Is Technology Gendered? Assessing Social Transformation through Technology and Media Representation in 21st Century India

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Abstract: This paper utilizes feminist intersectional approach to assess social transformation through media representation of gendering of technology in 21st century India. Feminist critiques have acknowledged gender along with other social variables like class, race, religion, and sexuality as a decisive amalgam of constructing gender power relations that shape the everyday life experiences for women. In addition, feminist researches further advocate that along with these sources of identities other institutions such as science, technology and media symbolize and reconstitute the existing ideologies of gendered practice prevailing in the society. Dwight E. Brooks and Lisa P. Herbert (2006) posit that the commodified texts produced by media construct notions of self-identity i.e. what it means to be a male or female, heterosexual or homosexual, elite or poor in the larger social context, i.e. it ultimately represents social realities. Similarly, Judy Wajcman (1994) advocates that technology is not a neutral scientific product, rather it bears the imprint of dominant patriarchal knowledge and practices that encroach every aspect of public and private lives. Therefore, technology along with media plays an integral role in crafting the knowledge about one's class position, sexuality, masculinity and femininity, based on the notion of biological differences, technical expertise - dictating who can access to technology, what kind of technology one can use, and what kind of technology usage will make one more acceptable within the patriarchal arrangement of social order. However, Indian sociological discourse has been mostly

*The author was awarded Professor Radha Kamal Mukherjee Young Social Scientist Award in the contest held during 4th STS International Conference from January 12-13, 2019 held at Indore. oblivious to the relationship between gender and technology and more specifically to the distorted media depiction of the gendered nature of technology. This paper hence explicates how the present Indian visual media culture expresses and consolidates power relationships between technology and women; secondly this paper also elucidates how the intersection of gender, class and sexuality accentuate such stereotypical representation.

Keywords: Science and Technology, Social transformation, Gender, Intersectionality

"Those who design technology are simultaneously designing society" - Thomas. P. Hughes (1987: 1).

Introduction

Historically, natural sciences and/or scientific knowledge from time immemorial have been perceived as divine i.e. a superlative, unparalleled body of knowledge ordained to provide a single, unified account of both natural and social world through a universal objective method of inquiry. Similarly, media technology (both print and visual) was also considered as a value-neutral institution reflecting the (social) reality as it is. However, such understandings have been vehemently criticized by the feminist social scientists (both in Europe and North-America) who from the 1970's consistently claimed how the (social) reality extends beyond the unilineal scope and method of natural sciences and denounced such knowledge as andocentric, misogynist, oblivious of women's experiences. Feminist research held scientific research and science-based technologies guilty in the continuing subordination of women though their skewed and gendered method of enquiry. Rather, feminist critics advocate that institutions such as science, technology and media symbolize and reconstitute the existing ideologies of gendered practice prevailing in the society. Furthermore, growing feminist researches expanded their theoretical orientation by acknowledging other social variables like class, race, religion, and sexuality along with gender as a decisive amalgam of constructing gender power relations that shape and intensify such everyday life experiences for women. Judy Wajcman (2004) advocates that technology is not a neutral scientific product, rather it bears the imprint of dominant patriarchal knowledge and practices that encroach every aspect of public and private lives. Similarly, Dwight E. Brooks and Lisa P. Herbert (2006) posit that the commodified texts produced by media construct notions of self-identity i.e. what it means to be a male or female, heterosexual or homosexual, elite or poor in the larger social context, i.e. it ultimately represents social realities. Therefore, technology along with media plays an integral role in crafting the knowledge about one's class position, sexuality, masculinity and femininity, based on the notion of biological differences, technical expertise - dictating who can access technology, what kind of technology one can use, and what kind of technology usage will make one more acceptable within the hegemonic arrangement of social order. Conversely, Indian sociological discourse has been incognizant of the relationship between gender and technology and more specifically to the distorted media depiction of the gendered nature of technology. Passive acceptance of biased representation through media and association through technology not alone validate the dominant cultural practice of commodifying women but also legitimize the exclusionary and male centric nature of scientific inquiry. Thus, reinstating the stratified, unequal structure of the society with little or no scope for social renovation. This paper, therefore, utilizes three dominant feminist approaches, i.e. feminist technology studies, feminist media studies and intersectional approach to assess social transformation through media representation of gendered technology in 21st century India and how the intersection of gender, class and sexuality accentuate such stereotypical representation.

Method and Objectives

The present paper is grounded in Feminist theory; therefore, this study has espoused the method of feminist qualitative content analysis to analyze the Indian audio-visual and print advertisements. Three varieties of technologies i.e. contraceptive technology, sports technology, ICTs along with their media representation through advertisements has been examined and an in-depth feminist qualitative analysis of the media content has been done to divulge the covert connotations of these advertisements and acknowledge the silenced issue of interlocking experiences. Finally, SCOT¹- Social Construction

of Technology perspective within Feminist Technology studies has been employed in analyzing the gendered nature of technology.

According to Hesse-Biber and Leavy, feminist textual analysis uses a feminist lens and allows researchers "to ask different questions, approach the data differently, and use their resulting knowledge to effect intellectual, social, and political change" (2007: 236). Besides, feminist content analysis looks at text from the viewpoint of women who may not be otherwise considered important for research. So, analyzing the media contents from this empirical view point will help us to unveil the covert messages delivered through advertisements which otherwise has been taken for granted as real or true. Furthermore, the SCOT perspective within feminism has widened its scope of understanding women's lived experiences in relation to technologies and questions the rationality behind the development of technology. It questions - is technology gender neutral? Is technology designed for the convenience of humankind or does it have a hidden agenda of reinstituting the discriminatory gendered practices? And finally, the intersectional approach promises to unearth the complexity of social identities like gender, class, age, sexuality, race that entwine to fabricate reality for individuals. In this research the intersectional approach is espoused to reveal how the use of technology and its representation increase the void between the privileged and less privileged section also determine who is entitled and not entitled to use a technology. Thus, against this backdrop the main objectives of this study are:

How the present Indian visual media culture expresses and consolidates gendered power relationships between technology and women. Secondly, this paper also elucidates how the intersection of gender, class and sexuality accentuate such stereotypical representation. Lastly, this work aims to assess social transformation in Indian visual media culture in the last 10 years.

Technology and Media: Partner in Crime

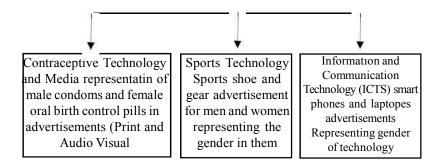
This 21st century human life is undeniably suffused by modern technology and mediated information, both becoming a central component of everyday life experiences and social relations. With its theory of convenience, universality and superiority, science and its technological creations have become an indivisible entity for humankind. Consequently, technology and methods that support and mediate human communication over distances in time and space, popularly known as 'media' also play a dynamic role in the social sphere. It not only creates an endless network of parallel relationships, but simultaneously channelizes models for appropriate behaviour and attitudes that help to define our world. Therefore, both technology and media together reflect and actively shapes the way of life of the people, way of seeing the world and deliver an underlying message of dominant ideology.

In the 1960's works of several historians and philosophers of science like Thomas S. Kuhn (1962, 1970), Paul K. Feyerabend (1996, 2011), Bruno Latour (1992), fervently refuted the claim of the supposed universality of scientific norm and argued that scientific observation/research and science-based technologies are 'never innocent' (Keller, Longino, 1996: 1), but pseudo value/gender-neutral, and intimately interacts with the prevailing social, cultural context reflecting the prevalent social cultural values. That is in Thomas Hughes (1986) notion "the nature of relationship between science, technology and society is - a densely interactive seamless web". These arguments have grown more pressing with the development of social study of technology or SCOT - Social Construction of Technology and Feminist intervention within this perspective. Feminist social scientists further challenged the institution of science and technology as gendered and how this discipline has been shaped by the historical exclusion of women and deliberate misrepresentation of lives and experiences of women. Therefore, the development of scientific knowledge, methods, technologies cannot be understood confined to the one-dimensional functional aspect of development or objective assemblage of data alone (that aims to unearth the truth of both natural and social sphere), but in relation to the multi-dimensional social reality that shapes the intellectual context of scientific research and in turn the knowledge it produces to sustain the existing social order. Similarly, Trevor Pinch and Wiebe Bijker's in their article titled 'The Social Construction of Facts and Artefacts' argue that both science and technology are socially constructed cultures and bring to bear whatever cultural resources are

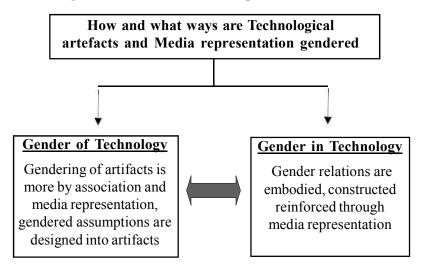
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appropriate for the purposes at hand (1984: 21). Similarly, Media (print and visual) as an independent institution not only enjoy a similar hegemonic position in relation to the production and dissemination of dominant ideologies but mediated texts act as a conduit to rationalize the everyday life experiences of social beings. Paul Rosen (1993) points to the importance of media advertising in developing markets for the shape and success of new artefacts. Frequently, it is observed that advertisers draw on social common sense, myths reinforcing the stereotyped notion of social reality to encourage consumers to buy products in a positive light (Macintosh, Cuklanz, 2014). Feminist Media studies (FMS)² have questioned this pattern of representation that produce some type of knowledge and meaning which appear 'normal' or 'natural' in their construction (Macintosh, Cuklanz 2014). Equally, Feminist Technology studies also question the taken for granted association of certain technologies (soft technology) like domestic technology - microwave oven, washing machine etc. with women i.e. determining the 'gender of technology' (Faulkner, 2001) and their symbolic demonstration through media as marketing strategy. While certain technologies are designed in such a way that they embody gendered relations like sports gear, contraceptives etc. i.e. these technologies reflect the 'gender in them' which too are emblematically represented through the print and visual media. Consequently, both technology and their representation through media reinstates women's traditional place in society place as well as states where a women's place ought to be vis a vis their male counterparts. FMS³ (Feminist Media Studies) and FTS (Feminist Technology Studies) hence query about the dominant cultural norms, ideologies and conceptions that produce gendered identities - constructing notions about self-identity i.e. how gender, class, sexuality is expressed through technology (design, purpose, application) as well as via media advertisements which upholds the technological frame (Bijker, 1995) through its representation.

Therefore, the next section of this article will broadly discuss through the analysis of the advertisements of three technologies, namely contraceptive technology, ICT's and Sports technology how media and technology are enmeshed in a symbiotic relationship to reinstate the established gendered and social hierarchy.

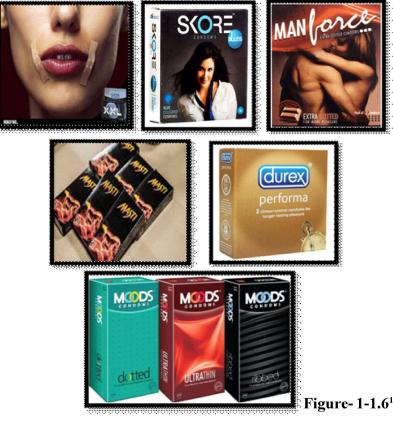


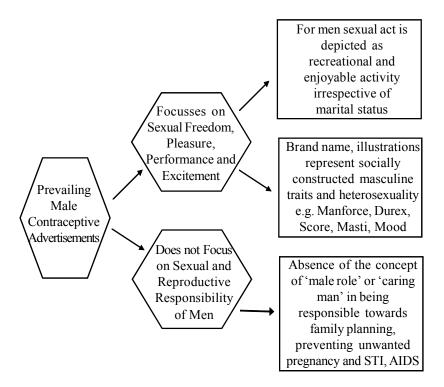
Technological Artefacts & Media Representation as Gendered



The below images portray advertisements and the name of the male contraceptives like SKORE, MANFORCE, MASTI, DUREX, MOODS. Not only does the visual representation of these male contraceptive brands reflect the one sided 'pleasure' aspect of sexual activity, the names too reflect male supremacy where such sexual activities are not presented as an act of responsibility or pleasure for both the actors i.e. men and women but reduced to a casual (sexual) interaction for fun (like through the brand names - SKORE, MASTI, MOOD) which can be acted any time anywhere and with anybody irrespective of their marital status or relationship commitments. Additionally, these advertisements epitomize masculinity as well as heterosexuality using words like 'force' in MANFORCE- that reflects strength and violence (over women's body), DUREX- that reflects durability, ideal masculine qualities. Likewise, when it comes to the videographic advertisements of condoms, i.e. male contraceptives, the focus is on sexual freedom, pleasure, performance and excitement of the male counterpart and absence of the sexual and reproductive role of men, i.e. concept of 'male role' or 'caring man' in being responsible towards family planning, preventing unwanted pregnancy and Sexually Transmitted Infections, AIDS (Acquired Immuno Deficiency Syndrome) is consciously averted.

Print Advertisements of Male Contraceptives in India



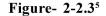


Conversely, when it comes to the representation of female contraceptive along with its rationale, the focus has always been on glorifying the 'responsible', 'caring', and 'submissive' role of women which is synonymous to the predominant, prescribed and expected gender roles for women. Below are some illustrations of prevalent female (oral) contraceptive advertisements.

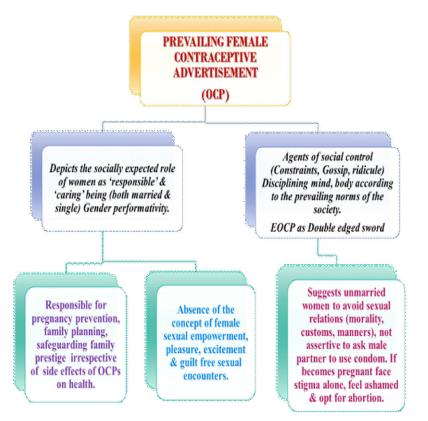
It is intriguing to know that the prevailing female contraceptive advertisements emphasize only on the oral contraceptive pills (OCP) rather than other safe and alternative methods. Despite revealing the harmful effects of OCP's for women, contraceptive technology has failed to deliver a safe and an equivalent alternative method of female contraception. Furthermore, the visual and print advertisements depict the socially expected role of women as 'responsible' and 'caring' being (both married and single) emphasizing and reinstating the notion of 'Gender performativity' through its representation. It overtly states



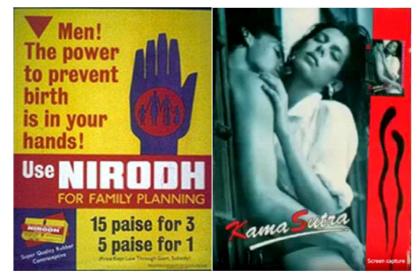




that women are solely responsible for pregnancy prevention, family planning, safeguarding family prestige irrespective of side effects of OCPs on health, like for instance the name 'Take Action', 'Unwanted 21' indicate such stereotypical beliefs. Additionally, there is a complete silence on the concept of female sexual empowerment, pleasure, excitement and guilt free sexual encounters in visual representations of female contraceptives. Rather, the visual advertisements make women feel inferior, guilty of having engaged in sexual activities especially pre-marital with loose moral bindings if become pregnant. In other words, these advertisements as well as contraceptive technology together suggests unmarried women to avoid sexual relations (based on morality, customs, manners), to not to be assertive towards male partner to use condoms and if becomes pregnant face stigma alone, feel ashamed and opt for abortion. That is these representations act as agents of social control (constraints, gossip, ridicule) disciplining mind, body according to the prevailing norms of the society.



Contraceptive Advertisements in India shifted from state sponsored family planning campaigns to more risqué campaigns with the intervention of private companies in the liberalized market economy in 1990's. (Figure- 3-3.3)⁶



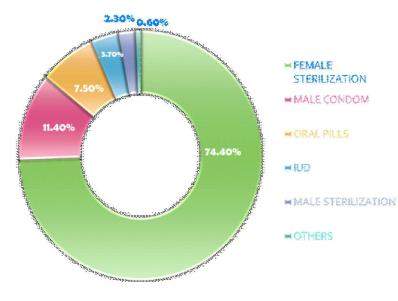
1980's

1990's



2000 onwards and Continuing till date

On 2nd January 2016 Times of India published a report titled: "Indian Men stay off contraceptives, forcing women into sterilization exposing the reality of contraceptive use among married men and women."



Source: https://timesofindia.indiatimes.com/india/Men-stay-offcontraceptives-forcing-women-into-sterilisation/articleshow/ 50412131.cms

According to Laury Oaks the marketing of (new) contraceptive technology has practical and symbolical implications for men's and women's sexual and reproductive health and reproductive responsibilities (2009: 139). New contraceptives must not be seen only as a scientific advancement but perceived as an arena where social, ethical and health questions of both men and women can and must be raised. Furthermore, contraceptive technology along with advertising campaigns (media) must take into consideration to inform and shape the social understanding of men's and women's reproductive, sexual responsibility. For e.g. by introducing male oral contraceptive pills. Nelly Oudhshoorn (2003) argues that scientists working on this field labels the male reproductive system complicated than the female reproductive system; hence it is easier to control a female body than the male. Consequently, in spite of numerous studies and experiments on male contraceptive pills till date it has not been launched for its side effects affecting the male libido and masculinity. Nelly Oudhshoorn (2003) further asserts that reproductive scientists' overwhelming attention to reduce side effects of male pills in contrast to relative lack of such high concern when women's oral pills and intrauterine devices were first marketed - is related to cultural pre-occupation with norms of masculinity that can best be summarized as 'no tinkering with male sexuality'.

The next section will focus on sports technology for men and women respectively along with their print advertisement. (Figure 4-4.1)⁷



The above image reflects Reebok sports shoe – 'ReeZig' ad campaign endorsed by men, for men which clearly states that the new technology i.e. 'ZigTech' and design of the shoe will serve as an 'Energy Drink' for the users i.e. male users. Whereas, the same Reebok shoe brand launches another sports shoe technology exclusively for its female users by the name of 'ReeTone' which promises to help women tone their 'BUTTS' and 'LEGS' with every step but not the 'energy' it promised to deliver for its male users. Figure 5-5.1⁸ represents 'ReeTone' ad campaigns.



In India, both Easytone and Reezig shoes were launched in the year 2010. The Reebok "Easy Tone" shoe celebrated women's desired body that shows whether they go to gym or not or wherever they go, they are getting a toned body with great toned legs and a great toned butt with every step. That is the rationale of this particular sports technology is not to make woman fit or healthy, rather its aim is to refigure and sculpt women according to the patriarchal desire – the ideal body, a site of male dominance and expectations. On the contrary, "Ree Zig" using the zig zag technology and tag line "energy drink for your feet" was designed to transfer energy to the male athlete or users body thus making him 'the able body' always powerful, active, performer, energetic- ideal masculine qualities. In 2011 Reebok President Uli Becker in his interview on re-launching Reebok easytone shoes remarked: "Toning was driven by the insight that women care about their looks, and that insight doesn't change." Such claim not only reinstates the stereotyped image of and expectation from women but simultaneously construct a figure of men which is conceived as a completely different species from women and held superior by virtue of certain attributes considered to be essential to achieve success. For e.g. achieving success through hard work is appreciated more than by having a toned butt.

Some other examples of gender in artefacts and their representation where designers make gendered assumptions about the users and media conveys through gendered language. Figure 6 shows Nike sportswear for women with the tag line 'sexy back' while Figure 6.1. shows the same company i.e. Nike launching sportswear for men with the tag line 'no space for weaknesses'.



Figure 6 20



The last section of this paper will analyze the advertisements of Information and Communicative Technology with special reference to ad campaigns of Laptops and smart phones.



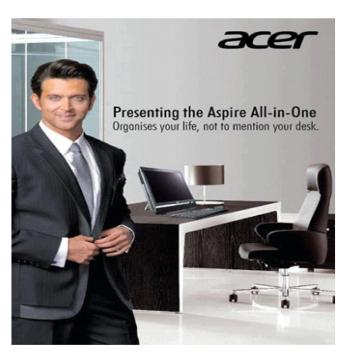


Figure- 7⁹-7.1¹⁰-7.2¹¹ are advertisements for modern day ICT i.e. laptops

Karen A. Foss and Sonja A. Foss (1991) provided a framework that suggests analyzing the -

Ø Exigency of the text audience of the text

Ø Nature of the communicator

Ø Nature of the text

Ø Functions of the text

Ø Nature of the world created.

From the above advertisements and the message transported through the rationale of the technology itself - the laptop series ENVY directly denotes that its stylish design, light weight and impeccable engineering and efficient performance will make others envy for not owing one. Furthermore, this advertisement also conveys that owing a HP Envy laptop will not only improve performance but will make

others feel jealous for not owing one just like having a slim, fashionable girlfriend makes another feel deprived or envious. Similarly, what remains unsaid is that the slender, light weight feature is equated with this female model's skinny body (female as a single unit) which also denotes that being light weight and slim is the key to enhance performance. Anything light, slender is associated with the female body, or rather the socially desirable female body which further sculpts, produce and reproduce the schema for the 'ideal female body'. Whereas, when a male member is endorsing a technology the theme of the campaign remains focused on the performance of the device, rather on the actual purpose of the electronic gadget. A similar representation can also be witnessed in International advertisement campaigns of laptops. Figure 812 reflects such advertisement. A skinny, slim female model along with terms like 'thinnest', 'lightest' are used to denote the physical engineering of products. i.e. light, thin are associated with female body. The pictorial depiction also clearly states that the product is so light and weightless that feeble female body can also hold it with one hand. Affirming the socially constructed stereotyped image of a weak, delicate female body that cannot surpass the bondage of her body where ability and competence is ignored.



Similarly, with smart phone advertisements along with applications also reflect the gendered nature of technology and media. Figure 9¹³-9.1 shows such prevalent advertisements.



This ad campaign is promoting Bike mode application in smart phones instead of Drive mode. The presence of a male figure in the ad who promotes this particular application is mutually shaping gender symbols and technological discourse. The male representation of this ad and application both reflects and reinforce the message that motorbikes are predominantly a male domain and women have nothing to do with this part of technology, dictating who should and should not use this gadget and app. Thus, naturalizing the prevalent norm and practice of male superiority and involvement in 'high-tech' hard/real technology. Such gendered practice, representation and usage of technology reproduce notions of gender roles, i.e. gender appropriate behaviours or display of masculinity, femininity. Other examples of gendering through association in India are given below. **Figure 10-10.1**-



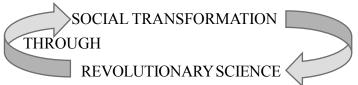


Fig 10- PRESTIGE UTENSILS: WOMEN Domain: Kitchen, Private sphere



Fig 10.1 - VCR: MEN Domain: Leisure





Thomas S. Kuhn in his work 'The Structure of Scientific Revolution' (1970: 35-36) has identified Normal Science as non-revolutionary puzzle solving or problem solving. For Kuhn, scientific progress can be achieved through scientific revolution that is by identifying the crisis within the present scientific paradigm i.e. normal science. Likewise, Kuhn advocated that ".... transformations of the paradigms of physical optics are scientific revolutions, and the successive transition from one paradigm to another via revolution is the usual developmental pattern of mature science (1970: 12).

ANOMALIES

NORMAL SCIENCE



REVOLUTION

Here comes the role of FTS (Feminist Technology Studies) who has questioned the paradigm of normal science and identified the crisis within the paradigm thus demanding for a revolution both in the gendered engineering of technological artefacts as well as increase in women's involvement within and with science. FTS has pointed out the crisis and critically analyzed this problem-solving nature of normal science through 3 questions:

Ø Whose problem is acknowledged?

- Ø Are the problems generalized as problem faced by all?
- Ø In the ardent venture of solving problems is it covertly inviting a new problem?

Fig 10.2 - MOTORBIKE: MEN

Domain: Public Sphere

Similarly, FMS (Feminist Media Studies) has also critically analyzed the prevalent paradigm nurtured by media that portrays women in commercials through 3 questions:

- Ø Why do commercials on technological artefacts differently associate women and men with different technologies (gender neutral)? Examples: car, motorbikes, domestic technologies, camera, sports shoes, T.V.
- Ø How do these associations influence, shape and reinforce the ideologies of being a female, male and construct dominant cultural ideas?
- Ø Do commercials acknowledge the intersectional realities of everyday life?
- Ø Has there been any alternative representation to women and men in these commercials over the last 10 years?

For both FTS and FMS technology, has been vehemently criticized and is conceived as a masculine culture - in design, engineering, skill, representation (Wajcman, 1991). The two-way mutually shaping relationship between gender and technology in which technology is both a source and consequence of gender relation and vice versa (Faulkner, 1999: 81). Additionally, what has been further acknowledged is the inter-sectional aspect of nature of technology design and its representations through media that consolidates the POWER relationship between various aspects of social identity, media and technology. Intersectional approach has questioned the claim of TECHNOLOGY being objective in nature for it which does not directly address members (both men and women) of the working, labour class rather they treat the consumer group as a homogeneous entity. Consequently, media represents the lifestyle, value system of the elite, upper middle and middle class citizens, who can afford technology. In fact it also reflects who cannot afford and what it requires to afford any technology. Like for instance, obsession with weight, toned, fit body never concerned the working-class women. As a result, 'shoes' for them (working class women) were never designed and manufactured (SCOT). Furthermore, ad campaigns openly highlight the heterosexual relationship and reinforce the message that heterosexuality is the norm and fails to address the homosexual audience (example

contraceptive ads, sports gear). Therefore, from the above cited real examples it can be understood that there is an urgent need to revamp the scientific way of conceiving the social reality as a diverse entity through both scientific revolution and social transformation instead of providing a monistic, homogeneous interpretation of social world. Similarly such scientific renovation must also be well accepted and portrayed through media technology which will ultimately complete the process of social transformation.

Social transformation, thus, encompasses a wide range of institutional and cultural changes in society that aims to restructure the social system (Khondker, Schuerkens, 2014). Both social scientists and scientists need to identify this crisis within the scientific knowledge as well as the ideology that construe reality of society to bring social transformation. Women from different social backgrounds need to be included as/within the 'relevant social groups' to influence and add meaning to technological artefacts so that there is scope for improvement or alteration in designing of technology. Lastly, one of the most far sighted initiatives was taken by Betty Friedan and the late Nancy Woodhull, when they established the 'women, men and the media project' in 1988, this project aimed to carry regular studies that would track progress, release the findings at symposia that would bring together journalists and media executives with activists and academics. Such endeavour signalled that without dialogue between researchers, activists, radio and television producers there could be no way out of the impasse in which the debate about gender representation appeared to be locked.

Notes

¹ Social construction of technology (also referred to as SCOT) is a theory within the field of Science and Technology studies. Advocates of SCOT that is, social constructivists - argue that technology does not determine human action, but that rather, human action shapes technology. They also argue that the ways a technology is used cannot be understood without understanding how that technology is embedded in its social context. SCOT is a response to technological determinism and is sometimes known as technological constructivism. SCOT draws on work done in the constructivist school of the sociology of scientific knowledge, and its subtopics include actor-network theory (a branch of the sociology of science and technology) and historical analysis of socio-technical systems, such as the work of historian Thomas P. Hughes. SCOT holds that those who seek to understand the reasons for acceptance or rejection of a technology should look to the social world. It is not enough, according to SCOT, to explain a technology's success by saying that it is "the best"—researchers must look at how the criteria of being "the best" is defined and what groups and stakeholders participate in defining it. They must ask who defines the technical criteria success is measured by, why technical criteria are defined this way, and who is included or excluded. Pinch and Bijker argue that technological determinism is a myth that results when one looks backwards and believes that the path taken to the present was the only possible path. SCOT is not only a theory, but also a methodology: it formalizes the steps and principles to follow when one wants to analyze the causes of technological failures or successes.

- ² Feminist Media Studies provide a trans-disciplinary, transnational forum for researchers pursuing feminist approaches to the field of media and communication studies, with attention to the historical, philosophical, cultural, social, political, and economic dimensions and analysis of sites including print and electronic media, film and the arts, and new media technologies. Feminist media studies is also a field of study examining how representations of gender, race, sexuality, disability, class, and other forms of identity both produce and are produced by contemporary media text.
- Feminist techno-science is a trans-disciplinary branch of science studies 3 which emerged from decades of feminist critique on the way gender and other identity markers are entangled in the combined fields of science and technology. The term techno-science, especially regarding the field of feminist techno-science studies seeks to remove the distinction between scientific research and development with applied applications of technology while assuming science is entwined with the common interests of society. As a result, science is suggested to be held to the same level of political and ethical accountability as the technologies which develop from it. Feminist techno-science studies continue to develop new theories on how politics of gender and other identity markers are interconnected to resulting processes of technical change, and power relations of the globalized, material world. Feminist techno-science studies are inspired by social constructionist approaches to gender, sex, intersectionalities, and science, technology and society (STS). It can also be referred to as feminist science studies, feminist STS, feminist cultural studies of science, feminist studies of science and technology, and gender and science.

- ⁴ https://www.google.com/search?biw=1600&bih=789&tbm=isch&sa=1 &ei=BCApXN3zJojSvASqr7vwDg&q=male+condom+in+India&oq=male+condom +in+India&gs_l=img.3...31693.33087...3818...0.0..0.115.887.0j8.....1...1.. gws-wiz-img.F2uRLJ2fW6c
- ⁵ https://www.google.com/search?q=Female+oral+Contraceptive+pills& source=lnms&tbm=isch&sa=X&ved=0ahUKEwjboJ3X29TfAhUMQI8 KHdnwD0IQ_AUIDigB&biw=1600&bih=740
- ⁶ https://www.google.com/search?biw=1600&bih=740&tbm=isch&sa= 1&ei=xaAvXN2-FJmYvQTAjYeQBQ&q= Indian+ advertisements+ for+male+condoms& oq=Indian+advertisements +for+male+condoms&gs_l= img.3....5626.7982..8281...0.0..0.138.1606.0j12.....1...1..gws-wiz-img. immtCE_0MAs
- ⁷ https://www.google.com/search?biw=1600&bih= 740&tbm=isch&sa= 1&ei=xaAvXN2-FJmYvQTAjYeQBQ&q=Reezig+sports+shoe+ad&oq= Reezig+sports+shoe+ad&gs_l=img.3...2855.10479..10772...00.0.158.2999.0j21.....1...1.. gws-wiz-img......0j35i39j0i67j0i5i30j0i10i24j0i24j0i8i30.pf9knCjUUmQ
- ⁸ https://www.google.com/search?biw=1600&bih=740&tbm=isch&sa= 1&ei=EaEvXO-gJYXRvgSVg5z4BA&q=Reetone+sports+shoe+ ad&oq=Reetone+sports+shoe+ad&gs_l=img.3...4250.4861..5239...0.0..0.163.539. 0j4.....1...gws-wiz-img.lp9yRsJsNAw
- ⁹ https://www.google.com/earch?biw=1600&bih=740&tbm=isch&sa=1&ei = PKIvXIfVDcrkvgT575egBw&q=dell+laptops+matching+with+nail+ polish&oq=dell+laptops+matching+with+nail+polish&gs_l=img.3...226452.242936. 243925...4.0..1.397.6407.0j41j0j1.....1...gws-wiz-img......0j0i67 j0i5i30j0i8i30j0i24.PH-Iwq4ky9Y#imgrc=cw7Zr3d2gH9cqM
- ¹¹ https://www.google.com/search?tbm=isch&q=acer+laptops+ad+ hrithik+roshan&spell=1&sa=X &ved=0ahUKEwjYk46U3dTfAhWIr48 KHWoZC2YQBQg4KAA&biw=1600&bih=740&dpr=1#imgrc=Y0XFQg 62RRTspM
- ¹² https://www.google.com/search?q=MEGAN+FOX+AND+LAPTOP+AD &s ource=lnms&tbm=isch&sa=X&ved=0ahUKEwjg7dua4NTfAhWFi XAKHXOBC_sQ_AUIDigB&biw=1600&bih=740#imgrc=bnWy2opuyf6ePM:
- ¹³ https://www.google.com/search?biw=1600&bih=740&tbm=isch&sa= 1&ei=qKkvXKC1 IsrSvwTUiICYBg&q=bike+mode+ad+sahid+kapoor& oq= bike+mode+ad+sahid+kapoor&gs_l=img.3...3743.5577..6048...0.0..0. 151.786.0j6.....1...1.gws-wiz-img.n4wn2-G4IM#imgrc=CYuIL_T3_UmJGM:

References

- Biber- Hesse, Sharlene. & Leavy, Patricia, L. (2007). *Feminist Research Practice: A Primer*. Thousand Oaks, CA: Sage Publications.
- Bijker, Weibe. (1995). Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change. (Online) Available: https://sciencepolicy. colorado.edu/students/envs_5110/bijker.pdf. [Accessed 31st December 2018]
- Bony, J. & Wood, Julia, T. (Ed.), *The SAGE Handbook of Gender and Communication* (pp. 297-317). Thousand Oaks, CA: Sage Publications.
- Brooks, Dwight, E., Herbert, Lisa, P. (2006). Gender, Race, and Media Representation. (Online) Available: http://www.focusintl.com/ GD142%20Gender,%20Race%20and%20Media%20Representation pdf[Accessed 27th December 2018].
- Cuklanz, Liza, M., McIntosh, Heather. (2015). Documenting Gendered Violence: Representations, Collaborations, and Movements. Bloomsbury Academic.
- Engelstein, Lisa Campo; Kaufman, Suzanne; Parker, Wendy M. (2017). Where Is the Pill for the "Reproductive Man?": A Content Analysis of Contemporary US Newspaper Articles. (Online)Available: www.researchgate.net/publication/316938110_Where_Is_the_Pill_for_ the_Reproductive_Man_A_Content_Analysis_of_Contemporary_ US_Newspaper_Articles [Accessed 20th December 2018].
- Faulkner, Wendy. (2001). The Technology Question in Feminism: A View from Feminist Technology Studies. (Online) Available: http:// classes.matthewjbrown.net/teaching-files/gender/faulkner.pdf [Accessed 30th December 2018]
- Feyerabend, Paul, K. (1996). Against Method: Outline of an Anarchistic Theory of Knowledge. (Online) Available: mcps.umn.edu/assets/pdf/ 4.2.1_Feyerabend.pdf [Accessed 10th December 2018]
- Feyerabend, Paul, K. (2011). The Tyranny of Science. (Online) Available: https://www.researchgate.net/publication/254296315 [Accessed 10th December 2018]
- Foss, Karen, A., Foss, Sonja, K. (1991). Our Journey to Repowered Feminism: Expanding the Feminist Toolbox. Available: http://www.sonjafoss.com/ html/Foss61.pdf [Accessed 28th November 2018].
- Hughes, Thomas. P. (1987) The Evolution of Large Technological Systems (Online) Available: https://bibliothek.wzb.eu/pdf/1986/p86-9.pdf[Accessed 29th December 2018].

- Keller, Evelyn, Fox., Longino, Helen, E. (1996). *Feminism and Science*. New York: Oxford University Press.
- Khondker, Habibul., Schuerkens, Ulrike. (2014). Social transformation, Development and Globalization. (Online) Available:http://www. sagepub.net/isa/resources/pdf/SocialTransformation.pdf. [Accessed 31st December 2018].
- Kuhn, Thomas, S. (1962, 1970). *The Structure of Scientific Revolution*. Chicago: The University of Chicago Press.
- Latour, Bruno. (1992). Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts. (Online) Available: http://www.brunolatour.fr/sites/default/files/50-MISSING-MASSES-GB.pdf [Accessed 10th December 2018]
- Oaks, Laury. (2009). Manhood and meaning in the Marketing of the Male Pill. (Online) Available: https://books.google.co.in/books?id=d_g [Accessed on 20th December 2018].
- Oudshoorn, Nelly. (2003). *The Male Pill: A Biography of a Technology in the Making*. U.S.A: Duke University Press.
- Pinch, Trevor, J., Bijker, Weibe, E. (1984). The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. (Online)Available:https://www. researchgate.net/publication/257141289 [Accessed 26th December 2018]
- Rosen, Paul. (1993). The Social Construction of Mountain Bikes: Technology and Post modernity in the Cycle Industry. (Online) Available: https:/ /journals.sagepub.com/doi/abs/10.1177/0306312793023003003 [Accessed on 28th December 2018.]

Wajcman, J. (2004). Technofeminism. Cambridge, UK, Oxford: Polity Press.

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