

INDIAN INSTITUTION OF TECHNOLOGY GUWAHATI

NPTEL

NPTEL ONLINE CERTIFICATION COURSE

An Initiative of MHRD

Science, Technology and Society

by

Dr. Sambit Mallick

Department of Humanities and Social Sciences

Indian Institute of Technology Guwahati

In this lecture what we are going to do, we are going to stay on with the social shaping of technology which are we in relation to the technological shaping of society. And when we discuss social shaping of technology we are discussing social shaping of technology in contradistinction with technological shaping of society.

In this context we have discussed many things, political constitutional of technological systems, technology as knowledge, social construction of technological systems, actor network theory, and from here onwards we are going to discuss how technologies also set by gender. In this context we are going to discuss the relationship between feminism and technology.

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Feminism and Technology

Cynthia Cockburn (1983) asks:

□ Is technology itself shaped by gender?

- Industrial, commercial, military technologies are masculine in a very historical and material sense.

□ Is gender shaped by technology?

- Technology is one of the formative processes of men. The appropriation of technology by men, and the exclusion of women from many of the domains deemed technical, are processes that leave their mark in the very design of tasks and of machines.

Or how do feminists bring about the critic to technology okay. Technologies, I mean when I say feminists critic to technology, I mean technology I just shows you technical arrangement okay of such in political order, social order, military order, ethical order, legal order and so on okay. In this context Cynthia Cockburn, I mean in her article thought in the wills which represents a pivotal point in the growing engagement between feminism and technology.

Cockburn went beyond concerns for equal opportunities, I mean when I say equal opportunities, I mean when mentioned when Cockburn mentioned equal opportunities, it is not simply equal opportunities between two genders, but which goes beyond equal opportunities, I mean greater representation of women in the traditionally male provisions of science and engineering to ask to further questions.

Number one is that each technology itself set by gender, number two, what is gender set by technology. When Cockburn post this question, each technology itself set by gender okay, I mean whether or is gender set by technology okay. What is the cause and what is the effect? What is the antecedent and what is the concept, what is the explic and what is the explic then, I mean what is the cause and what is the effect.

Whether gender is the cause and technology is the effect, or technology is the cause and gender is the effect, let us see. When Cockburn post this question, first question is technology itself set by gender, Cockburn's answer to the first question that is each technology itself set by gender

okay, the answer to that question is that industrial, commercial, military technologies are muscular in a very historical and material sets.

In part this gendering role okay, arises because at effects and forms of knowledge associated with women often simply not regarded as technology okay. Even Ruth Kwan, I mean Ruth called as Kwan for example, noted in 1979 there I mean the exclusion of women from traditional history of technology okay. When we quote Kwan here she mentions that the indices to the standard histories of technology do not contain a single reference.

For example, to such a significant cultural at effect as the baby bottle, here is a simple implement which has transformed a fundamental human experience for vast numbers of infants and mothers and being one of the more controversial exports of western technology to under developed countries, yet it finds no place in our histories of technology. Kwan write in 1979 okay. We will come to the second point a little while later.

I mean one must explore the gendering of technology in several other ways, here what is more immediately relevant and are verbally Cockburn's distinctive contribution to the debate around gender and technology okay, is a answer to the second question that is, is gender set by technology. Technology Cockburn argues is one of the formative processes of men, men not women okay historical materially okay.

The appropriation of technology by men and we exclusive of women from any of the domains being technical or processes that leave their mark in the very design of tasks and of the machines I mean, I mean their also part of the processes by which in our society generic constitute okay different childhoods social different role models different forms of schooling okay.

I mean childhood sociologies different role models different forms of schooling gender segregation and occupations different domestic responsibilities and sometimes play n historical processes expulsion okay as after the faster second world wars have all contributed to what Cockburn describes as the construction of men as strong manually able and technologically end out and women as physically in technically incompetent okay.

This is how gendering of technologies has been done historically and materially okay if gender and technology are mutually constitutive okay if a feminist course to all of technology okay I mean if technology and gender okay are mutually constitutive so are explicitly and technology.

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Ethnicity and Technology

- Technology has been shaped by ethnicity, in that conventional valuations of skin colours have been the benchmark in the development of photographic and film technologies
- Technology has helped constitute ethnicity, in that conventional hierarchies of desirability have been reinforced by the reproduction of 'white' faces as 'pleasing flesh tones' rather than as unpleasantly 'beefy'

Though this is the topic that has been much less thoroughly explored recent literature how a particular ethnic group conceive of technology perceive technology the mutual, the mutual constitute is most evident in relation to that common place marker of ethnicity technology has been shaped by ethnicity in the scene that in that convectional valuations of skin colors have been the bench mark in the development of autographic and film technologies okay and in you can look at many Hollywood movies where you will find if a film is based on US or UK okay. You will find the name of Villains okay they are mostly from the years 12 say before with union okay this is how film industry photographic industries film theologies they are they have exhibited the spirit of recigiment.

In this sense firstly first I mean number one I mean did the relationship between ethnicity and technology it can be established on two points okay first technology has been set by ethnicity in that convectional valuations of in colors have been the bench mark in the development of autographic and film technologies these typically or fine tuned so that they provide pleasing recigiment of white face some times to the determinist of the reproduction of other skin colors essence.

That is why you will find in Hollywood has well has in some Bollywood that especially the villains are of black color okay the skin color determines who is going to be the villain so far as the relationship is between ethnicity and technology or recigiment technology is concerned okay

is extremely important precisely because the way we look at childhood sociologies and I mean the background different role models different forms of schooling segregation of occupations different responsibilities there historically conditioned okay.

They must be examined in more historical and material scene okay in this scene I mean that is why what we first point is to be examined in detail that how technology has been shaped by ethnicity in that convectional valuations of skin colors have been benchmark or in the development of autography can film technologies okay these typically are fine tuned so that they provide pleasing rend scene of white face some times to determined of the reproduction of other skin color is used.

And secondly technology has helped constitute ethnicity in that convectional hierarchies of desirability have been reinforced by the reproduction of white faces has pleasing flesh tones stones rather than has unpleasantly beefy okay I mean if you if we can look at these I mean technology the way technology has helped constitute ethnicity in that convectional hierarchies of desirability have been reinforced by the reproduction of white phase has pleasing flesh tones rather than has often happened with unturned photographic technologies has unpleasantly beefy okay.

From here onward what we are going to do we are going to look at in specific terms okay other ways to look at the social shaping of technologies okay where in this section we are trying to provide as many examples has possible okay to establish how technology is socially economically politically culturally ethically legally institutionally ideologically shaped okay technology is not an autonomous activity it is not independent okay it does not develop on it is own rater it the development the emergence and development of a particular technology is very much contingent up on though the way our economy culture and polity our desired okay.

That is in if you recall the initial lectures that we disused that technology is not neutral in the neutrality of particular technology depends on the way it is designed and controlled okay let us see how Donna Haraway she is a she is an she is an eminent HTS scholar the way the we are going to discuss the way she has unfolded the different dimensions within this within the preview of social setting of technology.

I mean if you look at all language including mathematics is figure it that is made of tropes constituted by bumps.

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'Cyborg' - a Cybernetic Organism: Donna J. Haraway

- The cyborg is figure both material and fantastic, both real and imaginary that explore the implications for life in the context of technoscience.
 - The liberatory potential of science and technology: the great power of science and technology to create new meanings and new entities, to make new worlds.
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That makes sure from liturgical mindless mindedness what do we mean by topes I mean non liturgical inches of language such has metaphor over it tends to emphasize figuration to make explicit in a stable that topic quality the topic quality of all materials of semiotic process especially in techno sites okay what is the semiotic process that when I say techno science I am in we are trying to we are trying go beyond the disquisition between science and technology we are trying to look at technology and science on come power lines.

I mean we are not trying to make an disgusting between science and technology because what is technology becomes science tomorrow what is technology today become will become science tomorrow and what is science today may become technology tomorrow I mean this is the

dialectical relationship between science and technology that is why we are using techno science what is that semiotic process a semiotic process is loosely one in which meaning is created however use the term techno science in preference to science and technology.

Because if we less than two have become inseparable we cannot make a distinction between science and technology for example think of small set of objects into which lines and worlds are bent cheap may be cheap gene shaped fitters data base boom race brain ecosystem and many other things okay this kind of list is made up of metaphor world so brackets the cheap seemed or gene is simultaneously.

Let well as well as figure it here we inhabit end up inhabited by such figures that map universe of knowledge practice and about the globalization of the world of planet earth is a semiotic material production of some for in so fly it than others okay eco science is the story of such, such globalized world such will be in the such process of globalization it is the travel of our distributed heterogeneous linked social technical calculations.

That kind of the world does not need to call the global okay here in like the significant proper concept called cyborg or hibernating organism okay when we look at before getting into information society I mean what are involving information society what are the illusions that information society brings in to the before getting into these important you look at cyborg or cybernetic organization propounded by a Donna Haraway I mean cyborg refers to a fusion of the organic and the technique.

Life forms that inhabit the recently confident planet or earth the whole earth of eco activists and green commodity catalogue just it just it in a historically specific eco scientific bumped okay we can give Nemours examples I mean for example okay I mean we come to this point houses the cyborg is figure both material and fantastic both real and imaginary that explored the implications for life in the context of techno science okay let us give let us have some examples the apparatuses of the 28th century military conflicts embedded in repeated world wars decades of world war.

Nuclear weapons event to the and their institutional matrix in strategic planning in bit scenario production and simulations in think that such as ranked the in new system like networking strategies for post colonial global control inscribed in no intensity conflict doctor in and post

cold war simultaneous multiple war fight in strategies depending on rapid massive deployment concentrated control of information and communications and high intensity sub nuclear proceed weapons.

The apparatus of hyper capitalist market tropic I man in today's terminologies it is capitalist market that we see in the international carrier of okay you know the apparatus of hyper capitalist market tropic and flexible accumulation strategies are lying on standing speeds and powers of manipulation of scale especially miniature dispense which characterize the paradigmatic high technology transnational work places okay the apparatus of production in that techno scientific planetary have we get space called ecosystems which it is constituted birth bangs in resource management.

Practices is in such institutions and national picture is in the 1900 and 20s and 30s imposed Second World War theoretical fascines and with all things cybernetic in the atomic energy commission.

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'Cyborg' - a Cybernetic Organism: Donna J. Haraway

- ❑ The cyborg is figure both material and fantastic, both real and imaginary that explore the implications for life in the context of technoscience.
 - ❑ The liberatory potential of science and technology: the great power of science and technology to create new meanings and new entities, to make new worlds.
-

AC mitigated rejects in the 1950 in the US for trussing radial strokes in radical a through food chains in the pacific ocean in the in the 1970s global modeling infact is indicated to the club of Rome and to scientific effect and to international projects such as the United nations educational scientific and cultural organizations I means units course as a man in the biosphere program and

in the only cyborg of white spread green war as a dominant new world war of security concern which it is diplomatic forms.

Played out in 1992 at the earth some it I mean if we look at the development of capitalist and subsequently capitalizing that as given raise to certain types of technology capitalizing had not given raise to hand look technology for example capitalism is given raise to whether power loom technology even more sophisticated technologies to reduce cotton or silk I mean and cloth okay and then we see the responds is the that the critical responses to such large in state funded a states sponsored.

Capitalists technology okay the apparatuses of products and of the globalized extra territorial everybody consensus in the planetary pending of multi sight multimedia multi specific multi cultural cyborg and entrainment events such as I mean many start take over and so on, and they are proliferating a sequel in the daily information stream embedded in transnational US dominated brought spectrum media conglomerate conglomerates such as those worst by the mergers of time Warner with CNN and the design universe with capital cities owner of CBSN and so on okay.

The offspring the offspring of these techno scientific needs or cyborgs imploded germinal entities Stansky packed condenses of worlds socket into being from the force the impotence of the natural and the artificial nature and culture subject and object machine and organic body money and lives additives and reality and so on that is why the cyborg the figure both material and fantastic both real and imaginary that explore the implications of life in the context of techno science so what kinds of skin or called in the preparatory forms of live in these days near the I mean in these days I mean into 1070 in the 21st century okay.

How do we who innovate such stories make cybernetic and commercial investments in forms of life where the lines among human, machine and organic nature are highly permeable in eminently be visible. How useful is my embedding suspension that biology the historically specific consult embodiments in the world as well as the techno scientific discourse projecting such bodies is an accumulation strategy.

The point is less disrupt able if head hallow away written that bio-technology both the discourse and the body constituted as a bio-techniques is an accumulation strategy but much of what is

accumulated is more strange than capital more kind than alien more alluring than gold. The liberatory the potential of science and technology for liberation the liberatory potential science and technology I mean when we look at it is the great power of science and technology to create new meanings and entities to make worlds, okay.

In what gets politely called modernity I mean when we create new meanings, new entities, new worlds we tend to arrive at a we tend to look at a modernist construal of meanings, modernist construal of entities, modernist of these worlds. In what gets politely called modernity and its after life or half life actually they trade protection of natural knowledge permissibly structures and commerce, industry healing community, war, sex, literacy, entertainment and worship the wide building alliances of humans and non humans in techno science shape, subjects and objects, subjective and objective, action and passion, inside and outside in ways that inferable other modes of speaking about science and technology.

In short, in brief in a nut shell techno science is about worldly materialist signifying and significant power. And many things can come.

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'Cyborg' - a Cybernetic Organism

- While critical of many aspects of the way things happen, such as the wholesale extending of private property to patenting life forms, she warns against any purist rejection of the 'unnatural', hybrid, entities produced by biotechnology.

For example: the introduction of a gene from flounders into tomatoes, which live in cold seas. It enables the tomato to produce a protein that slows freezing.

I mean the Cyborg, the way or a way try to look at Cyborg I mean the Cyborg gives the Cybernetic organism effusion of the organic and the technical forced in particular historical cultural practices. Cyborg's are not about the machine and the human as if such things and our subjects universally existed instead Cyborg's are about specific historical machines and people interacts in that often turns out to be painfully countered inattentive for the analyst of techno science.

The term Cyborg was coined by Manfred Clynes and Nettheim Clynes to refer to the enhanced man who could survive in extra territorial environments. They imagine the cyberbobent man machine hybrid would be needed in the next great techno humanist challenge that is the space flight.

A designer of physiological instrument is an electronic data processing systems, clients was the chief research scientist in the dynamic simulation laboratory or at Rockland state hospital in New York okay, Clyne that were was the director of research and at Rockland state he was a Clyne was a clinical psychartorist and the way they looked at these one of their first cyborg's was as tended white laboratory rat sorry, implanted within osmotic pump design to inject chemical continuously.

Exchanging knowing figures with their primate keen okay, wrong dems will reappear in this at every turn. Beginning with the rats who is stored away on the mast chips of Europe's age of explorlism Wrong dems have gone fast into the unexplored regions in the great travel narratives

of western techno science. Many I like in the science fictional work modeling in an episode in the television so deep space nine the laboratory continuous to sack us into uncharted regions of technical culture in political space.

Passing through the work mole of techno science the fill mice emerge as the final tattered laboratory Robin's model systems, anemic tools, research material, self acting, organic technical hybrids, okay through whose eyes Donna Haraway wrote this wrote it is on Cyborg. The such modernist perspective on new meanings, modernist perspectives on new entities, modernist perspectives on new worlds okay, what Donna Haraway calls this filled site the cultural, the culture and practice of techno science, okay culture and practice of techno science.

While critical of newer aspects of the way things happen such as the whole sale extending the private property to patenting life forms Haraway warns against any purist rejection of the unnatural hybrid entities produced by biotechnology. For example, the introduction of a gene from flounders into tomatoes which live in cold seas. It enables the tomato to produce a protein that slows freezing, right okay. The transplanting organism contains genes transplanted from one strain or species or even across taxonomic kingdoms.

For example from freeze to tomatoes of fire flies to tobacco bacteria to humans or vice versa or to all other.

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Donna J. Haraway

- Often efforts to develop a politics of technology are seen as anti-technology, as an attempt to impose upon technology rigid, negative, political controls. The prevalence of that misconception is sometimes *misunderstood* as an attack on science and technology
- She is sharply critical of those who reject technology in favour of a return to a mythical natural state, and she argues instead for an embracing of the positive potential of science and technology.

Transgenic body crossing specifies series challenges to the sanctity of life for many members of western cultures which historically have been offsets with rasile purity, okay which is unscientific in fact, okay which is historically have been offsets with which is historically have been offsets with rasile purity categories, authorized by nature and the well define itself the distinction between nature and culture in western society is has been a secreted one it has been at the heart of the great narratives of salvager history.

And they are genetic transmutation in to sort of secular progress. What seems to be at stake in these cultures stories of the human place in nature human place in nature that is genesis and its end list repetitions and western intellectual perhaps especially natural scientist and philosophers have historically been particularly likely to take their cultural stories for universal realities.

Often the kind of efforts to develop a politics of technology are seen as anti- technology as an attempt to impose upon technology rigid, negative political controls. The prevalence of that conception is sometimes misunderstood as an attack on science in technology okay. In this context it is a mistake to forget that anxiety over the pollution of lineages is at the origin of resist discourse in European cultures as well as at the hot of linked gender in sexual anxiety.

The discourses of transmission get all mixed up in the body of nature, transprive border crossing pollutes lineages in a transgenic organism case the lineage of nature itself transforming nature in to its binary of proceed culture. The line between the acts agents and products of divine

creation and human engineering is given in the sacred secular border zones and of molecule at genetics and bio technology.

The revolutionary continuities between natural kinds ion saturated by the theory of biological evolution seem flash it compare to the rigger is coupling across taxonomic kingdoms not to mention missions and companies produced daily in the genetic leveled. What appears here> is it what is the again what is the cause and what is the effect, like we started with these what is the cause and what is the effect gender or technology okay, how we try to look at the electrical relationship between gender and technology okay.

And this dialectical relationship can be established in a more historical and material sense, now what is the cause and what is the effect? Nature or culture, one may say that even our culture is a part of nature somebody may counter or moment somebody may say that, no the way we understand the relationship between nature and culture it is culturally amplified it is culturally conditioned okay. We must try to look at we must try to examine the dialectical relationship between nature and culture okay.

One just cannot say no the culture is prior or nature prior rote in it is the way we try to conceptualize nature or culture okay, they are very context specific, when Haraway pointed out that often efforts to develop a politics of technology or seen as anti technology as I attempt to impose of an technology rigid negative political controls the prevalent of that misconception is sometimes misunderstood as an attack on science and technology in this context Haraway shortly critical of those who reject technology in favor of a return to up mythical natural state and see are use in state for an embracing of the positive potential of science and technology.

Here we are trying to bring about a cryptic to technology does not imply that we want to go back to the theological stage or metaphysical stage, when we started this course where we also started that the three stages through which science as met progress we have come to a point there are three large of stages in the development of society namely theological stage or theological stage secondly metaphysical stage and thirdly positivistic or scientific stage.

When we in theological stage is based on super natural forces, I mean social change or the change is in economical culture and politics or based on changes in super natural phenomena okay whereas metaphysical stage suggests that no this is only the change is which occur in

economic culture and politics they are naturally mediated okay and positivism or positivistic stage or scientific stage they questioned is in the existence of got the question the existence of religion they are questioned theological stage metaphysical stage and so on.

I mean positivism also has to be look that in the context of industrial revolution critical thinking reasoning capacity of the individuals as well as institutions. That is why when we try to bring about the critic to technology we are not trying to go back to theological or metaphysical stage but we are trying to understand how a particular technology is socially economically and politically culturally saved okay.

By interrogating the either to existing forms and contained of technology okay, in opposing the production of transgenic organisms especially opposing their patenting and other forms of private commercial exploits committed activist appeal to notions such as the integrity of natural kinds and natural tillage or self defining purpose of all forms of life or life forms.

From this perspective to mixed match genes as if organisms were legitimate raw materials for redesign is to while natural integrity at its vital core transferring genes between species natural barriers compromising species integrity this they activities and others also inform many other arguments for apogees into various bio technological practices in the new old order.

The objections including increasing capital concentration and the monopolization of the means of life reproduction and labor appropriation of the commons of biological in returns is that the private preserve of competitions the global detaining of inequality by region nations race gender and classed individual of people self determination and sovereignty in regions designated as bio diverse file indigenous lands and bodies become the object of intense gene perception and proprietary development.

Inadequately assessed and potentially environmental health consequences misplaced priorities for techno scientific investment ferns propagation of distorted in simplistic scientific explanations such as genetic determining intensified cruelty to and dominance of over animals depletion of bio diversity undermine of established practices of human and non human life cultured and production without embracing the most affected in democratic decision making and they valid and this is the objections this interrogations are legitimate their valid okay.

And one must take these objections very seriously the state also must take these objections interrogations very seriously okay and all of them are taken off if but must be taken up very seriously okay but what try to point out that is how it does not things simply naming the concerns either designed the directions of effects or describes the cross cultural qualifying through which scientific practices constituted worldwide.

Effects and practices are mutilate and context specific and it is too easy for all parties to fall into doubt mark where fundamental cultural and material values are both not sad and at state what much not be lost from sight in all of this complexity however is that power profit and bodily arrangements are at the heart of biotechnology age able global practice the states are immense just as there in nuclear culture okay.

That is why but by bringing about that rejections to the hither to existing forms and contents of technology in does not imply that one must go back to natural state and the perhaps for this region perhaps for this region do not know how away arguing instead for an embracing of the projected import in some of science and technology.

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Donna J. Haraway

- She revels in the very difficulty of predicting what technology's effects will be.
 - The 'lively, unfixed, and unfixing' practices of science and technology produces 'surprises which just might be good ones'.
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For she revels in the very difficulty of predicting what technology's effects will be okay the lively unfixed and unfixing practices of science and technology produce surprises which just might be good ones how focuses on the western theme of purity of the natural purposes and translation of sacred boundary edge the history and current politics of rationalism in Europe and united states of to set off at cute anxiety in the presence of this supposed lay high ethical and ontological themes okay.

If you slightly recall what is the ethics, ethics is this study of nature of conduct but in ontology I mean we discussed in selective the ontological questions, ontology what is big what is existing okay that is why in the in the appeal I mean it is important to hear in the biotitic debates the intend tools of fear for the alien and suspicion of the mixed variety the appeal to introit natures along it try to look at a mystification of kind and purity aced to the doctoral of wide racial hegemony and evilness integrity and purpose that to per meet north American cultural history.

How you know that this appeal to sustain other organ gens inviolable intrinsic natures and is intended to affirm the difference from humanity and their claim on lives lived on the terms and not mans they appeal aims to limit turning all the world into the source for human appropriation but it is the problematic or moment resting on unconvincing biology histories erased for other organisms as well as for humans in the doctrine of types and androgens purposes and kind of time less in nature is piously narrate it.

If you look at these then the unsent together mixed of history of living beings okay who is long tradition of genetic exchange will be the envy of industry for a long time to come gets sort shift more fundamentally in the mixed of the unless fair race is everywhere reproduced at real forced everywhere unspeakable and infamies okay and everywhere deferred obliquely as in top of urban under classes diversity illegal aliens wilderness preservation terrorists viruses immune deficiency they are going to invaders and crack babies.

I cannot hear discussion I mean, I mean what, what how away try to interrogate okay that receivers I mean how away tried to try not to look at disharmonies crosses among or try to avoid disharmonies crosses among organic beings and of implanted alien gens without hearing inflected in gene fabrics impound look it at in the belly of the monster how ever found the disposes of natural harmonic the non aliens and purity and salvable for understanding our genealogy of the new or lot.

The way how ever tried to look at this the difficulty of predicting technologies effects I mean in turn I mean emotionally intellectually morally and politically to the natural at the peer perhaps, perhaps for how way it is converse to hear the dangers of resigen in the apologies of genetic engineering and especially transgenic at just the movement when national and international qualicens of indigenou consumer famines environmental and development nongovernmental organizations.

I mean civil society organizations have found to approach commercial agiens and expropriation of human animal and implant genetic materials although the morals scientific and economic resources are far from simple however approached the patenting of animals human genes and much plant genetic material okay.

It is important okay when we patterned what kind of things you are going to pretend if you are going to patented medicine then it will be accessibility of many, many, many inspections of the population in the world if we petted seed that our food systems will be at state okay that is why however I just humanitarian okay see approached pretending of animals human genes and much plant genetic material genes for profit are not equal to science itself or to economic health.

Genetic science is in politics are at the haunt of critical struggles are equality democracy and sustainable life. The global co modification of genetics resources is a political and scientific emergency and intelligence are among the key actors in bi politics just said they have to be in nuclear culture but the actors in bi politics, just as they have to be.

But the tendency by in a interesting manner reflected on the political left okay or the area of the political spectrum okay, to collapse molecular genetics bi technology profit and exploits into one un differenced mask is at least as much of the mistake as the mirror image reduction by the right of biological or informational complexity to the gene and it is for incarnation, including the dollar.

Interesting deflection on this, objects I mean many unique things can come up now, I mean stem cells for example are those cells in an organism that retain the capacity to differentiate into any kind of cell. Stem cells can regenerate the whole array of the cells types possible for that life for. Stem cells the notes in which the potential of entire world is concentrating. Objects like the fittest, computer gene rays eco system brain database stem cells for the techno scientific body.

Each of these curious objects maybe fitters, chief, gene, computer whatever bomb database whatever you say I mean each of this curious objects in a recent construct or material of knowledge forced by practices in the furnishes of techno science to be a construct does not mean to be unreal or medium. When you say technology is a constructed one it does not imply that it is unreal. Infact it is quite the opposite it is real, okay.

Out of each of these notes are stem cells sticky trades lead to every nook of the waltz. To follow is an analytical emerging physical and political choice okay. However he was committed to showing how each of these stems knot of knowledge making practices industry and commerce popular culture, social; struggles human and non human accent, local and global fudge and many more.

For example a seed contains inside it is coat that the history of practices such as collective, breeding, marketing taxonomizing, bi chemically, analyzing, advertising, eating, cultivating harvesting, celebrating and starving okay. These may be the functions of the seed a seed produced in the bio technological institutions, now spread around the void contains the specifics in for the labor systems.

Pest control procedures, marketing and land holding and beliefs about hunger and well being, similarly at database is a technical and ectopic objects that structures future accessibility why would we create database? So that in the future we can depend on that okay, in database is an ideal place where are elements are equally greet and everyone can access all of that in the future. The database is contained sight for contestation over techno scientific works of democracy and freedom.

It is very important, if democracy and freedom will be removed from the preview of the database then the database losses it is many. Both the gene and the brain are database literally build in the experimental multi disciplinary, documentary, prospectively information management and other practices of the human gene project and human brain mapping project. What in a nut cell in the context of the sibyl organism and so on, what Haraway try to examined?

Let us sum up okay Haraway try to work out at least some of the knots that again I repeat knots how attempted to work out at least some of the knots that constituted genes databases, chiefs, computers, seeds and so on. Her accounts are clearly not exertive as seed no they are regressively

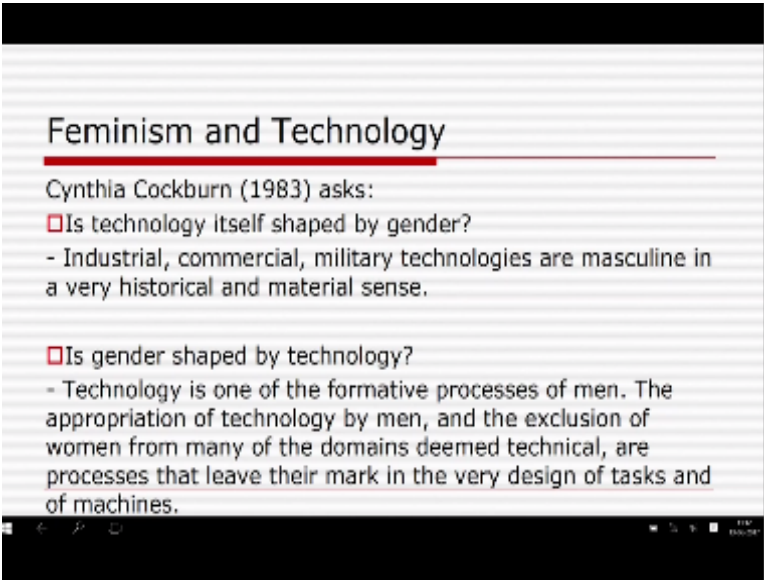
cognitive but they had intended to be more than merely justice about the connecting tissues, lubricants coats and actors in the worlds we must care about.

And such about stem cells and within each of them are links that matter in what gets affectionately called the real world. How do technoscientific stem cells link up with each other in expected and unexpected ways and differentiated into entire worlds and ways of life. It is fantastic; it is interesting to note this okay. How do technoscientific stem cells link up with each other in expected as well as unexpected ways and differentiate into entire worlds and ways of life.

How do they differently situated human and non human actives and encounter each other in interactions that materialize the worlds in some forms rather than the others. Haraway objective, Haraway purpose is to argue for practices of situated knowledge in the world of technosciences. That is why he is contacted that is why we allowed these quest okay.

Around the objective of Haraway is to argue for a practice of situated knowledge's context the fixed knowledge's okay in the world of technoscience worlds which fibers in filter deep in wide throughout the tissues of the planet including the places of personal bodies okay then what we have discussed till now in this lecture.

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Feminism and Technology

Cynthia Cockburn (1983) asks:

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 - Industrial, commercial, military technologies are masculine in a very historical and material sense.
- Is gender shaped by technology?
 - Technology is one of the formative processes of men. The appropriation of technology by men, and the exclusion of women from many of the domains deemed technical, are processes that leave their mark in the very design of tasks and of machines.

We started with how I mean what is the relationship between gender and technology okay whether the technology is itself set by gender or gender is set by technology I mean feminism control of technological systems then we discussed the relationship between ethnicity and technology I mean when we say the relationship between gender and technology when cook burn boost this question this technology itself set by gender see effect to industrial communal and merit technologies which are musical in a very historical.

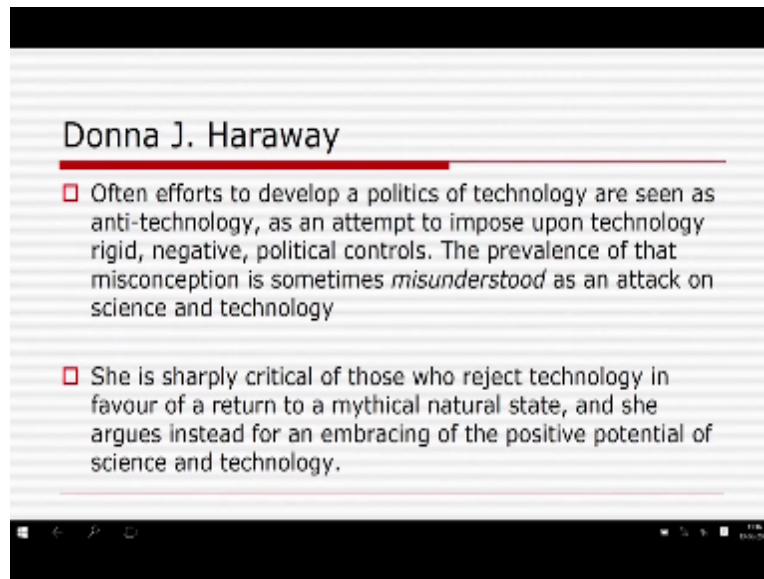
And material sense will cook burn forced the second question is gender set by technology in this sense technology is one of the fanatic process of men I mean the approximation of technology by men and the exclusion of women from many of the domains being technical or process that need they mate in the very design of tasks and of messes in ethnicity and technology we have discussed how technology has been set by ethnicity in that conventional values sense of skin scholars had been the benchmark in the development of autographic.

And film technologies technology has well constituted ethnicity in that convectional hierarchy of the desirability had been reinforced by the reproduction of white placing play stone rather than unpleasantly diffuse there from on we have come to point of cyborg or cybernetic organism as enriched by donna J Hardaway I mean the cyborg is the figure in the both material.

And fanatics sense of real and imaginary sense which explore the implications for life in the context of techno science okay I mean Hardaway tried to Hardaway always used the term techno science because for here for STS scholars mostly science and technology are in separable that why I see induced the term science and technology separately if we use the term techno science the liberty reporting potential of science and technology involves in the greater power of science and technology to create new meanings new entities into make new worlds this is the modulus perceptive on new meanings.

And modules perceptive on new entities new module perspective on new worlds while critical of many aspects so the way things certain such as the wholesale extending of private property to pending life on how the way one second the purist rejection of this unnatural hibernate entities produced by a by technology although she was very much opposed to pending of animal human beings and much planet genetic material I mean for the example the introduction of gene from flowers into tomato which leave in pole seas which enables the tomato to produce a fruit index freezing.

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From there on Haraway goes on to reflect on of an effects to develop a politics of technology as seen as entity technology as an attentive impose upon technology region negative political controls the prevalence of that miss conception is sometimes misunderstanding attack on science and technology okay Haraway is sort in a critical of those who reject technology in favor a written to a multiple natural stage or metaphorical stage rather see argue instead for an emplacing of the positive potential of science.

And technology Faraway reveals in the very difficulty of the predicting what technologies effect will be in this sense she reflects on the lively unfixed and unfixing practices of science and technology that produces surprises that which produce I mean the lively unfixed and unfixing practices of science and technology which produce surprises is just might okay and the purpose Haraway is purpose is to argue for the practice of situated knowledge's in the worlds of techno science worlds which fibers in filtrate deep in white throughout the pieces of the planet including the flames of our personal bodies okay in the next lecture what we are going to do we are going to discuss in the next lecture we will wide up two components especially two components to establish for the social settings of technology.

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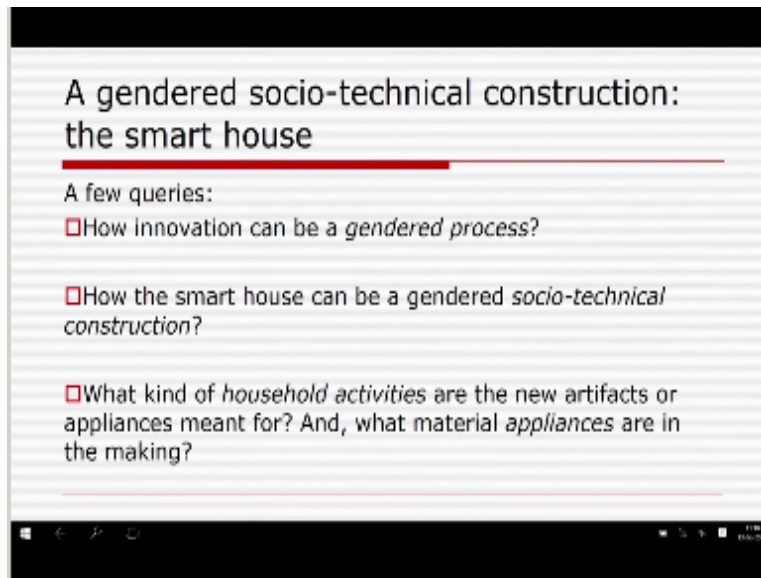
The machine versus the worker...
excerpts from Marx's writings

- Machines, in general inventions since 1830, are the most powerful weapon for repressing strikes (revolts of the working class against the autocracy of capital).

In the words of Nasmyth, the inventor of steam-hammer
"the characteristic feature of our modern mechanical improvements, is the introduction of self-acting tool machinery. What every mechanical workman has now to do is not to work himself but to superintend the beautiful labour of the machine. The working class that depend exclusively on their skill, is now done away with it."

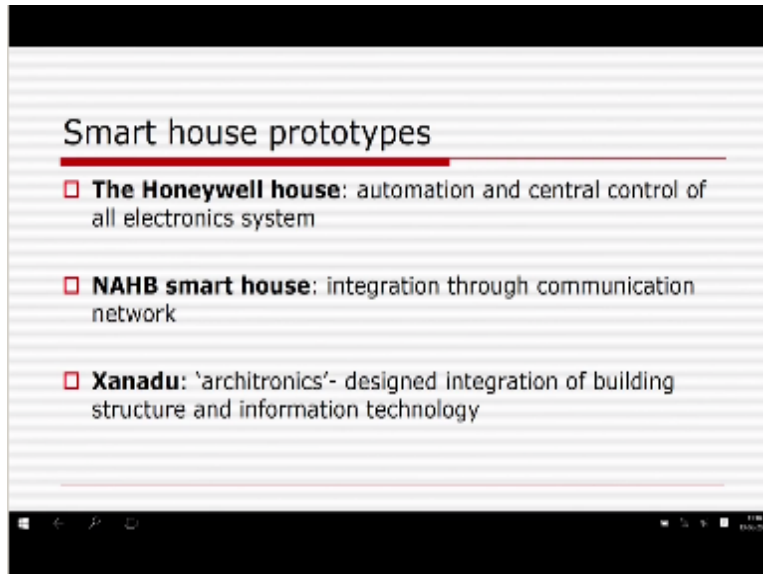
One was the accepts from Marx's writings okay the machine versus the worker.

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And technology and capitalist control by and then we will come for to a gender to a social technical construction in the context of the smart house.

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Case the smart house prototypes and what do designers have in mind when we go out with construction when we go out with a design okay house work out of side out of mind we social group reverent we mean or and I mean that marginalized communities individual communities significant the revolt social groups but they are mostly they are neglected removed while constructive a particular technology that is why we will discuss how our smart house is a masculine construct.

That decline of the one size fits all paradigm history of contraception if technologies the institutionalization of women has the other shift in focus from similarities to differences the institutionalize of women has the other and then we will discuss development of the fast physiological means of concepts and focus exclusively on women one size fits on and it is and counter arguments to such notion of one size fits all and how to whether we should modify technology to fit people or we should modify people to technology that is different thing before we go into our discussion go into discussing the information society issues and allusion by David line okay thank you.

**Centre for Educational Technology
IIT Guwahati
Production**

HEAD CET
Prof. Sunil K. Khijwania

Officer- in- Charge, CET

Dr. Subhajit Choudhury

CET Production Team

Bikash Jyoti Nath

CS Bhaskar Bora

Dibyajyoti Lahkar

Kallal Barua

Kaushik Kr. Sarma

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CET Administrative staff

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