
UNIT 14 FEMINIST CRITIQUES OF TECHNOLOGY

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14.0 INTRODUCTION

Now that you have gone through the feminist critique of the methodology of science let us move on to know how feminists have viewed technology. At the outset we must keep in mind that there is neither one feminism nor one technology. Thus, feminist critiques include those views of feminist scholars which critically examine technology. There are various types of technologies which are analysed by various scholars out of which some major critiques will be discussed here. Today technology determines the contours of human life in various ways. Feminist views on technology have largely been critical of the dominant and popular perspective about technology. The major critiques examined in this unit are feminist views on the nature of technology as patriarchal, the myth that only the males are the innovators, and the debates around technology as liberating or enslaving for women.

14.1 LEARNING OUTCOMES

After reading this Unit, you will be able to:

- Differentiate technology from science and understand it from a feminist perspective.
- Examine how feminist scholars have critically analyzed the effect of technology on women;
- Understand the nature of technology as arising from the masculine characteristics of control and conquest; and

- Situate feminist views in the debate on either technology has liberating or enslaving effect on women.

14.2 TECHNOLOGY -DEFINITION

Many of us sometimes equate science with technology. But there is a difference between the two. The easier way to understand the difference is to look at what we learn from basic sciences and what we do in the engineering subjects. Engineering subjects like Electronics, Information Technology and Mechanical Engineering and so on deal with translation of the knowledge we learn from basic sciences. Put simply, technology is that body of knowledge and practices that are essentially the application of science. Science involves the fundamental understanding of how the universe works and theories become important, particularly, in the physical science disciplines. But this is not so in technological disciplines such as engineering, Biotechnology, Bio-Medical technology and Space technology. However, this difference is not without complications. Technology is not the direct and neutral translation of scientific knowledge. The mode of translation of sciences to applications involves layers of determinants. Any scientific knowledge, to be translated into technology, requires economic feasibility. Thus, market has a crucial role to play for translating science into technology. Moreover, political factors shape promotion of a particular type of technology too. The same knowledge can be applied to create artifacts for human welfare as well as for destruction of the species. Apart from political and economic factors, technology is also shaped by class relations and gender relations. Thus, the path of technological innovations is determined and complicated by various non-technological factors. Consequently, the once clear division between science and technology as pure and applied aspects of knowledge is increasingly becoming problematic. **Barnes and Edge** (1982) argue that technology has its own distinct cultural resources which are responsible for innovative and creative activities. In other words, technology is not just the application of science rather the domain of technology has its own system of knowledge creation as well as application. Today there is a wealth of knowledge in various technological fields based on verbal and non-verbal system often comparable to the theoretical knowledge base of sciences.

The unique feature of technology is its non-verbal knowledge. Application and innovation processes require aspects of human creativity which may be non-verbal. Use of technology is largely based on non-verbal skills and techniques. This distinct feature of technology makes it dependent on two crucial factors such as “who creates it” and “who uses it”. The first digging stick invented by human beings would have been considered as just a stick without the associated knowledge of the various dimensions of its use. Gender relations, thus, play a crucial role in understanding technology. Technology has its origin in the need human beings felt to respond to environmental challenges for survival. There are rich, eventful and intersecting paths of journey from digging stick to plough; drums to telephones; and carts to cars. Women played substantial role in this complicated and eventful journey of technology. However, the present dominant economy which has been determining the shape of modern

technology has not been very compatible with the values of ordinary women. We will examine such issues in the succeeding sections.

14.3 FEMINIST CRITIQUES OF TECHNOLOGY

It is a general observation that women are less comfortable with technology than men. The girls at your home are usually not supposed to be very comfortable with the machines we use at home. Why is this so? Are women not good at innovation? We have various perceptions about the relationship between technology and women. Many believe that technology is something which most women abhor or are inefficient with. There is an overall perception that boys are good at operating and repairing things related to machines etc. And girls are good at subjects related to literature, art, painting etc. But have you given this a deeper thought? Is it true that girls are really uncomfortable with machines? Why do many believe that women and technology are poles apart? Feminist scholars have tried to understand such issues by examining the historical, political and economic aspects linked to technology. They have tried to understand why women are uncomfortable with modern technology. The feminist explanations have focused on the very nature of modern technology as incompatible with feminine values and understanding of the world. They have attempted to reveal the role of control and conquest as the required characteristics of modern technology in shaping women's relations with technology. All these come under the feminist critiques of technology which are discussed in the following sections.

14.3.1 Technology is Patriarchal

Feminists have analyzed technology as sprung from the very male attitude of control and domination. We need to distinguish between the modern and traditional technology to move further in this discussion. The traditional definition of technology being merely the applied aspects of science is contested today. Technologists today have developed their own culture of innovation and development. It is heavily influenced now by capitalistic values and a motivation to control more and more of nature. Gone are those days when technology was used only to serve the basic needs of human beings for their survival and a comfortable living. Today we are using technology to do things which are far beyond the basic requirements of human life and for this human control and exploitation of nature has increased manifold. Thus, modern technology is more aggressive and exploitative than traditional technology.

Technology has become an active socio-political force within capitalism which helps in capital accumulation and has been compatible with masculinity. One of the major feminist critiques revolves around this issue of the nature of modern technology as inherently patriarchal. **Wajeman** (1991) argued that western technology is based on domination and control of nature and women. It is reflected from the kinds of mindset required to proceed in the field of technology as well as the kind of innovations which happen in various fields of technology. For example, in the field of human reproduction, technologies such as contraceptive devices have been oriented

towards women's bodies rather than men's.

Technology has never been a neutral enterprise. It is argued that class, caste and gender relations actively shape technology. The dominant values and ethos of society determine the kind of technology to be promoted and developed. During the industrial revolution most skilled trades were dominated by men, leading to women's exclusion from technology (Bradely, 1989). Invention of various technologies further added to the dominance and power of men in the society. **McNeil (1987) and Webster (1989)** have argued that technology has actually served as the source of male power because masculinity is embedded in machineries.

Vandana Shiva (1988) has termed modern science as patriarchy's project, and, therefore, technology resulting from it cannot be sensitive to feminine needs and concerns. Critiquing Baconian science, which shaped the modern scientific enterprise in a fundamental way, Shiva (1988) argued that for modern science nature is something to be conquered by an aggressive and masculine mind. Refusing to differentiate between science and technology she argues that it is not the wrong application of science which has to be blamed for various problems linked to scientific or industrial development but, what is inherent in science itself.

Shiva writes:

When antibiotics create super-infection and flood control measures accentuate floods and fertilizers rob soil of its fertility, the problem is not merely between use and misuse of technology. It is rooted in the very process of knowledge-creation in modern science, a process which is increasingly turning out to be more preoccupied with the material problems created by intervention through scientific beliefs, than material problems posed by nature itself (Shiva, 1988).

14.3.2 The Myth of Male as the Prototype Innovator

Have you ever wondered about the technology involved in your kitchen, not only the gadgets but the processes? Have you ever tried to examine the amount of thought and innovative processes which must have been invested in the making of various delicacies in your kitchen? Why are these not considered as real innovations? Delicacies which are prepared across cultures throughout the world are a result of cumulative innovations across generations. Who did that? Whose knowledge and technology are inherent in the food items we are consuming? You can observe the various steps followed in food processing and preparation in your kitchen and I am sure you can realize the science and technology behind them. Thus, male as the prototype inventor is a myth. During the hunting and gathering stage, it is the women who innovated various ways to gather and process food items for our survival. Women collected, processed and stored plant food items. Moreover, the techniques and tools required for these early survival strategies such as digging stick, carrying sling, reaping knife, pestles etc. were mainly invented by women (Wajcman, 1991). Even in the industrial era many crucial inventions were done by women but the credit for these went to their

husbands or other male members of their families. The sewing machine, the cotton gin, the small electric motor, etc. were invented by women but are only now considered to have been invented by women. Factors such as lack of property rights of women and the role of financiers in acquiring patents are responsible for the historical neglect of women's names as innovators.

Check Your Progress Exercise I

Note: I. Use this space given below to answer the question.

II. Compare your answer with the Course material of this Unit.

1. Define Technology.

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2. Do you think, technology is patriarchal? Give one example in support of your answer.

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14.4 TECHNOLOGY IS LIBERATING OR ENSLAVING?

Now let us move on to a continuing debate among feminist scholars about whether technology liberates or enslaves women. In the early phase of feminist movement a group of scholars advocated technology as having potential to liberate women from the clutch of reproductive and domestic responsibilities (Firestone, 1970). But this position has been challenged by other scholars. We will examine three major areas of technology, i.e. technologies related to human reproduction, household technology, and agriculture technology to discuss this debate.

14.4.1 Reproductive Technology

Many feminist scholars have argued against 'biological determinism' that emphasizes on biological factors such as genetics and physiology to explain the gender division of roles and responsibilities in society. The attempt to explain and justify women's lack of agency and their subordination with the help of biology is a deterministic approach and was challenged by many feminist scholars (Beauvoir, 1972). Feminist scholars argue that the role of

women's biology in human reproduction is conflated and thereby women's restricted freedom around sexuality has been justified. Therefore, technology can help as a tool to enable women to express sexuality without being bounded by the "tyranny of reproduction" (Firestone, 1970). There is a need to innovate new technology of contraception as well as Assisted Reproductive Technologies (ARTs) to provide choices to women. **Shulamith Firestone** in her book "**The Dialectic of Sex**" has advocated the need of appropriate technology to free women from the compulsion of biological motherhood.

Following Firestone's view many feminists have argued that technology indeed has potential to liberate women. With the help of technology women can experience motherhood more safely and even without having to go through pregnancy. With technology women can experience motherhood as a choice rather than accept it as their biological fate. Assisted Reproductive Technologies (ARTs) now has created a spectrum of possibilities which can help men, women, and transgender persons to experience motherhood and fatherhood. Technologies such as 'intrauterine insemination' and 'in-vitro fertilization' open up many possibilities. Feminist scholarship observed that these technological innovations have liberated women and have enough potential to even alter the existing gender equation in future. Biologically deterministic approaches should no longer limit women's potentialities. Likewise when sexuality and reproduction are seen as separate and contraceptive technologies become available, women may experience and express sexuality without the compulsion of motherhood, thus, creating plurality of choices in the field of human reproduction (Giddens, 1991).

On the other hand, another group of scholars argued that reproductive technologies are responsible for strengthening patriarchy. In 1984 the **Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE)** was formed to advocate against technologies related to contraception and reproduction. Scholars like **Gena Corea** (1985B) and **Maria Mies** (1987) along with other scholars in the group argued that motherhood is an essential biological prerogative of women and it should not be considered as limiting for women. Unlike Firestone, these scholars argue that the separation between sexuality and reproduction with the help of technology is an attack on the women's unique ability to procreate. Motherhood is seen by these scholars as the unique reason for women's power, and the technological interventions to destabilize this unique source of power is a form of patriarchal control. Scholars have also linked reproductive technologies, such as in-vitro fertilization to eugenics and technological production of human beings and, thus, with a new form of social control (Klein, 1985). **Gena Corea** (1985A) even imagined a time in future when women will be redundant because technology will help create babies with the help of professional breeders replacing natural human reproduction. They argued that this will devalue women and the entire human society will be an expression of men's control and conquest of nature and women. Although this view is inherent to the philosophy of ecofeminism, other feminists and environmentalists have critiqued its biologically deterministic approach.

14.4.2 Household Technology

You have already read about household technology and its implication for women in **Unit 3 of Block 1**. Let us now read some more examples and contextualize the gender and technology relationship in Indian context. You must have observed the increasing industrialization of your homes in your own life time. Most Indian homes in urban and increasingly in rural areas now have an LPG stove. In middle class urban homes, gadgets such as induction cooker, refrigerator, grinder, washing machine, and microwave oven have become essential household items. Some of these gadgets have also penetrated into the households of rural India. The developed countries in Europe and America have long experienced this transformation in household domain. Feminist scholars have examined this transformation and critically analyzed the impact of household technology on women's lives. Is this transformation liberating our women from the drudgery of housework and allowing them more free time? The feminists' views on this are divided.

Women's role in performing the household chores such as cooking, cleaning, washing clothes, looking after their husbands and children, etc. are considered by many feminist scholars the source of women's oppression. Their work is neither recognized nor paid. As paid work is more valued the key to women's equal status is liberating them from household chores in favour of paid work outside home. This is a major stream of argument by feminist scholars. Technology can very well help in relieving women from the housework burden. **Talcot Parson's** (1956) analysis of industrialization as it removed many functions from family system has definite influence on this stream of thought. This view holds that houses with the advent of domestic technology are now becoming the units of consumption from units of production. This creates possibilities for women to have more time which can be invested for other productive avenues.

The above liberating thesis was challenged by feminist scholars such as **Ruth Schwartz Cowan** (1983), **McGaw** (1982), **Joan Venek** (1974) and others. **Venek's** article (1974) on "Time Spent in Housework" revealed that the aggregate time spent on housework by full-time middle-class housewives in the West has remained unaltered between 1920 and 1960 in spite of the introduction of household technology into the US households. Women's contributions for household chores and amount of time spent at home have not decreased with labour saving technologies. Rather these technologies are overtly encouraging women to continue with the traditional role of women as home makers. Cowan has argued that mechanization at domestic sphere has given rise to a whole range of new tasks which are as time-consuming as the earlier works at home (Cowan, 1983). She further argued that with technology, though productivity at home increased, there is simultaneous increase of expectations from the housewives. Today the women are also expected to work hard at home to create clean toilets, bathtubs, house floors, sinks etc. keeping pace with the increasing standard of health and cleanliness all around. All these are examined by various feminist scholars to argue that domestic technology made women more bounded to home rather than freeing them for outside productive jobs. Moreover,

technology helps men to extend their control over household activities by creating standardized practices based on masculine values. Today women are more restricted to the household and more abiding to the traditional role though not in a traditional way. Thus, the mechanization of domestic sphere has enslaved women rather than liberating them.

14.4.3 Agriculture Technology

In agriculture too, various new technologies have marginalized rural women in India from productive works. The adoption of high-yielding varieties of rice and wheat after green revolution was instrumental in loss of work for women of landless and near landless families. For families with larger landholdings green revolution technologies helped in substantial increase of agricultural productivity. But it also led to the prohibition of women from working in agricultural field (Samaddar et al, 2008). Thus, in both ways women were marginalized with the introduction of green revolution technologies such as high-yielding seeds, use of fertilizers, pesticides, machineries etc. **Carr and Hartl** (2010) have shown that in South and Southeast Asia the introduction of drum seeders in rice cultivation led to the loss of traditional jobs for landless and poorest women. **Govind Kelkar** also examined the impact of green revolution technologies in three villages in Etawah district of Madhya Pradesh, and found that technology excludes and marginalizes women. She elaborates:

With the cultivation of cash crops entirely for the market, women have no decision-making power regarding the requirement of grain at home. Economic principles are paramount when such decisions are made by men. Women with no control over expenditure or marketing lost authority at home. This has been the natural consequence of displacement from the spheres of work and market (Kelkar, 1981).

However, technological changes need to be assessed in specific socio-economic and cultural contexts. In rural India, improved drinking water and sanitation technologies have made a major impact on the lives and work of poor women and girls. Indeed, one of the most striking examples is the introduction of commercial grinding machines which have liberated women from the tedious and back-breaking chore of grinding grains, pulses and spices. The commonplace technology of the bicycle is not considered vital in the West but in India and other Asian countries, the bicycle and the moped has enabled girls and young women to overcome restrictions on their mobility. In rural areas where young girls use bicycles to attend school, this has been liberating. The contemporary technology of the mobile phone and the ease of taking photographs has also enabled disadvantaged women communicate across distances, reach out for help in distress, document their lives etc. opening up a wide swathe of possibilities. Pat Armstrong (1984) has emphasized on these optimistic aspects of technology and looked for possibilities that can be brought about in women's lives. Thus, feminist critique of technology today enables us not to accept technology as a neutral force. It has also examined the possibilities of shaping technology according to feminine principles.

Check Your Progress Exercise 2

Note: I. Use this space given below to answer the question.

II. Compare your answer with the Course material of this Unit.

1. How does feminist scholarship articulate technological intervention in women's life? Write in your own word and give only one example in support of your answer.

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2. What is Vandana Shiva's argument about modern science and technology?

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14.5 LET'S SUM UP

Modern technology has a dominant place in our lives, determined by a range of socio-political and economic factors. Historically, some forms of technology have furthered capital accumulation, the control of certain natural forces, and patriarchal domination. Feminist critiques, particularly in the West, have highlighted these aspects of technological development. Feminists have also countered the myth of men being the prototype inventor, and shown that from the very beginning of human cultures women have played substantial roles in innovation of ideas and artifacts for human survival and well-being. We have also discussed feminist critiques on whether technology is liberating or enslaving for women.

14.6 UNIT END QUESTIONS

1. 'Technology is not just the application of science.' Discuss critically.
2. 'Historically technological development has been shaped by patriarchal interests.' Examine the statement by giving suitable examples.
3. Discuss feminist critiques of technology with regard to liberating-enslaving debate.

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