which is itself linked to the totalitarian culture of contemporary western traditional society. The notion of neutrality becomes obsolete when technology and technological society are no longer isolated from the *techniques* of domination. This notion of greater technicalization, although harmful and destructive in nature, still falls under the title of progress, for it is a uni-linear movement towards a specific end; therefore, progress is not a neutral term, for the needs of the technological society are 'defined by the possibilities of ameliorating the human condition' (1964:27). Marcuse continues to define this condition of progress as a natural extension of contemporary science and technology which is by its very nature yoked to capitalism and domination. In concert these forces comprise a system of technological rationality. The very 'neutrality' through which science and technology is claimed to operate and its indifference to political and social purpose, in actuality serves the purpose of linking itself to society by creating and justifying an environment whereby critical discourse is systematically prevented.

In 1995 Robert Pippin continues the legacy of Marcuse in his essay 'On the Notion of Technology as Ideology' (1995), wherein he stresses the notion of controlled dialogue and discourse. Pippin suggests that those studying the inherent ideologies in technology are more interested in uncovering what is *undiscussed* in modern experience. Our dependence upon technology, which, he states, is often seen as a value neutral tool, hides and distorts other visions and renders discussion impossible. Therefore, to see technology as an ideology is to see an extensive "social reliance on technology and the extensive 'mediating' influence of technology in daily life as already embodying some sort of false consciousness" (Pippin, 1995:46). In the wake of this false consciousness are particular interests taken without question as universal interests and specific or contingent historical experience is seen as natural.

The writings of Jacques Ellul cater to a similar substantialist and fatalist perspective of the intentions of technology in society. Ellul is well known for relating a Frankenstein image of technology-out-of-control. Ellul describes a technological society that has obtained autonomy with respect to values. By this it is meant that human purpose and values have been subsumed, or are in danger of being subsumed by the objectives of technological values. Ellul sees that technology is no longer answerable to standards outside of itself, standards which are now founded upon an interminable search for efficiency (Technological Society, 1964:133; Woodruff, 1994:60). Therefore, the autonomous functioning of technology itself finds value in a technique as it is judged from the point of view of efficiency alone.

Of the many writings of Martin Heidegger, "The Question Concerning Technology" introduces the idea that the "question" concerning technology is not a

technical one, nor is technology technical in nature or essence; rather it exists in symbiosis with the nature of humanities “being” (Heidegger,1977). Since technology is grounded in humanity, understanding it is only possible when we first come to terms with the “being” of humanity. Therefore, when one looks at a technical arrangement or object, the meaning becomes apparent when it is placed in its “contextual totality” (Hood,1972:57). A *technic* or *technique* never stands alone but in a matrix of contexts which make up a series of contextual totalities. Thus it is only as possible for a technology to be neutral as it is for any function of human experience to be neutral; in other words it is impossible.

One of the more recent writings investigating the nature of technology follows this idea of the imperative need to understand the relationship of technology to social context. McGinn suggests rather simplistically that economic, political, ideological and social interests of relevant groups *may* directly affect technological practice (McGinn, 1990). In addition, the making of and the use of technics more frequently takes place in settings which may be called “sociotechnical systems”, which interlink with our cultural systems and values and our technical operations (McGinn,1990:17). Kurt Baier, in 1971, explored the meaning of “value” and in his description gives a simple equation between technology and values: since the value of a thing is made up of its “inherentability to confer benefit on someone”, then as far as technology achieves the goals intended, it is inherently value-laden (Baier,1971:23).

Woodruff puts forth a thesis which argues that technology is not neutral, wherein he defends a reality that functions on the antecedent value judgements that are required

before the construction or use of technics, techniques, or sociotechno systems, thereby forcing the conclusion that technologies are inherently value-laden (Woodruff,1994).

Andrew Feenberg follows a similar line as Herbert Marcuse when he argues that technological development is constrained by the dictates of culture, originating from economics, ideology, religion, and tradition, which in contemporary society adheres to a “technological rationality” (Feenberg,1995:11). In accordance with Marcuse, Feenberg argues that this technological rationality is unique to capitalism. Feenberg diverts from Marcuse’s argument when he states that technology may not necessarily be destructive, but rather is dependent upon design. The narrow focus of modern technology falls under a hegemony. Under this particular hegemony technological design has become decontextualized and hence destructive. If our machines mirror our social values, as Feenberg argues, and our technologies are becoming an increasing threat to our “life-environment” then we must challenge the destructive tendencies in the dominant social value (Feenberg,1995:17). Therefore it is the hegemony of production that must be challenged, not the technology per se. In order to transcend the destructive technological society, a greater range of values must be introduced, chiefly a democratic value. Democracy can no longer be strictly a political domain but must be an industrial and technical one as well. Today technology, by design, excludes any democratic process (Feenberg,1995:18).

One of the most prolific contemporary critics of technology, Langdon Winner, identifies the inherent non-neutrality of technology by assessing the manner in which it orders human activity. Unlike a tool waiting passively to be used, technical ensembles

demand routinized behaviour. Different ideas of social and political life demand different behaviour patterns:

One can create systems of production, energy, transportation, information handling, and so forth, that are compatible with the growth of autonomous, self-determining individuals in a democratic polity. Or one can build, perhaps unwittingly, technical forms that are incompatible with this end and then wonder how things went strangely wrong....But the notion that technical forms are merely neutral and that "one size fits all" is a myth that no longer merits the least respect (Winner, 1977:325).

According to Winner, as with Feenberg, our technologies are in need of scrutiny, not just from our engineers, but from our political scientists, for as our politics are openly challenged and debated, so must our technologies.

Unfortunately, the number of women who have been engaged in this debate is minimal. The above literature, although representative of the most dominant arguments concerning technology, in most circumstances make no reference to any notion of 'gendered' technology or any other issues with respect to technology and women. Judy Wajcman, in her attempt to fill this gap, has provided a prolific and comprehensive investigation into technology, gender, and values. In *Feminism Confronts Technology*, she suggests, as does Winner and Feenberg, that there are vested interests in the institutionalized processes that are part of the designing and manufacturing of technology;

Technologies result from a series of specific decisions made by particular groups of people in particular places at particular times for their own purposes. As such,

technologies bear the imprint of the people and social context in which they developed (Wajcman, 1991:22).

What she contributes to the debate is the idea of scientific and technological knowledge as patriarchal knowledge. Therefore the vested interests in dominant productive, reproductive, and domestic technologies are, above all, patriarchal.

The final part of this review is an introduction to another ongoing debate that emerged at the heels of the 'feminist revolution' in the western world. As the emotional fight for reproductive self-determination became a strong voice in feminist debate, the conception of a new philosophical debate erupted. The invention, public knowledge of, and access to the Oral Contraceptive brought with it a tidal wave of controversy and new questions concerning the role of technology in the empowerment process of women. Essential to the definition and the foundation of this argument sits the question of technology as a value free or value-laden phenomenon.

This portion of the literature review will attempt to display a broad spectrum of critical opinions from contemporary health advocates. As will become apparent in the span of the review, current literature concerning women's reproductive technologies remains primarily focused upon the New Reproductive Technologies (NRTs) with a few "honourable mentions" to modern contraceptive technologies. It will also become apparent in this review and through the course of this thesis that critiques of the two technological categories are often founded upon the same premise and are interchangeable.

In her essay "Why We Need All This? A Call Against Genetic Engineering and Reproductive Technology", Maria Mies speaks of reproductive technologies in general,

challenging the biologicistic fallacy that social conditions would be altered if as many women as possible held privilege within the scientific, economic, and political domains (1987). Mies calls for continuous scrutinizing of the aims and goals these women represent, for it is clear that the current technologies remain instruments of domination even if women control them. Therefore, alternative conditions must be created in order for alternative technologies to be used effectively.

Robyn Rowland in her book entitled *Living Laboratories*, discusses the symbiotic relationship between commerce and medical science, claiming that “science cannot afford to ignore infertility” (1992:272). Rowland’s argument emphasizes that control over reproductive technologies lies in the hands of the powerful groups that determine much about our society, the most powerful influence being commercial. Historical trends dictate that technology generally increases the control of those with power over those less powerful, and that reproductive technologies should not be overlooked when considering this relationship. She concludes that “the control of conception is being taken over by laboratory technicians; women’s control at the social and individual level is weakening” (Rowland, 1992:228).

Margrit Eichler takes a different approach in her criticisms of the NRTs. She focuses primarily on the technologies mentioned in the Canadian Royal Commission on NRTs and states clearly that each technology needs to be assessed individually for its overall social desirability. After invention and production, a technology can be evaluated as to its purpose and value to society.

Patricia Spallone examines various governmental inquiries into contraceptives, although looking more specifically into experimentation in the investigation of In-vitro

Fertilization. Spallone closely examines the reports of inquiring bodies such as the Warnock Report in England, the Walter Report in Australia, and the Ontario Law Reform Commission on Human Artificial Reproduction and Related Matters. She concludes that “the similarities in their approach to technologies reveal most obviously that scientific reproduction requires the subordination of women” (Spallone, 1992:167). Accordingly, she concludes that the concerns of the state and of the scientific community exploit technology for their own interests which are fundamentally at odds with the interests and concerns of women. Spallone stresses that these technologies are used to the advantage of the traditional nuclear heterosexual family. In greater detail Spallone discusses the many ways that the political and scientific community subvert women’s real health concerns, focusing instead on the moral and ethical issues of the family and motherhood. Spallone briefly points out that fertility control technologies (contraceptives) were overlooked in all of the reports.

Renate Klein is one of the more prolific and well known scholars and critics of reproductive technologies and a member of Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE). Klein writes expansively on the effects of NRTs, emphasizing that they are a logical extension of patriarchal aim of controlling women’s fertility. She equates the damaging effects of NRTs to the experiences of women in the South with the effects of contraceptive technologies. Although she speaks in greater detail about the NRTs, in FINRRAGE report *Declaration of Comilla* she writes more generally;

I wish to emphasize that all forms of biomedical intervention from surrogate motherhood to genetic screening and sex selection must be seen on a continuum and as intrinsically linked with one another: they share the

ideology that human reproduction should be taken out of women's hands and instead be controlled by doctors, scientists and, increasingly, the state (Klein,1989:50).

In a brief sentence Klein mentions contraceptives, stating that it is important to realize how intertwined fertility and infertility control are. In another article Klein makes greater mention of contraceptive technologies, discussing "old" and "new" procedures have a common link of being invasive to the body (Klein,1987). She claims that increasingly, control over women's bodies is being taken out of the hands of women and placed into the hands of "experts". Control over women's bodies for thousands of years has been made possible through the control of women's reproduction. In this article Klein makes reference to the reproductive abuses played out in the same way in the South, using contraceptive technologies in the name of population control. Klein mentions the many contradictions of reproductive technology distribution and promotion, and how either fertility or infertility will be commodified as a medical problem, depending on which part of the globe you are living. Klein stresses that the technological diversion away from genuine concerns for the health of women and a large scale movement towards what the scientific medical fields judge as being progressive and innovative.

In the book entitled *Women as Wombs*, Janice Raymond denounces all New Reproductive "arrangements" as publicly sanctioning violence against women (Raymond,1993:14). Raymond presents the media and the medical profession as falsely representing current technologies as paramount to women's unconditional free will and the epitome of choice. These establishments accuse those who criticize these procedures as making women victims and denying that women are capable of making choices in their own best interests. With regard to contraceptive technologies, Raymond stresses

that reproductive medicine and the oppressive repercussions that women are experiencing today are a result of both fertility and infertility management, since “the same scientific knowledge informs both” (Raymond, 1993:181).

Heather Menzies looks upon reproductive technology as ‘tools’, founded upon the sexist choice that women’s bodies be the sight of contraceptive intervention (Menzies, 1994). Menzies asks important questions like what has moved reproductive technologies – both fertility and anti-fertility – to the forefront of medical science during a time of health budget cutbacks and restraints. Menzies criticizes medical science for its failure to involve public discussion and democratic participation. In addition she maintains that reproductive technologies are designed outside of women’s experience and women’s technological practice, divorced from social context and conceived of only by officially designated scientific medical experts (Menzies, 1994).

Nikki Colodny is one of the few authors who speaks specifically about contraceptive technologies in her essay “The Politics of Birth Control in a Reproductive Rights Context” (1989). In this article she claims that women need to construct a feminist model of technology distribution and development. She stresses the need for open dialogue and women-structured interaction, encouraging women to take responsibility for themselves. In this article the technologies themselves are not under scrutiny, rather the lack of information and therefore uninformed choice is her target.

As mentioned earlier, FINRRAGE published the *Declaration of Comilla*. The generally strong sentiments that emerged from this workshop and the *Declaration* are summed up in the introductory words “Reproductive and Genetic Engineering is a symptom of a totally diseased society.” The author further claims that this is a disease which has

infected the whole world (1989:xii). This disease translates into the belief that there are unlimited needs that can be satisfied through science and technology. There exists an unshakable belief in unlimited growth, and in an attempt to realize this unlimited world, a system must exist where some will prosper while others must be exploited. This is actualized through biological and population control technologies.

And finally, Kan Shila Kaur in her article “Reproductive Technology, Fertility Control and Women’s Health” challenges assumptions on which the proliferation of contraceptive development and distribution are based. These assumptions (for example that overpopulation being the primary cause of the Third World’s development problems) have permitted and legitimized health and medical policies that ignore the real needs and concerns of women in the South. Instead, consistently effective, highly technologized interventions have become the standard in place of appropriate primary health care. Kaur states that while choice for women is expanded when new contraceptive methods are developed, this is only on an individual basis. The need for contraception is a real one, but they must be delivered in a safe, reliable and voluntary fashion. Kaur describes the use of contraception as more of a social problem, not a technical one. The acceptance and use (by free choice of women) would be better expanded if the accompanying health and medical services provided appropriate counseling and supervision. Essentially Kaur states that there is nothing wrong with the contraceptive technologies, but rather that the health services that provide them are lacking.

The current critiques of reproductive technologies range from an attack on the very root and fabric of society to inadequate systems of delivery, although all view modern reproductive technologies as failing women and their health needs. The

critiques mainly focus on the concerns and issues of women and the use of the New Reproductive Technologies. Relatively little feminist or public debate has been organized around the design and distribution of contraceptive technologies.

TECHNOLOGY - A DEFINITION

technology *n., pl.-gies.* 1 the science of mechanical and industrial arts; applied science of mechanical and industrial arts; applied science 2 the body of tools, machines, materials, techniques, and processes used to produce goods and services and satisfy human needs. 3 a particular application of technology; any method, process, or system of using special tools and techniques to achieve a goal. 4 technical words, terms, or expressions as used in an art or science; technical terminology or nomenclature (World Book Dictionary, 1977).

Historians have most often defined technology within an industrial framework as is seen in the dictionary definition above: motion applied to structure for the purpose of production, constantly subject to innovation. However technology under closer inspection reveals a more purposive meaning. The definition of technology for the purposes of this paper will be comprised of a conglomeration of interpretations adopted from various philosophical inquiries into the nature of technology.

As defined by Ursula Franklin, technology is “a *system*. It entails far more than its individual material components. Technology involves organization, procedures, symbols, new worlds, equations, and, most of all, a mindset” (Franklin, 1990:12). Franklin takes technology beyond the physical artifact and into defining the systematic organization of life.

From Jacques Ellul I will define technology as consisting of two components. The first component, and what is regularly identified as the “technology”, is the “machine”; a tool or physical artifact. The second component is the *technique*, defined by Ellul as the technological system, and which plays a crucial, if not the most important technological role in modern organization. Ellul explains that “technique integrates the machine into society. It constructs the kind of world the machine needs...It clarifies, arranges and rationalizes....It is efficient and brings efficiency to everything”(Ellul, 1981:42). At the root of *technique* is the machine, and although Ellul finds the machine to be nearly inconsequential relative to the impact of *technique*, machine is at the point of conception of the *technique* and, as defined by Ellul, ‘it represents the ideal toward which *technique* strives’ (Ellul,1981:41). In other words the technological system is not only a macrocosm of the machine, but attempts to emulate the machine.

An important characteristic of technology and the technological system is that it also exists at the level of the subconscious. The activities of life are defined within the parameters of the technological system. When a technology and a technological system are most successful, it recedes into the background (Ihde,1990). When technology functions as it is intended it withdraws from our perceptions and is able to ‘maintain the illusion of liberty, choice, and individuality’(Ellul,1981:44).

As defined by Judy Wajcman, technology “is always a form of social knowledge, practices and products”(Wajcman,1991:162). And finally, technology is never neutral. Physical artifact is a product of how we perceive life. Technology retains the qualities and characteristics of the perceivers, and embodies the values of its creators.

IDEOLOGY - A DEFINITION

The debate concerning the definition and significance of ideology remains ambiguous after a minimum of 200 years of intense debate. Therefore, a comprehensive yet brief definition will be attempted here, with a focus on characteristics of ideology that are relevant to the study of its relationship to technology and, more specifically, relevant to understanding the current system of contraceptive technology design and distribution. Ideology is most basically defined as a commonly shared perception of reality among a particular group, therefore, as described by Guillaumin, ideology is a “mode of apprehension” of reality shared by a whole culture and for that reason “goes unrecognized” (Guillaumin,1995:35). In addition to the way one sees the world, ideology is defined as the way one sees oneself and our experiences. Ideology can be defined as “a set of assumptions of which we are barely conscious” (Postman,1993:123), but form a belief system that becomes morally justified as being right. Resembling the nature of technology, ideology recedes into the background of our collective perceptions and consciousness. Therefore an ideology can place you outside of your experience, leaving you with extraordinary contradictions between what one is experiencing and what one is being told about those experiences. This reality becomes particularly true for marginalized peoples of a given group. The political actualization of ideology, because of its insitutionalization of power, can therefore become a tool of domination.

Since ideology masks particular interests, “one must search for the structure of interest beneath the ideas” in order to unmask the ideology (Bell,1988:397). As defined by Daniel Bell, “ideology is the conversion of ideas into social levers,” therefore in order to discover the nature and strength of these social levers, it is necessary to look not at the *content* of the ideas, but rather at their *function* (Bell,1988:400). As will be clear in chapter three, technology and technological systems are greatly responsible for the fulfillment of agendas hidden by dominant ideologies.

THE IDEOLOGY

The purpose of the following chapter is to provide a chronological examination of what I believe to be the most relevant and foundational ideologies of the West and western culture. These ideologies may not be representative of the dominant ideology to emerge from their respective eras. They are significant only in that they are predominant in the dynamic between ideology and reproductive technologies and that they continue to influence the present in a manner fundamental to the issues of modern birth control.

The first part of this paper will provide an insight into the *idea*, following which will be a closer examination of the technology in question. This examination will only go so far as to provide a cross sectional examination of the ideology in order to sufficiently illustrate the primary linkages between the ideas and the technologies being addressed in this study.

Patriarchy

An understanding of the concept of patriarchy is required for these purposes in order to understand its overarching influence on the ideas and culture of North American and western European society. Heidi Hartmann defines patriarchy as a “set of social relations between men” through which women are controlled. Women themselves do not

appear as real partners in this relationship but only as 'objects/resources used by men to be allocated in their exchange relations'(Hartmann quoted in Jonasdottir,1991:73).

Patriarchy is a term which expresses the totality of the oppressive and exploitive relations that have affected and still affect women globally. Patriarchy also connotes the historical and societal dimension as well as the depth of the exploitation and the oppression of women. Upon examination of the historical roots of each ideology, how patriarchy underlies the evolution and current state of these ideologies will reveal itself.

Theoretical speculation as to the historical roots of patriarchy are not relevant to this argument. It is only relevant that it existed before modern science, modern capitalism and scientific racism in the West (Walby,1990). It is also important to note that patriarchy, if not necessary for the conception of the other ideologies, is necessary to their present functioning and preservation.

Modern Science

Recent history has catapulted western Science into the status of demigod, containing promises of glamour and passage into the unknown. In the ocean of technological gadgetry that has become the industrial dream, science promises us *more*.

Considered to be universal, science is recognized as a value free system of knowledge. The ideology of science in western civilization today professes that only diligent and attentive observation, in conjunction with testing through experimentation, will yield genuine knowledge.

Science is seen as above human emotion, class, community, religion, language, and nation. It has become the preferred instrument of transformation, enforceable and above the interests of all. The most readily apparent characteristic of science is its position of dominance over the physical world. Scientific knowledge is an instrument of control, for the more we understand, the more equipped we are to create change; therefore, science has created a clear path between knowledge and power.

While the origin of modern science can be traced back to 1200 A.D., the Scientific Revolution began in the 16th century. Around this time the philosophy of Nature was being transformed into the institution of Science. Sir Francis Bacon is considered to be one of the founders of western scientific thought and a pioneer of Industrial science (Farrington, 1947; Russell, 1961). Bacon was the first to proclaim faith in progress through the application of this new science, and more specifically was the first to connect science with the project of improving the human condition (Postman, 1993:35; Farrington, 1947). For the first time science was being pursued for its use value rather than as a vehicle for further understanding, as was proscribed by Aristotle and the classic exercise in contemplation. The Dark Ages dismissed contradictions to religious doctrine, limiting the extent and the value of any scientific knowledge acquired during this era, while Nature was considered sacramental and symbolic of spiritual truth. At this time interests lay in preserving facts collected from classical times. The Ancient Greeks viewed Nature as an organism, containing within it intelligible principles of motion or a self-contained mind. By the 16th century Nature became an *object* of science “understood not in terms of intelligent principles of informing matter, but as mechanism” (Lloyd, 1996:47). True learning for Bacon was now

inspired not by pure pleasure in the excitement of discovery but in the needs of human kind, and this need for the improvement of humanity was grounded in the desire for man to dominate over the natural world. The classic notion of the contemplative ideal was considered to “pervert the end of learning by depriving it of its power”(Wiener,1969: 388). A revolution in knowledge was being lead to an end where man might ‘win a new empire over things’(Wiener,1969:382). According to Bacon, the mind’s task in knowledge was to control nature.

Sex and gender in scientific discourse had remained prevalent since the classical era, where femaleness was symbolically associated with the irrational, the passive, the confused or disorderly, and the unknowable. (Merchant, 1995:61). Bacon now represented nature as female, and used gender in his conceptions of master and domination. The task of science was to exercise the most appropriate form of male domination over her. Only through conquering her will the true nature of things be revealed. Virility and masculinity of the scientific mind accompany the discourse of conquest and domination, creating a marriage of mind and nature, where nature must obey. Bacon’s writings are latent with sexual imagery, metaphors of rape and torture of nature (Merchant,1995; Farrington ,1949; Keller,1985).¹

At approximately the same time, René Descartes was busy constructing another pillar of western Science. Descartes was the primary source of causal mechanical explanations to natural phenomenon. Human beings and human experience was being explained with a mechanical framework whereby nature is modeled on the characteristics of a machine (Shapin,1996). In the 1630’s, Descartes elaborated causal analogies

¹ “‘nature betrays her secrets more fully when in the grip and under pressure of art than when in enjoyment of her natural liberty’” (Bacon quoted in Keller, 1985: 47).

between movements of mechanical clocks and natural bodies, comparing the mechanisms of the Strasbourg Cathedral Clock to the complexities of the mechanical workings of the human body (Shapin,1996). Eighteenth century philosophy continued to use the clock as a functional comparative in design to the human body for the reason that “the clock was also an exemplar of uniformity and regularity” (Shapin,1996:36). The natural world exhibits orderly patterns of movement and the clock was the perfect metaphor for regularity of motion within the natural order; although the human body was superior to any possible artificial construct, it was nonetheless a machine. This notion initiated a widely communicated ideal of the human body as object, a fundamental ideal which preceded the global *institution* of western Science. Europe had begun to identify science with notions of rationality, in particular in their approach to nature. These notions were defined in a very specific, reductive framework, where by its own logic had excluded all other frameworks of science and investigation proclaiming them invalid, and could therefore be written out of history. From this moment science and its claim of universality became a tool for describing those natural orders and aspects that promoted the power of the elite and the upper classes of Europe. Colonial history is a demonstration of scientific values rooted in the military, economic, and political expansion of Europe.

Science had become instrumental in defining and subjugating the ‘other’. In the eighteenth and nineteenth centuries, colonized and non-European races became the most important ‘other’ of an expansionist Europe. The dichotomies within the domain of science to which both Bacon and Descartes gave light in this era served well to subjugate. The Scientific Revolution of the 16th and 17th centuries was founded upon “masculine

project of reason and objectivity” and the conceptual dichotomization of everything; culture versus nature, mind versus body, reason versus emotion, objectivity versus subjectivity, public realm versus private realm, where in each dichotomy the latter must be dominated by the former (Wajcman,1991:5; Merchant,1995). As a result of the ideals of conquest, domination and mechanical reductionism, the Scientific Revolution and such leading philosophers as Bacon and Descartes, women have been situated in the position of the “other” by default, where man becomes mind, woman becomes body, and mind governs body (Russell,1974:548). Rational knowledge has been associated with transcending, transforming, or controlling natural forces. The feminine is associated with what is being transformed, transcended, controlled, or what rational knowledge simply leaves behind. The Baconian notion that women are closer to nature engenders concepts such as women are more emotional, superstitious, and less analytical than men. These contrasts are promulgated by medical science which reinforces images such as male muscular strength in contrast to female nervous vulnerability.

The notion of female subservience and its close relationship to nature born of Aristotle became foundational in establishing a scientific framework based on dualities and domination (Merchant,1995). While Bacon’s dream of control, domination, and manipulation of natural forces has become a reality seen in current international industrial activities, Descartes launched the process of reducing the human body to an instrument that can be expressed merely by its instructions encoded in human DNA. Bacon’s language was foundational in reducing female to a resource for economic production, justifiable through the now righteous domination of nature. The result of scientific enlightenment has been the sanctioned domination of women, where women are reduced

to “woman”, a uniform identity and biological entity, without cultural, social or political specificity.

Capitalist Market Economy

This cultural revolution and ideological upheaval of the era not only gave rise to modern scientific thought but also witnessed the birth of modern economics. Bacon’s science of growth and opportunity was largely influenced by the new economic ideologies of Europe.² During this era, the ideologies of the modern economy and science overlap at the concept of growth. Science commands the attention of economists because the scientific project as defined by Bacon promises growth. Infinite expansion and conquest of the natural world promises increasing wealth. Bacon asserted that the economic effects of science were unambiguously positive, faithful to the promise of industrial technological innovation as the largest force of change in the new age. The two forces of constant technical innovation and commodity exchange became the fundamentals of the modern ideal of manipulation and domination over not only nature, but human and social domains.

Dominant economic English thought argued in favour of economic growth and prosperity, believing that all people should become industrious producers of wealth (i.e. Hobbes, 1962). However, the argument was not in favour of uncontrolled excess, rather that industry would temper greed, and that while there exists a great wealth for all, it

² and Max Weber argues the relationship between the compatibility between science and capitalism in *The Protestant Ethic and the Spirit of Capitalism* (Weber, 1958).

would be diffused in just proportions. Hobbes and Plattes argued for state control and if need be, for the state to have the power to confiscate wealth for the greater economic and political good (Hobbes,1962:185-190).

Adam Smith, considered by many to be the father of Political Economy, contributed the most influential treatise during the industrial revolution; the *Wealth of Nations*. Many have argued that Smith did not necessarily put forth anything that had not already been introduced into the academic halls of the 18th century, but rather that he had coherently united the most poignant economic thoughts of the time (Heilbroner,1996; Preston,1967).

Many of Smith's ideas are still significant in contemporary political and economic discourse. The concept of the *division of labour* was central to Adam Smith's view of the ability of a nation to expand its production (Smith,1963:110-113). Smith argued that division of labour aided in production through saving time that the worker would otherwise waste going from job to job. An additional product of such focused labour was *innovation* since "men are much more likely to discover easier and readier methods of attaining any object, when the whole attention of their minds is directed towards that single object, than when it is dissipated among a great variety of things" (Smith, 1963: 110). Such singular attention to the function of one component of a machine would inevitably lead to the search for faster and more efficient methods of operating that machine, resulting in continual invention and innovation. Of course the time-saving qualities of the division of labour was central to the *efficiency* of labour and production, and industry would operate more efficiently in the absence of government.

Smith supported the most common economic idea of the time, that of the “goal of increasing abundance” promising an increase in production and the wider spreading of the benefits of that production (Smith,1963). The goal is to produce more than you can consume. Smith and many others supported a belief that the market economy holds more benefits in the future than had been seen to date, with a sense of progress always pervasive in the belief in abundance. Without trade and expanding markets, a nation would never succeed in growing.

The idea of *personal freedom of choice* emerged from the rise in the belief of personal liberty and guidance of the individual by their own self-interests. This notion eventually became fundamental to the idea of abundance, whereby freedom in the market results in expanded competition and more choice for all. The choice offered in the market became equated to more personal freedom.

Population as a variable in the economic functioning of a nation became central in the debate among economists. While Adam Smith and the majority of economists at the time equated an expansion in population with an expansion in production, Malthus and David Ricardo were arguing the negative consequences of population expansion on the economic health and wealth of a nation. Malthus saw the fruits of economic development being devoured by the expanding population where

the poor were condemned to a wretched subsistence from which higher wages would only lift them briefly before they would destroy their own well-being by producing more children who, competing with them for wages and food, would drive them back to misery (Preston,1967:38).

Malthus emphatically objected to the Poor Laws, arguing that greater contributions and collection of resources for the purpose of poverty alleviation would negatively affect the overall economy, outweighing any benefits that may result (Malthus,1965:134-5). Support for the poor would only increase their numbers. Any assistance would only be temporary and not conducive to the general welfare since the “funds given to the poor would simply push up the price of the means of subsistence, ultimately leaving the poor no better off than they were before” (Marshall,1967:66).

While he developed the concept of capital from Smith - that being the belief in saving money and reinvesting because of greater profits to be made - David Ricardo deviates from Smith in his theories of population. Whereas Smith had seen the rise in the supply of labour as a restraining factor on wages, Ricardo saw the expansion of the population as impinging on the means of subsistence. As with Malthus, Ricardo theorized that population growth would lead only to the an ever rising cost of living (Marshall,1967:78; Ricardo, 1948). Population increase translated into a profit decrease, to the point where accumulation of capital would no longer take place and production would reach what Ricardo referred to as a “stationary state”(Marshall,1967:79).

Malthus, Ricardo, and Smith, among many others, were the beginning of an economic philosophy whereby the market exchange became the founding principle of not only political but social life; the movement of people and goods was controlled by the invisible hand of the market. The ideal of liberty had begun to transfer from the notion of personal or political freedom into a market framework where freedom is equated with the maximum opportunity afforded by the market, which inevitably translated into the maximum available goods from which a customer may choose. Freedom now rested on

the ability for people to initiate a utilitarian exchange with anyone they choose. By design Bentham and Smith prophesied social and economic interaction as “an inextricable network of utilitarian exchanges...frequently conceived as a device which liberates persons and things from what is quite diffusely defined as the imperialism of culture” (Berthoud,1993:78).

The ideology of the market lives within the continuing existence of a belief in the purity of the economy of social relations. Social, political and economic exchange between people is sought after within the context of the principles of maximum efficiency, maximum profit, and maximum choice, all of which have become ends in themselves. Far from the notions of Hobbes, Wren, and Plattes, efficiency, profit and selection have taken on life-forces of their own. Anonymity has become a precondition to becoming a free person, liberated from under the constraints of government and cultural dictates.

Just as the subjects of scientific knowledge are reduced to their lowest common denominator, so follows the reductionist logic of the capitalist economy. Women and men

are related to each other in the specific process of production (and reproduction) of life. In this process we (people as gendered sexual beings) are the productive agents as well as the products of life. And in this process living human bodies-and-minds are both the raw material ...and means of production (Jonasdottir,1991:50).

The modern economy demands that nature and women are reduced to a specialized commodity with a uni-functional use (Mies,1996).

Racism

Against the background of the Scientific Revolution theories of race and ethnicity ascended the academic ladder and became a primary subject of the newly emergent social sciences. Along with the distinction between men and women, science re-enforced and systematized the distinction between white people as “human” and blacks and browns as “nature”. Around 1830 Hegel had written that “the Negro represents natural man in all his savagery and unruliness; if one wants to understand him correctly, one has to abstract from him all human respect and morality. In this character there is nothing that reminds one of the human” (quote from Mies,1993:178). At a time when social upheaval became the greatest threat and change provoked a sense of foreboding, there was a need to naturalize the social phenomenon that was occurring. During the 17th and 18th centuries the idea of “degeneration” emerged in response to this need, viewing social, political and economic distinctions as not only a failure to advance but as a social pathology. It was against this background that the idea of race developed. This notion of race expressed a superiority dictated by evolution, and conversely, inferiority or pessimism dictated by inescapable regression. ‘Degeneration’ expressed a perception that these processes were natural, and that social differences reflected in progress and regression were controlled by objective laws and were in themselves natural (Blumenbach,1997).

Auguste Comte and positivism lead the way against the prevailing order of the Enlightenment by uniting order and progress and subjecting society to the laws of nature. Social beings, once governed by social laws, were now essentially biological entities

subject to the dictates of nature (Aikin,1956; Malik,1996). From natural law scientific racism was conceived and nurtured by many enlightened thinkers of the time. The new science of man incorporated a number of ideas central to scientific racism: 1) a teleological view of history – “human development is purposive leading ever forward to the triumph of civilization” (Kenan,1996:87) 2) a belief in the continuity of the animal and human worlds – animal life is the root of human faculties 3) mental abilities are related to physical characteristics.³ Evolutionist views, such as those belonging to Herbert Spencer, transferred theories of social stratification as a product of natural laws to a global context, whereby the poor peoples of the colonies were at the bottom of the evolutionary chain and classified as “degenerate” due to inherent deficiencies (Collins,1993). Hegel argues that the “Negro” is slower to evolve since “their consciousness has not yet reached an awareness of any substantial objectivity” (quoted in Eze,1997:127). In his *Lectures on the Philosophy of World History*, Hegel argues the natural inferiority of the black person, stating that ‘all our observations of the African man show him as living in a state of savagery and barbarianism, and he remains in this state to the present day’ (quoted in Eze,1997:127). The sub-humanity of the colonized person was quickly becoming an acceptable concept in mainstream academia.

Up to the 1840’s, phrenology laid the foundation for racial science through connecting external indicators to innate abilities, and although it was soon discredited, its effects have been long lasting (Collins,1993). By the second half of the 19th century, determinist forms of racial thought had become acceptable. Concern for social stability, a fear of working class unrest, growth in national rivalries and European imperialism,

³ Johan Franz Gall, as an example, professed a correlation between mental abilities and the shape of a persons head.

were all reflected in the dominance of biological determinist thought. Charles Darwin's *Origin of the Species* in 1859, although the most renowned literary support of biological determinism and had served to validate biological perspectives of positivism, these perspectives had emerged after determinist attitudes had already secured themselves in the political climate.⁴

Liberal ideology was consistently confronting contradictions, unable to reconcile universalism of the enlightenment and white middle-class-superiority particularism. The seizure of power by a class, the subjugation of foreign peoples, the birth of a working class (industrialization) were all intertwined with individualism, the claim to equality, and nationalism. Conflicts and contradictions once camouflaged began to fall into crisis with the arrival of mass democracy. Expansion of political suffrage brought on fear of the masses, fostering elite theories in support of sustaining the governing classes.⁵ The masses were regarded with a mixture of contempt and fear, believing them to be controlled by instinct while the ruling classes by reason, and since the masses were incapable of reason and reason, it would be negligent to allow them to participate in the governance of society (Kenan,1996). This new discourse did not lead to the disillusionment of scientific rationality and scientific method, rather science was now seen as a prerogative of the few. The bulk of humanity was regarded as irrational and "prone to degenerative tendencies" (Kenan,1996:112). Paternalistic attitudes towards non-European culture and the poorer masses had been rationalized into an institutional reality.

⁴ Eight years before *Origin of the Species* Herbert Spencer had coined the phrase 'survival of the fittest' (Collins, 1993; Age of ideology).

⁵ I.e. John Caryl, *The Intellectuals and the Masses*; Ortega y Gasset, *The Revolt of the Masses*; Jose Enrique Rodó, *Ariel*.

Concurrent to the development of capitalism and science, was the development of scientific racism, completing the dehumanization of brown and black races and women. Through the subordination of the other by looking upon them as coming from nature, white man emancipates himself from savagery. The British colonization of West Africa coincides with the scientific racism being established in academic circles in Europe. With the advent of the British in the continent, the attitude towards African women had changed drastically. Whereas merchants had previously considered African women for marriage, they were now considered for prostitution. From this, theories of the “beastliness” of African women were conceived (Mies,1986:95). Women of colonized areas, where they previously may have been independent, possessing positions of relative power and stature, were now “naturalized” or brought down to a state of nature, the counterpart to the “civilizing” of the women of Europe (Mies,1986:95). Reports from German colonizers, although much later than the rest of Europe, defined all natives as “savages” but that the native women were the most savage of them all (Mies,1986:100). Although scientific racism was short lived in the halls of academia, principles of racism had continued to extend its logic into international political and economic relations. Perceptions of women in the South as irrational and in a perpetual state of uncontrolled fecundity has persisted since the time of the enlightenment. How it has manifested itself in the construction and distribution of contraception will be discussed in detail further on in the thesis.

Patriarchy, modern science, the capitalist market economy and scientific racism constitute the most overarching and foundational ideologies that will function as a framework within which population control and reproductive technology might best be

understood within a context of western ideas and cultural consciousness. The following section will explore contraception as a technology and population control as a technological system that have emerged from the West over the last fifty years, in an attempt to compare the paths of development and examine the relationship between the two phenomenon.

CONTRACEPTION – THE TECHNOLOGY

The purpose of this chapter is to overview the physical design and functioning of the contraceptive technology. There are four main contraceptives that will be closely examined: the Pill, Depo-Provera, Norplant and Quinacrine. These four contraceptives have been chosen due to their wide scale distribution, particularly throughout the southern continents, and because of the extensive media attention that has been given to each of them. In addition, the physical design of the four contraceptives is representative of most contraception that has been developed over the last three decades or is currently under development.⁶

The Pill

In both the east and the West the birth control Pill is looked upon, both negatively and positively, as a catalyst or launching pad for feminist reproductive rights in the twentieth century. The Pill is perceived as being a contraceptive independent of male control, providing new strategies of sexual liberation and independence. From a feminist perspective few women have challenged its advantages. Reproductive freedom that was

now being delivered by a female oral contraceptive is considered an inalienable right and could only add to the momentum of women's empowerment.

The Pill was the first hormonal contraceptive available on the market and still remains the most widely available. Currently over 70 million women use the Pill world wide (Hartmann,1995). Used correctly it prevents pregnancy with a success rate of 99-99.5% (Health Canada,1995; Katzung,1995:621,624). The most common type of Pill used today contains synthetic strains of both estrogen and progestin, similar to the hormones produced by the female body. These hormones affect the pituitary gland, altering the hormonal balance in order to prevent ovulation (Hartmann,1995). In the 1960's the initial composition of the oral contraceptive contained higher doses of estrogen which, after nineteen years of protest from women's health activists in response to frequent severe side effects experienced by users, was finally altered. Today, after estrogen levels have been lowered, there still exist a host of adverse effects that are considered to be acceptable within the parameters of both the medical profession and most women (PAHO/ WHO,1992). Side effects include circulatory disorders, most often resulting in blood clots, but may also lead to heart attacks, strokes and high blood pressure, cardiovascular disease with women who smoke, and neoplasia of the liver (Health Canada,1995; PAHO/WHO,1992). In addition there are risks of breast and cervical cancer, gallbladder disease and liver tumors. There are dangers to the fetus if birth control pills are taken during pregnancy (Hartmann,1995; Health Canada,1995). "Discomforts" may include depression, liver problems with jaundice, skin pigmentation,

⁶ The exception to this rule would be barrier methods. The significance of this will be mentioned further on.

rash and vaginal infections, and an increase or decrease in sex drive, hair growth and appetite. (Health Canada,1995).

Depo-Provera

Depo-Provera, manufactured by Upjohn Farmacia pharmaceuticals, is a hormonal contraceptive containing the progestin medroxy progesterone acetate (DMPA), injected in the same manner as a common vaccination (Hardon,1992). This contraceptive is most potent immediately after administration, diminishes slowly, resulting in effective birth control for a minimum of three and maximum of six months (Balasubrahmanyam,1986; Bandarage,1997: 83; Hardon,1992). Depo-Provera works by inhibiting ovulation resulting in pregnancy rates of less than 1 in 100 per year when used in regular intervals (Hartmann,1995). However the release of the hormone may continue for up to ten months during which the effect of the method cannot be reversed. Advocates of Depo-Provera broadcast advantages such as its long-lasting effects, easy administration, being highly effective at preventing pregnancy, and the problem of forgetting to take the Pill on a daily basis is eliminated. The side effects of Depo-Provera include irregular menstrual cycle - heavy bleeding and amenorrhea - skin disorders, fatigue, headaches, nausea, depression, hair loss, loss of libido and weight gain (Bandarage,1983:84; Corea,1989). The long-term effects are similar to those of the progestin Pill: “the possible risk of birth defects as the result of women taking the drug during pregnancy; the potentially negative impact on infant development of ingesting the hormone in breast milk; and a possible link

to breast, endometrial, and cervical cancers”(Hartmann,1995;203). More recent evidence suggests that Depo-Provera leads to reduced bone density in the lumbar spine and the femoral neck regions with a minimum use of fifteen years (*WGNRR*,1997:10).

Norplant

Norplant is a registered trademark of the Population Council and was designed and manufactured by Wyeth-Ayerst in the United States and Great Britain (Roberts, 1997:105). The contraceptive consists of six bio-degradable tubes the size of match sticks that are inserted subcutaneously in the woman's upper arm. The tubes gradually release levonorgestrel, a synthetic hormone of the progestin family. This hormone functions as an inhibitor, preventing ovulation as well as thickening the cervical mucus in order to make it impermeable. Norplant is considered to be superior to other steroid contraceptives (the Pill, injectables) since it provides a fairly constant concentration of the contraceptive in the bloodstream (Correa,1994 (a):287).

Researchers and promoters of Norplant emphasize its very long period of efficacy and its reversibility as its greatest advantages. Conception is prevented through extended exposure to low doses of hormones, without daily surges, as occurs with oral contraceptive use. Norplant contains only progestin, and not estrogen, which, as was stated earlier, most oral contraceptives do contain, therefore protecting women from estrogen-related side effects. In addition, Norplant is long-acting and is therefore useful for women who do not desire more children but nor do they want to undergo sterilization.

As with Depo-Provera, Norplant is considered. In addition, women are not as dependant upon their partners co-operation, as is necessary with the use of a condom.

Norplant had been approved by the FDA in 1990 and became eligible for public marketing in Canada in 1993. Unlike Depo-Provera, Norplant acquired government approval after only one year and was developed specifically as a convenient method of birth control for developing nations (Hardon,1992).

As with Depo-Provera, Norplant was found to be the cause of considerable bleeding. Although considered to be “non-life threatening”, it has greatly affected the ‘acceptability’ of this contraceptive (Hardon,1992). Approximately sixty per cent of women using Norplant experienced changes in their menstrual patterns within the first year of insertion. Fifty per cent of women who had discontinued using Norplant reported erratic bleeding patterns as their primary reason for discontinuance (Hardon,1992).

Greatest resistance comes from women’s health advocates who stress that long-term side effects have not yet been determined within safe margins. The Women’s Global Network for Reproductive Rights Quotes the *US Physicians Handbook* as reading;

There have been reports of idiopathic intracranial hypertension in NORPLANT system users; however, a causal relationship is unclear. A cardinal sign of idiopathic intracranial hypertension is papilloidema; early symptoms may include headaches (associated with a change in the frequency, pattern, severity or persistence) of particular importance are those headaches that are unremitting (continuous in nature) and visual disturbances (WGNRR,1996:10).

A BBC production entitled *The Human Laboratory* reported 'visual disturbances' so extreme that a suspiciously high number of women are being diagnosed with blindness in one or both eyes (Cadbury,1995). Beyond medical predictions and cautionary lists of side effects, *The Human Laboratory* investigated other symptoms that women were experiencing around the world, including eyesight disorders, strokes, persistent bleeding, and problems with removal of the implant (Hardon,1992).

Quinacrine

Quinacrine, developed in the 1930's as an anti-malaria drug, is now being considered for official approval as a safe and effective contraceptive for women (Bandarage,1997:87). Quinacrine was also in use for the treatment of tapeworms, but "because of its toxicity should no longer be used unless...alternative drugs are not available" (Katzung,1995:818).

Quinacrine, in the form of a small pellet, releases a bacteria that destroys tissue when inserted into the uterus, creating scar tissue, leading to tubal occlusion which prevents sperm from reaching the egg (Cadbury,1995). Dr. Stephen Mumford describes the advantages of Quinacrine over other birth control methods:

It's a very simple procedure, takes only a few minutes. It can be done in very primitive settings by people who do not necessarily have a lot of clinical skills. Quinacrine is clearly the cheapest method available in the world and in fact the second cheapest method would probably be more

than 100 times as expensive as the Quinacrine method. For \$10,000 worth of Quinacrine pellets, 70,000 women can be sterilized (Cadbury,1995).

This contraceptive has been cause for debate in the medical community for a number of reasons. The bacteria in Quinacrine is known to be damaging not only to the tissue but to DNA, linking it to a risk of cancer (Economist,1994:99). Successful insertion requires a great deal of precision. Medical risks include ectopic pregnancy, possibilities of cancer, uterine complications which may lead to hysterectomy, vaginal burning and irritation. It is also common that women may experience pain as a result of mutilation due to imprecise insertion (Hartmann,1995; Bandarage,1997:88). Quinacrine has not been approved by any major regulatory body including the FDA, although over 100,000 women had undergone the procedure as of 1995, 31,000 women in Vietnam between 1989 and 1993 alone (Cadbury,1995).

This preliminary look at the design and operation of modern contraception reveals that women are expected to undergo more discomfort and greater health risks with each contraceptive “advancement”. The list of hazards that contraceptives pose to women is becoming more extensive and the discomfort levels that women are expected to tolerate is growing in severity. According to mainstream health care providers, development agencies, and the population at large, these side-effects have become acceptable conditions which women are expected to endure.

The above analysis of contemporary contraceptive technologies reveals concrete patterns of contraceptive development. Critical issues that women’s health activists and critics are bringing to the forefront continue to demonstrate additional patterns, such as

the increased potential for abuse that all previously mentioned contraceptives intrinsically possess and how that potential is manifested under current national and international systems of health care (Bergstrom,1993; Hardon,1992; Hartmann,1995, Richter,1994).

INHERENT ABUSES

The focus of this section will be to draw attention to what can be identified as *inherently* abusive characteristics of modern contraception, this being the fundamental concern of this investigation. This is to say that, by design, contraception and the *idea* of what contraception should be is evolving into what has evidently become characteristically anti-health, anti-choice, and anti-woman.

This chapter will begin by analyzing the potentially abusive opportunities that can, and are, being practiced by medical professionals in global systems of health care. The latter half of this chapter will examine the nature of the relationship between population control and contraceptive technologies and, more accurately, how abuse within health care is a function of international population control.

Judith Richter in her book, *Vaccination Against Pregnancy: Miracle or Menace*, outlines many ways in which abuse can take place in the administration of a contraceptive by a health care professional (1996). Richter's list includes:

- administering a contraceptive without a woman's consent or knowledge;
- implementing sanctions against nonusers;
- providing financial incentives to encourage "preference" for a particular method;
- refusing to remove a contraceptive when the user requests;
- giving biased information about a method, such as emphasizing its effectiveness while playing down or not mentioning its adverse effects so as to convince specific groups of people to use a particular contraceptive and to dissuade them from using others (Richter,1996:63).

Richter provides a comprehensive guideline that can be applied for the purpose of assessment of potentially harmful contraceptive technologies.

The Pill

While the Pill has been established as a benign yet essential component of reproductive health in the West, in many parts of the world the Pill is a non-regulated prescriptive medicine, supplied in many countries as an over-the-counter drug, provided to women without preliminary medical examination, without warnings about side effects, without proper instructions advising proper administration, and without a follow-up examination (Balasubrahmanyam,1986; Hartmann,1995; Samuels,1995). In many parts of the South, the Pill is considered harmless even when taken incorrectly and without the council of a physician, promoting the oral contraceptive as hassle-free reproductive health (Samuels,1994; Pitanguay,1994; Mutua,1997; Parras,1997; Havanon,1997).

Depo-Provera

Agencies around the world have argued in favour of Depo-Provera use by emphasizing the long lasting effects of the contraceptive and the ease with which it can be administered (Sadik,1994; WHO,1994; WHO,1996). This contraceptive is professed to be especially useful for women who do not have time or who fail to live up to the responsibility of taking a contraceptive daily, as is required with the use of oral contraceptives. It is considered to be useful for women who meet with resistance from their husbands, since it can be administered without the knowledge of a spouse. International health care standards support this, claiming it offers women greater freedom, in actuality what appears to offer freedom results in diminished responsibility and control. If a woman suffers adverse effects from the Depo-Provera, she is forced to wait the months until it wears off.

Women's health advocates refer to the "vaccination mystique" when discussing the distribution and administration of Depo-Provera (Roberts,1997; Hartmann,1995; Hardon,1992). In many countries in the Third World the vaccination or injection connotes modern and highly effective technologically advanced medicine. The promise of "progress" creates a willing and eager population. Information is not necessary in order to convince a woman to accept a new form of contraceptive, but this information most often includes medical risks and hazards.

Of the many potential abuses that may be inherent in a technology, Richter mentions the ability to administer a contraceptive without the knowledge of the recipient. The vulnerability of a patient in the hands of a doctor, particularly in poverty-stricken

areas of both the North and the South, easily permits the abuse of Depo-Provera. Depo-Provera can be administered without the woman's knowing, and for three months has no opportunity to change her mind. Of the many examples of women being administered the drug without being informed, South Africa is the most well known (Hartmann,1995; Xaba,1993). Women in Johannesburg were asked if they were given a choice among contraceptive methods, the responses included: "when you've just given birth they give you Depo, it's compulsory"; "those nurses give you Depo as if they get commission for it"; "she told us about the injection only and nothing more" (Xaba,1993:20). These examples demonstrate how the potential for abuse as previously mentioned by Richter, can be actualized. The systemic nature of this abuse will be discussed in the following section.

Norplant

When compared to contemporary barrier methods, the active involvement of a medical professional or agency in the use of Norplant increases exponentially. As explained earlier, the administration of Norplant requires a skilled medical professional for both the insertion and removal.

Although insertion of Norplant is far more apparent and more complicated a procedure than Depo-Provera, and is therefore more difficult to administer without the woman's knowledge, the abusive potential of Norplant becomes apparent when a woman seeks removal of the implants. The administration of the contraceptive is such that

removal is a more complicated procedure than insertion (Hartmann,1995). Doctors have been known to ignore removal training, believing that the procedure is much easier than it really is (Roberts,1997). Unlike most other contraceptives a woman is dependant upon a medical professional for administration and termination of the birth control. If a woman makes the choice for early removal, she is dependant upon the co-operation of the medical professional or clinician to agree to the procedure. Many cases have been reported of the doctor refusing removal at the first request, and cases where the doctor has refused removal outright (Cadbury,1995; Hardee,1994) The woman must depend upon the medical professional or clinician to have knowledge of not only hormonal contraceptives but trained in a surgical procedure. This becomes even more problematic in poorer areas or regions where medical care is not closely regulated or trained medical professionals with surgical expertise and appropriate health care facilities, necessary for proper insertion, follow-up and removal, are scarce.

By its nature Norplant has taken the control away from the user and placed it into the hands of the technology and the "technician." This is despite the fact that the Population Council refers to the contraceptive as "user soft" (Hartmann,1995:210). As was mentioned by Judith Richter, the potential for abuse lies in the very processes of administration and discontinuance. This dependency has not only allowed the potential for abuse, but has greatly increased external control over women's reproductive power.

In addition to the abusive characteristics mentioned above, Richter states that a reproductive (or any other) technology is potentially abusive when negative effects can be omitted in order to persuade greater use of the technology. The UNFPA is currently extolling Norplant as a contraceptive breakthrough, with its only criticism addressed to

the few refinements necessary for removal procedures of the implants (Sadik,1994). Nowhere, however, are health hazards or 'discomforts' experienced by women ever mentioned as a significant concern. Norplant acceptability studies have been criticized for giving little or no information about possible side effects or that the drug was still experimental (Cadbury,1995; Gomes dos Reis,1990:114-115; Hartmann,1994:25; Spallone,1987:21).

Quinacrine

Quinacrine functions in such a way that, as with Depo-Provera, it can be administered without the woman's knowledge, during, for example, routine pap tests or IUD tests (Hartmann,1995). Administration of the procedure requires a trained professional who can gain legal access to the drug, since it was originally a treatment for malaria, and has not yet been approved by any regulatory institution (Cadbury,1996; Hartmann,1995). In addition, sterile conditions and accuracy necessary for a successful insertion may not be compatible with health care facilities in many parts of the South. Concerns also lie in the possibility of administrators withholding information regarding Quinacrine's irreversibility.

Contraceptives over the last thirty years have increasingly begun to necessitate more medical intervention and supervision, while at the same time economic trends demonstrate that funds are being withdrawn. The World Bank's structural adjustment

policies have continually compromised essential health services, privatizing public services, and imposing user fees (Hartmann,1995:138). Under such conditions women are more likely to be prescribed a contraceptive with little or no expertise or medical supervision that has become necessary with new contraceptive technologies.

The detailed examination of the risks and side effects that occur for users of the contraceptives appears to demonstrate a trend away from concerns for women's comfort and health, towards an emphasis on a long-acting, cheap and highly effective device for controlling contraception. As each contraceptive has been developed the number of side effects, including both health risks and discomfort, that a woman is expected to endure, increases. It is unconscionable that an unknown or increased risk of cancer to women, in particular to women in the South, has become acceptable, especially where medical facilities in the South are less capable of coping with cancer victims, or where financial barriers eliminate the possibility of treatment.

The evolution of contraception has systematically handed over women's reproduction into the hands of medical expertise and opinion, with a clear trend towards the pathologizing of women's reproductive capacities.

POPULATION CONTROL – THE TECHNOLOGICAL SYSTEM

The function of the following section is to make a historical connection between the birth of “population” as an idea - the concept of population as a dependent variable to be controlled, quantified, to be studied, and then managed - and its connection to population control in the twentieth century.

Thomas Malthus originated the idea of “population” as entity in and of itself and was the first to sound the alarms to the world about the consequences of “over population.” The well known principles of Thomas Malthus claim that as production grows, population grows, but whereas population increases by a geometric ratio, production of food only grows by an arithmetic ratio (Malthus,1965). As mentioned above, Malthus argued that the poor were a drain on society and that any aid, such as public assistance or health services, would only further encourage the already uncontrolled fertility of the poor.

Thomas Malthus provided the matrix for Charles Darwin’s theory of natural selection – survival of the fittest – and the subsequent Social Darwinist theories. All over Europe statistical studies were arising in an attempt to demonstrate that superior members of society rose to the top of the social ladder while inferior ones sank to the

bottom (Collins,1993:85-6). Superiority and inferiority were measured by the size of the head, weight, and intellect.

Sir Francis Galton had become the most influential name of the time. Galton, a cousin of Charles Darwin and author of *Hereditary Genius* (1869), had found a theoretical brotherhood between Darwin's organizing principles in biology and Malthus' principles on poverty, population and the laws of nature. Galton became the leading proponent for legislative control of the 'less suitable races or strains' of people (Chase, 1977:15). He was a co-founder of modern statistics which he used in supporting his theories of family heredity. Galton attempted to demonstrate that while genius was hereditary, so conversely, was the heredity of paupers, the mentally ill, and other "defects." The word 'eugenic', coming from the Greek word *eugenes*, meaning "well born", was first coined by Galton (Chase,1977:12).

Galton's greatest disciples were Germany and the United States at the beginning of the twentieth century (Chase,1977:12). In a letter to the "Committee to Study and to Report on the Best Practical Means of Cutting Off the Defective Germ-Plasm in the American Population", dated January 14, 1913, he writes:

it is obvious that if in the future racial qualities are to be improved, the improving must be wrought mainly by favoring the fecundity of the worthy types...At present, we do just the reverse. There is no check to the fecundity of those who are subnormal...(Chase,1977:15).

Between the two Roosevelts, American followers of Galton continued to advance, sponsor, support and sign into the laws and policies that aimed at controlling the "subnormal." Legislative support in the U.S. ranged from failure to support or enact

critically needed public health programs to compulsory sterilization laws. In Indiana in 1907, the world's first compulsory sterilization law was enacted (Chase,1977). This law consisted of forced sterilization for all 'confirmed criminals, idiots, rapists and imbeciles' confined to state institutions (Chase,1977:15). At the same time a federal Model Eugenical Sterilization Law had been drafted by a Harry H. Laughlin, superintendent of Davenport's Eugenics Record Office. Individual state eugenics laws were based on this model of compulsory sterilization of the 'socially inadequate classes' which included

(1) Feeble-minded; (2) Insane; (3) Criminalistic; (4) Epileptic; (5) Inebriate; (6) Diseased; (7) Blind (including those with seriously impaired vision); (8) Deaf (Including those with seriously impaired hearing); (9) Deformed (including crippled); and (10) Dependant (including orphans, ne'er-do-wells, the homeless, tramps, and paupers) (Chase,1977:16).

In 1904, Andrew Carnegie had established a centre for the study of "hybridized peoples" or racial mixtures. In 1913, the Race Betterment Foundation was established on behalf of the Kellogg family (Hartmann,1995).

In 1912, the University of London held the First International Congress of Eugenics. Those present included the Right Honourable Winston Churchill, First Lord of the Admiralty, among many other distinguished guests from both British and American Academic communities. The Second International Congress of Eugenics was held in New York in 1921, whose sponsoring committee included Herbert Hoover, then Secretary of Commerce. At this conference it was concluded that there was now scientific evidence to support Galton's postulate that "pauperism" was a result of

hereditary flaws, and that the poor of all nations constituted a separate and distinct race of people who have to be wiped out by steadily expanding programs of forced sterilization (Chase,1977).

The Third International Congress of Eugenics in 1932, also held in New York, was visited by the president of the British Eugenics Society, who, in his oration called for the extermination of what he described as a “definite race of chronic paupers, a race parasitic upon the community, breeding in and through successive generations” whose “anti-social characteristics are the result, mainly, of inferior heredity, and its fertility is higher than that of any other social element”(Chase,1977:20).

Margaret Sanger, known as one of the forerunners of the birth control movement at the beginning of the century, campaigned for easy access of birth control for women. She pioneered the first birth control clinic in the Brownsville area of Brooklyn and started her own newsletters, entitled the *Birth Control Review* and *Woman Rebel* all before 1917 (Gordon,1976; Hartmann,1995).

Sanger's book, *The Pivot of Civilization* warned that illiterate and degenerate populations were a threat to their way of life and by 1932 she was calling for mandatory sterilization of “the whole dysgenic population”(Asbell,1995:9; Hartmann,1995:99).

It is at this time that the American Birth Control League began to support “racial progress” and sterilization (Hartmann,1995). At one time this organization was lead by Guy Irving Birch, Director of the American Eugenics Society (Hartmann,1995:99). In 1939 the American Birth Control Federation designed the Negro Project which hired leaders in the black community to enlist black doctors in the South to support birth

control. In 1942 the American Birth Control League changed its name to Planned Parenthood Federation of America (Gordon, 1976; Hartmann,1995:101). Funding for Planned Parenthood had initially come from the Brush Foundation, Dorothy Brush being a very influential IPPF board member, as well as a board member on the American Eugenics Society (Hartmann,1995).

The whole of the 19th and the beginning of the 20th centuries was a convergence and conglomeration of eugenic thought. Practical restrictions had made it technologically and logistically impossible to fulfill the population control policies and eugenic legislation that had been discussed by the powerful personalities of this time. Adolph Hitler was the first to systematically apply H. Laughlin's model and the designs of the Third International Congress of Eugenics. The German Sterilization Act of 1933 was a derivative of Laughlin's Model Eugenical Sterilization Law (Chase, 1977; Trombley,1994).

In the United States the wholesale sterilization of the poor, the mentally ill, the mentally handicapped, and the homeless began. Between 1907 and 1964, 63,678 people experienced compulsory sterilization in the thirty states and one colony that had passed laws based on the above model (Chase,1977; Trombley,1994). In 1974, in a case brought to the Federal District Court on behalf of the victims of involuntary sterilization procedures performed in hospitals and federally funded clinics, Judge Gerhard Gesell declared that "over the last few years, an estimated 100,000 to 150,000 low-income persons have been sterilized annually under federally funded programs" (Chase,1977:16; Trombley,1994). These numbers equal the number of people subjected to forced sterilization in Nazi Germany, where a total of two million Germans were sterilized over

12 years. Judge Gesell's final address stated that "poor people have been improperly coerced into accepting a sterilization operation under the threat that various federally supported welfare benefits would be withdrawn unless they submitted to irreversible sterilization" (Chase,1977:17).

What ignited the contraceptive revolution was the technological possibilities that had opened up after World War II combined with the powerful philosophy of population control. In 1952, Frederick Osborn, a key eugenics strategists and Officer of the American Eugenics Society, had helped John D. Rockefeller establish the Population Council.⁷ Three years later Rockefeller was emphasizing the relationship between population growth and resource shortage (Hartmann,1995). Other sources of private financial support for population activities have included Hewlett-Packard, Ford, Mellon, MacArthur, and Rockefeller Foundations. In 1954, Hugh Moore, founder of the Dixie Cup Corporation, rallied businessmen to support the population control establishment (Laing,1997).

By the 1960's the U.S government had been in full support of population control programming and by 1969, U.S. President Richard Nixon was urging the U.N. to assume a major role in the war against over-population (Report,1970;16-18). That year the UNFPA (United Nations Fund for Population Activity) was established. By the end of the decade the U.S. Government through USAID and the National Institutes of Health had been the leading contributor of funds to contraceptive research, and had made birth control part of their assistance programs (Nair,1992:240). In 1973, USAID had declared their position officially in a report which stated that the population, "unless checked,

⁷ In 1969, Osborn wrote Rockefeller 'the best hope of improving genetic qualities of the race lies in the universal extension of effective and easy means of birth control. '(Roberts,1997:141).

may prove to be one of mankind's chief limiting factors leading to exhaustion of resources, overcrowding, inflation, breakdown in services, idleness of large numbers of people, frustration, demoralization, unrest, tension and warfare'" (quoted in Warwick, 1982:47). The following decade the U.S. was providing 59% of the \$167 million in total worldwide expenditures on contraceptive research and development (Hartmann, 1995:175). The population conference held in 1974 in Bucharest promoted a combination of economic growth and broad publicly funded family planning through governmental and non-governmental agencies (Correa,1994(b); United Nations,1975). The southern nations rejected the neo-malthusian principle on which this agenda was based, stating that a change in the economic order and development was the best population control method. The confrontational nature of the Bucharest conference in 1974 was completely reversed, for by the end of the decade even the most ardent opposers of demographic imperatives for population control, such as India and China, had implemented very draconian population control measures (Correa,1995:12; Gulhaj and Bates,1994:47). By the 1984 Second International Conference on Population in Mexico, most southern governments were convinced that reducing population must be a critical component of development and hence had adopted some form of family planning program (Correa,1995:12; United Nations,1984; United Nations,1994:9,42-43).

Today, in spite of new findings from UNFPA in 1995 that reported that the population explosion previously feared was no longer a threat, billions of dollars are still being donated to population control programs. Articles emerging in conservative business periodicals are suggesting that theories of population explosions are no longer valid, and yet Warren Buffet continues to dedicate \$8 million of the \$10 million Buffet

Foundation to various family planning causes and population control efforts (Laing, 1997). Hewlett-Packard is planning to increase funds to Population control activities in 1998, which will exceed funding of the Ford, Rockefeller and MacArthur foundations (Laing, 1997). The annual contributions of Ted Turner will reach \$30 million once his new U.N. Foundation is established with a \$1 billion gift (Laing, 1997).

The fervent support emerging out of both the public and private sector for population control is only in direct proportion to the interest and participation of pharmaceutical companies in the production of contraception. The profit potential for pharmaceutical firms in contraception was ignited in 1950. In a fundraising letter, Margaret Sanger wrote, "I consider that the world and almost all our civilization for the next 25 years is going to depend upon a simple, cheap, safe contraceptive to be used in poverty-stricken slums and jungles, and among the most ignorant people" (Quoted in Hartmann, 1955: 174). Sanger raised \$150,000 for Gregory Pincus, a reproductive scientist in Massachusetts, to begin doing research on a "universal" contraceptive (Asbell, 1995: 8). Pincus soon became a consultant to G.D. Searle, the company that marketed the first oral contraceptive in 1960. The profits were so substantial at that point that many other pharmaceutical companies were enticed into contraceptive development. The huge success of the oral contraceptive led the Ford Foundation, Rockefeller Foundation and the Population Council to increase their funding for contraceptive research, launching the very lucrative relationship between public and private funds and the pharmaceutical industry.

The induction of pharmaceutical companies into the global market was stimulated by the research undergone within the chemical industry during world War II

(Tudiver,1994:71). Since then the pharmaceutical industry has exploded, with approximately 100,000 companies worldwide. One hundred of these corporations supply 80% of the pharmaceutical market. From these 100 corporations there are four major companies – Merck, Bristol-Myers, Squibb, American Home products and Eli Lilly – representing over one third of the market (Tudiver,1994:71).

Pharmaceutical companies are facing tougher markets in the North due to stricter marketing regulations and the increasing number of class action suits (Sales and Marketing,1995:17; Washburn,1996). Approval for a new contraceptive in the U.S. typically takes 8.5 years and testing is more stringent than many other drugs (Hartmann,1995:179). In the case of hormonal contraceptives, the FDA requires pharmaceutical companies undertake both short- and long-term testing on both animal and human trials (Garber,1993:28).

Lax international trade regulations create an ideal environment for pharmaceutical companies to profit immensely from population control prophesy. Theoretically, FDA protection is extended overseas, although companies and government agencies have found many ways to circumvent restrictions. Companies are able to transfer non-approved drugs to subsidiary companies in other industrial nations that have more relaxed marketing and testing regulations, or to subsidiaries in countries in the South. As of 1994 global contraceptive sales represent between \$2.6 and \$2.9 billion per year (Fathalla in Correa,1994(b):22). Huge profits allow these companies a great deal of influence over local government policy and health care workers (Correa,1994(b):22). Intensive marketing of contraceptives generally occurs in countries with very little or weak state regulation. Ineffectual consumer advocacy and few or no penalties for consumer fraud

are ideal conditions for large pharmaceutical companies to not only expand their market, but to utilize these conditions for experimental purposes (Mies and Shiva,1993:192). In the late 1970's, the FDA had banned the use of Depo-Provera in the U.S. in response to studies done on beagle dogs which had shown an increased incidence of cancer (Bandarage,1997:83). The ban was lifted in 1992 due to persistent lobbying by Upjohn, the manufacturers. Before the ban was lifted, Depo-Provera was being tested on minority women in the U.S. and poor women in the South. In addition, the USFDA allowed limited use of Depo-Provera on mentally handicapped women and drug addicts (Bandarage,1997:83). As of 1994, Norplant was in use in 55 countries, only 26 had regulatory approval for distribution (Correa,1994(a):288).

Co-operation between pharmaceutical firms, government, and the medical establishment has created an efficient system of contraceptive distribution in the name of population control interests. USAID, UNFPA, and IPPF purchase large quantities of contraceptives from pharmaceutical companies, most often providing them without charge to the nations in Asia, Africa and South America (Bandarage,1997:81). Countries such as Nepal, Bangladesh, and Mexico finding themselves inundated with contraceptives, face storage problems and are often forced to destroy them, requesting moratoriums on further imports (Bandarage,1997:81). Dr Stephen Mumford and Dr. Elton Kessel from the U.S., have personally distributed Quinacrine to hundreds of thousands of women in the South. Quinacrine has not yet been approved by the FDA and

the WHO has stated that no further research on women is justified until further lab tests have been completed (Cadbury, 1995).⁸

Like the oral contraceptive, Norplant was originally developed as a tool for population control. USAID invested \$15 million in the development and testing of Norplant (Roberts, 1997:139). Specifically designed for women in the South, it is considered ideal for distribution to poor and uneducated women of colour and more socially acceptable than sterilization (Roberts, 1997).

The target group for population control has jumped from slum neighbourhoods in urban England to the entire southern hemisphere. Today, \$5 billion a year is spent on 'family planning'; \$3 billion spent by Third World governments, \$1 billion from first world governments, multilateral institutions and private agencies from the West (Hartmann, 1995). U.S.A.I.D. is the largest funder of population control activities today providing contraceptives to many countries, including the Indonesian government which alone dispenses two thirds of the worlds supply of contraceptives (Roberts, 1997:139).

It is primarily black women who are targets of Depo-Provera in South Africa. Many women have reported being forced to take Depo-Provera as a stipulation for remaining employed in white owned factories and receiving a compulsory injection immediately after giving birth (Hartmann, 1995; Xaba, 1993).

Thailand has been dispensing injectable contraceptives longer than anywhere else in the world. Researchers have consistently found that women are not receiving adequate medical supervision, are given very little or no information regarding side effects, and many medical personnel report never seeing a physicians package insert

⁸ Kessel and Mumford run the Centre for Research on Population and Security, receive funding from the Leland Fikes Foundation, who also provide financial support for the Federation for American Immigration

accompanying the drug (LaCheen,1986). In the 1970's Thailand began a compulsory Depo-Provera distribution campaign in the village of Kamput (LaCheen,1986:120). Interviews with women later revealed that at the time of injection more than half the women did not know its purpose, only 15 per cent had been asked if they were pregnant before they were given the injection, while others were given the drug "as a prerequisite to marriage" (LaCheen,1986:120).

Population control projects in the Third World receive funding and/or training from hundreds of organizations, including multilateral agencies, private organizations, government agencies and foundations, the majority of which come from the North (UNFPA,1993). Most of the abuses can be traced to instructions that had trickled down from the international funding agencies. Those agencies with the largest financial investment are the primary architects of population control projects. For example, three decades before Depo-Provera was approved in the U.S., WHO and IPPF had approved its use in the Third World (Bandarage,1997:84).

World Bank has imposed strong population control requirements through tied AID and often through Structural Adjustment Loans (SAL) (Bandarage,1997). In 1986 in the World Bank report on population growth in sub-Saharan Africa, the Bank urged governments to relax restrictions on the administration of injectable contraceptives, arguing that they can be delivered safely by non-medical personnel (World Bank, 1986:41-42,54-55). Staff Appraisals on behalf of the World Bank in 1989 report that India over emphasizes side-effects and contraindications in the training of physicians (Bandarage,1997:93). In addition, the World Bank recommended that the Indian Council

for Medical Research lower its strict standards for the sole purpose of promoting contraceptives (Bandarage,1997:93).

Following a recommendation from the IPPF in 1973 that birth control Pills be distributed without a prescription, eight countries withdrew their prescription requirements (Bandarage,1997:90).⁹ At the height of its controversy, and while SIDA refused to distribute Depo-Provera to the Third World, the medical director of IPPF was quoted to have said 'We are not going to know whether Depo-Provera is safe until a large number of women use it for a very long time.' Between 1969 and 1978 millions of shots of Depo-Provera were administered to women in Thailand, Sri Lanka, Kenya, and many other Third World nations (Bandarage,1997:84).

Being the largest international funder to the population control cause, USAID has also enforced what should be considered questionable family planning practices. In a letter written by James D. Shelton and Cynthia Calla of USAID to Carlos Huezo, Medical Director of IPPF, they state that the introduction of "medical Barriers" to family planning services hinders the "effectiveness and impact of contraceptives, especially hormonal contraceptives"(Bandarage,1997:93). The list of medical barriers the USAID identify for exclusion in service delivery guidelines are: "unnecessary laboratory tests"; "excessive physical exams (e.g. pelvic and breast)"; "excessive follow-up schedules"; "excessive counseling" (Bandarage,1997:93). In regards to providing users and physicians with information on 'contraindications', the USAID agents had also written that 'we prefer not to use the term. It is a term which may have very negative connotations and a major inhibitory effect, especially when transmitted downward

⁹ Those eight countries included the Philippines, Pakistan, Bangladesh, Antigua, Chile, Fiji, Jamaica, and South Korea.

through the system' (Bandarage,1995). Countless cases of abuse have been reported against USAID and other international funding and development agencies, and still population control as a development agenda grows stronger than ever in the 1990's (Cadbury, 1995; WGNRR,1996; WGNRR,1994;Washburn,1996).

Donating agencies spend millions on Contraceptive Social Marketing, elaborate advertising schemes and promotions in order to convince people in the South and the North that high-tech contraceptives are safe and effective and will improve their daily living (UNFPA,1993; Hartmann,1995). Coercion in the form of promotional incentives have been openly supported by the World Bank and the United Nations (United Nations, 1990:12; World Bank,1984:121-22). Coercion has existed in the form of information denial or providing misinformation as to the effects of the contraceptive (Correa,1994 (b):89; Gomes dos Reis,1990:114-115). Potential users and their families in such countries as South Korea are often threatened with their jobs if they do not agree to one of the contraceptive programs or sterilization (Hartmann,1995:76212). Medical personnel and social workers in target countries are mandated quotas or bribed with financial incentives, offered financial rewards for each new contraceptive user enlisted (LaCheen,1986:121). Sanctions may be imposed on non users, for example in Bangladesh, those that do not comply are denied credit and vocational training (Kabir,1997:124). Incentives are also offered directly to the potential user in the form of either monies or food, or other possessions, most of which is paid for by the donating agencies (Akhter,1987; Hartmann,1995:227-228; Spallone and Steinberg,1987:20; Kabir 1997; Kamal,1987:150).

Although the focus of population control over the last 30 years has consistently been on the South, the U.S. has continued to rely on contraception as a weapon against undesirable groups within its own borders. Revelations of forced sterilization of mentally handicapped, indigenous persons, the poor, and people of colour up until the late 1970's, provide a lens through which we can see coercive control over women's reproductive capacities as viable in the present (Chase,1977; Bandarage,1997:83; Trombley,1994). Norplant is being touted as the cure for poverty, as clinics nationwide target Medicaid recipients as potential users (Washburn,1996; Roberts,1997). By 1992, thirteen U.S. states had introduced legislative proposals whereby poor women would be offered cash incentives for Norplant (Hardon,1994:27). In U.S. courts, judges have ordered for punitive purposes that poor women, women of colour and incarcerated women use Norplant for the duration of their sentence (Hardon,1994; Hartmann,1995; Scott, 1993:17; Bandarage,1997:86). In 1958 State Representative David H. Glass sponsored a bill that asserted "'The Negro woman, because of child welfare assistance, [is] making it a business, in some cases, of giving birth to illegitimate children....The purpose of my bill was to try to stop, slow down, such traffic at its source'" (quoted in Samuels, 1994:27). Although this bill was not passed the sentiment continued when in 1973 a member of the Tennessee House of Representatives proposed legislation that used sterilization to restrict welfare costs. This proposal called for the denial of benefits to any woman with more than 2 illegitimate children unless she first consented to be sterilized. In northern U.S., two bills were introduced in Ohio and Illinois which would require a woman on welfare to be sterilized after birth of her second child (Samuels,1994:27). Women on the economic margins in the United States have been consistently

scapegoated for the misfortunes of the nation for over a century. Since 1990 at least twenty-five states have proposed bills aimed at controlling welfare recipients, child abusers, and drug users through state-sanctioned control of women's reproductive capacities (Gill, 1994).

The rise of the birth control cause, although not of a single goal, lends itself readily to eugenic benefits, affording sufficiently compelling reasons for many biologists, geneticists, doctors, social scientists, and particular people of business and wealthy foundations to be involved. Since the beginning of this century, contraceptive research and eugenics have been closely linked, with collaborative aims, ideological roots and tactical strategies¹⁰. Although the individual case studies are sufficiently horrific in and of themselves, closer investigation exposes the systematic nature in which the violation of medical ethics and human rights, most often women's rights, has become an acceptable, functioning, even necessary, part of the population control establishment. The nature of the technologies contributes to, if not creates, the perfect conditions in which women are convinced under the artifice of reproductive health and freedom, to subject themselves to the manipulation of population control agendas.

¹⁰ Richard Soloway provides a detailed account of links between eugenics organization and birth control, including research, financial support and political, scientific, and economic associations.

ANALYSIS

The objective of this examination was to confront the current system of contraceptive design and distribution in an attempt to bring to light a reality of purpose of the current functioning of contraceptive technology in a global context. In recognizing that technologies are not neutral, but rather are value laden, highly subject to politics, controlled by and representing the ideas of dominant powers, we are lead to examine the ideological roots of the values and principles from which any technology or technological system emerges. A closer look at the relevant values entrenched in our cultural ideas and often defined as ideology, will serve to attribute hidden characteristics to the resulting technologies.

This examination lead me to the conclusion that western contraceptive technologies are a product of racist, sexist, and capitalist ideology. While for many women it may have lead to greater reproductive freedom, modern contraception by design has become an efficient vehicle for the manipulation of human life. More specifically, modern contraception has increased the ease by which women's lives may be manipulated to serve the purpose of dominant political and economic interests.

The exploration of our ideological roots reveals a pattern of contemporary characteristics that are entrenched in our belief system and our behavioural patterns. They indicate *why* we as a people in western civilization and culture go about the business of life in the manner in which we do. Technology then is *how* we go about the

business of life - technology and technological systems serve to fulfill the goals and aims of our collective lives as defined by our ideologies.

This thesis has attempted to clarify the impact of certain ideas that have lingered in our classrooms, our media and our language for hundreds of years, and more specifically how these ideas manifest themselves in the physical world and become functioning components of our everyday lives. What I have attempted to demonstrate to this point is that contraceptive technologies and the technological system of population control are products of these aforementioned ideologies. In the abstract, a weaving of the above ideology forms a tapestry which, I would argue, can be defined as a new ideology that has evolved into the modern technological system of population control.

From the beginning of the century the link between birth control and the eugenics agenda has been consistent. Modern contraception was launched as a result of a eugenics project to control the genetically undesirable. The technological system of population control that ensued continues the same objectives that were defined one hundred years ago. Although less politically acceptable after World War II, the persistence of this agenda becomes evident in the examination of relevant ideologies and technologies as seen in the systematic design and distribution of contraceptives over the last forty years. The eugenics project still remains clouded in contemporary discourse that revolves around issues of the crisis of an overpopulated world and a vulnerable environment. Malthus' legacy of reducing the poor versus reducing poverty has become the primary justification for mass distribution of long acting contraceptive steroids and vaccines.

Since the 1960's contraceptive technologies have consistently displaced women's reproductive self-determination and have systematically delivered women's reproductive

control into the hands pharmaceutical companies, medical professionals and international and local development agencies. Progress in contraceptive design and distribution has translated into increased medical intervention, increased negative side effects, and a decrease in real choice for women.

As previously stated, through the universally proscribed knowledge of science, the idea of woman as a product or raw material has become justified. The ideology of science dictates the practical subjugation of nature, and through this idea, women are subjected to scientific laws of exploitation and domination. As a result, science has justified the use of women's bodies for experimental purposes.

The mere link between industry and science demonstrates the ideological foundations to scientific knowledge, for capitalism needs scientific knowledge at hand, and research becomes the by-product of the development of a new product or process. Firms are motivated by fundamental research that provides a scientific foundation for their objectives and technological by-products.

The scientific objective of technological and scientific expansion combined with the economic goal of abundance and expansion of "choice" has guaranteed the endless innovation of contraceptive devices and the infinite technologizing of the contraceptive. *More* is equated with good, freedom, wealth, progress and has legitimated population control advocates and Malthusians to freely distribute harmful and potentially deadly technologies to women all over the world in the name of technological advancement and reproductive freedom.

The principal of personal freedom of choice has been transferred from the idea of personal liberty or political freedom to the notion of maximum opportunity for a

consumer. This fundamental idea of abundance results in a drive for more choice and in a drive for a freedom that has been promised by the capitalist market economy. This notion of freedom has been appropriated and distorted, allowing corporations to create opportunity to construct technology that in fact force women to relinquish much of their freedom. For this reason people are disinclined or completely ignorant of the option of having less, which is equated with the stopping of progress. The notion of less technology, or the less technological, translates into regression and a developmental failure. As a result, the production of more technologically complex contraceptives remains the primary goal in both family planning and population control agendas. This ideology of increasing technological innovation gives the impression that commoditization is limitless, and that everything can be bought and sold. Under the guise of infinite supply, wants have come to replace needs, and wants by their very nature are unlimited and insatiable.

Very recently the female body's generative capacity has been discovered as a new realm of investment and profit for scientists, medical engineers and entrepreneurs. Reproductive technologies are being produced in mass quantities not because women need them but because capital and science need women for the continuation of their model of growth and progress. As such, many feminist agendas have so fervently adopted and adapted to population control ideology, focusing on the illusion of freedom that has been fostered from the idea of modern contraception. Although the potential profits of contraceptive manufacturing has lead pharmaceutical companies to mass produce high-tech contraceptives, the international distribution of North American and European designed contraception exposes the continuing paternalism of the 19th century,

demonstrating that industrial nations and international institutions still regard the “masses” of the Third World as irrational and incapable of self governance.

The ideal technology is one that has become invisible, and if functioning perfectly has withdrawn into the background of our perceptions. The technology and technological system, as with ideology, becomes the framework within which we assess components of our lives, and therefore the technology often lies outside of our scrutiny. The relationship between technology and ideology, as stated in the introduction, is a dialectical one. This means that as the technology is a product of cultural ideas, ideology then translates itself into physical activity, reinforcing the ideology in experience. This physical experience further normalizes the cultural framework and reinforces the foundation and justification for any social activity.

Following this logic, population control is the reification of patriarchy, western scientific methodology, market capitalism, and racism. The current models of contraceptive technologies further justify this ideological foundation, and set the stage for the next ideological and technological system, reinforcing how the “business of life” should be maintained (Menzies, 1994:18).

As stated in the definition, technology comes into the foreground of our perceptions when it has failed to function as it was originally intended and designed. Following this logic, the reason that the population control establishment has not been subject to greater criticism is that it is fulfilling its objective under the guidelines and values dictated by western culture. The contradictions between western ideology and technology and other cultures are revealed in the incompatibility and inherently violent nature of these technologies demonstrated most often in women’s experiences in the

South. Therefore, while criticism concerning the New Reproductive Technologies are globally recognized, criticism concerning contraceptive technologies and how they affect poorer women in the world often fail to get international attention. In an attempt at meeting ambitious demographic objectives, population control programs impose birth control from the top down, often resulting in limited contraceptive choice, failure to provide adequate general health care, failure to provide follow-up, insensitivity to and ignorance of local customs and failure to take into consideration the politics of sexuality and reproduction. And yet these contradictions as evidenced through often violent and abusive treatment of women are rarely confronted and remain in the background of public scrutiny for they are shadowed by the societal acceptance of the ideological premise on which the technological system of population control rests.

CONCLUSION

A skeletal examination of population control reveals a merging of the foundational ideologies of western culture. A brief examination demonstrates that population control is not in direct response to modern day crisis of over population; rather it is the inevitable or logical response born from the culmination of compatible values and principles. These values have been constantly interacting, creating and responding to the machine and the physical universe suggesting that social values and cultural influences have done more to shape contraceptive technology than medical and technical influences and considerations. The desire and technological capability to control population, and the technological process through which it is accomplished is in response to or a result of goals and objectives developed within patriarchal, scientific, capitalistic, and racist frameworks for over 300 years, and choice as proposed by the supporters of current contraceptive developmental trends is limited within this framework. By design contraception has become a technology that reinforces a belief in a health care system that denies women choice, freedom and in fact challenges gains made by women fighting for full reproductive autonomy. Contraceptive research is conducted and supported by scientists, medical professionals, pharmaceutical companies, and government officials that are predominantly men who themselves have never been subject to the very pills, implants, injections and devices they so fervently promote to millions of women around

the world. Research in female contraception and earlier 20th century eugenics that focused on female reproduction has tended to minimize male causation and responsibility. Although acceptable health risks to women in South exceed what would be tolerated in North America and Europe and protests against abuse are consistent, the ideology of the infallibility of technological innovation dissuades or disallows critique of anything *high-tech*. Protest against their manufacture and design is limited in the United States and Europe for it challenges the notion of providing the freedom of choice. The design and distribution of contraception is based on scientifically and economically supported principles of efficiency and innovation, allowing for the continuing design of a contraceptive that is more complex and more high-tech. Any function of efficiency, innovation, mass production and the expansion of choice go unchallenged for they are fundamental principles at the root of western ideology. Contraceptive technologies are produced for the exclusive purpose of being efficient, easy to produce and easy to distribute. As a result, women's health and self-determination are often sacrificed and the practical objectification and pathologizing of women's reproductive health continues to reinforce western sexist, racist, and capitalist ideological foundations upon which population control was constructed. While we are more aware of the impact of other technologies that are dangerously if not fatally incompatible to other social and technological environments, it is the continuing institutionalized undervaluing of women that has permitted women's health to be compromised to such an extent that global technological systems of contraceptive distribution flourish without being subject to wide scale evaluation.

What this paper challenges is not efficiency, innovation, and expansion of choice, but rather the fulfillment of these principles with the exclusion of any and all other qualities. In addition I challenge the economic and political system that does not subject these technologies to rigorous political critique. It is essential that the intentions of the technology be revealed before it comes into a woman's hands, and the essence of the system from which it has emerged be closely examined.

A truth concerning the essence of contraceptive technologies is revealed in the examination of the relationship between the idea and the machine. When the ideological roots are unraveled and the technological system deconstructed, the parallel lines of their purpose leads to the truth about contraception. The very essence of contraceptive technology is in fact anti-woman, functioning with a purpose to control, dominate and fulfill an internationally defined racist agenda, all of which mimic the ideological pillars of western society. These principles have fulfilled the dream of Bacon and succeeded in implementing a system of reproductive control that is still attempting to win an empire over women's bodies.

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