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Section A

J. Robotics is both the biggest challenge and opportunity to the world.

"Creativity mirror the creator"

So, robotics, i.e. an innovation of human, can be a blessing or a curse, depending mainly on the desires of mankind.

Recently Daksha, the robot by DRDO successfully deactivated mines close to LOC, clearing way for border patrols by army.

On the other hand, there was a huge worker unrest in Ford's factory in Germany, where workers protested against jobs being stolen by robots deployed there.

The two events shows the inherent contradiction of the idea of robotics. Somewhere it saves human lives and somewhere it makes people jobless.

What is Robotics?

It is the application of mechanization into a job with a some amount of brain function ordained. In technical terms, it is the function done mechanically when operated through integrated circuits or chips.

Now this can be big like earth mover machines or small like nanobots. It may perform Hammering or it may help perform finest of surgeries.

It has varied forms and shapes, even without shape like (nanobots in medical investigations), performing multitude of functions.

What are the opportunities)-

Robots can minimize human labour by performing repetitive functions without fatigue. Agricultural mechanization or manufacturing in production lines are revolutionary ways to improve economic productivity.

Complex economic decisions like banking, deciding on investment mix in stock markets can be perfectly aided by robots with artificial intelligence computing big data.

Robots can help in mineral exploration such as in deep sea mining (natural hydrates, shale gas) and going deep (underground as in gold mines & Kolar) undergrounds. Otherwise these works are beyond human physical capacity.

Disaster Management and search for lives can be aided by robots. Robots can walk through forest fires, dive in flood waters, move heavy obstacles during building collapse to search for lives and even combat situations like fire.

Robots over drones can perform land assessment, environmental assay, mineral exploration using technologies like sonar and LIDAR. These efforts reduce cost, time and human interface.

Nanobots open entirely a new unexplored sphere. They can diagnose disease, deliver drugs to target organs,

, repair cracks for concrete, perform experiments in space and so on.

Space is one another frontier where robots are indispensable. Be it rovers, be it unmanned craft, robots are doing everything that human wants.

Robotics is a distant construct today.

A person without leg can walk with smart legs integrated to his neural system.

Stephen Hawking continued his great experiments where each of his physical function was assisted by robots.

On a futuristic note, smartphones or Personal Digital Assistant can be replaced by personal assistants somewhat akin to Tony Stark for the protagonist in the movie Ironman.

Is robotics is sufficient to reap the benefits? What are other factors that help it serve?

Robotics is an emerging subject requiring profuse research and development. Though developed countries, can afford the future it holds. for countries like India from the third world, there are other economic priorities like poverty and hunger which reduces total R & D budget to paltry 1% of GDP.

Robotics has little acceptance for countries with Cheap labour Workers see them as extra pair of hands competing for limited job market. Drivers can't

"a robot "in one sense, is rejected by taxi drivers whose livelihood seems challenged.

Technological progress is another challenge.

To better robotics, the way out is giving it thinking function or self-learning function (as in artificial intelligence) - But viable models needs miniaturization.

The big data which helps in machine learning is not under mitigation in every other country under right to privacy violation.

There is no universal model for robotics.

The laws of Isaac Asimov which ordains a relation of slavery is not without ethical dilemma.

Challenges Robotics pose.

Robotics can be next big disruption only to atom bomb. Atom bomb kills indiscriminately, openly and creates social ~~mass~~ rejection as a policy instrument. But robotics, in the hands of non-state actors or proxies of states can kill specifically, silently in a clandestine manner.

The same drone was used to demolish terror strongholds through aerial attacks. Robotics when applied in warfare can bring too much uncertainty that can usher anarchy.

Robots when applied in stock trading can perfect the future trading. So, big data when applied obviously can bring windfall margins with for the agents with access to advanced machine trading.

In developing countries mechanization for agriculture and industries can disrupt already reducing employment scenario. Demographic dividend can turn into demographic bagedy and popular unrest.

Stuxnet paralyzed Iranian nuclear facilities. "Wannacry" said to violate even Home Ministry and PMD sites. Sensitive information when acquired through cyber terrorism or deployed robots can anger an information war. Robots can relentlessly pursue data mining. This ability was allegedly used by Russians to influence American voters' sentiments to influence presidential 2016 election in USA.

Robotics when allowed to have evolving conscience can lead to traditional value system degradation. A robot when self conscious make own inviolable ethical parameters for destruction of human and self protection. This is again a futuristic idea. The same has been depicted by science fiction movie "Matrix" where machine rules the world;

Robotic consciousness - an opportunity or challenge

In another movie, "Battleground", a human protagonist talks to the "creator" (a superior race) of human beings. The human shows creator an android "David", and introduce David as humane creation, as playing God.

The underlying theme is very thought-invoking. To make a robot is an innovative evolution and will only get better with time. "Man" is the best template for robots to set model into. Naturally, Conscience has to be inducted. Now when consciousness of artificial intelligence imparted into robots, what will be its status? Still a slave of human? What will be its aspirations to serve human or better evolution than human?

Before reaching that status there will be another stage i.e. bioaugmented human i.e. hybrid of robot and human, exceeding natural physical and mental capacity of human. Now this kind of robotics can keep a divay "divyang" to walk, to see, to paint. On the other hand, it can give rise to "super soldiers".

If all depends on the creator, how he designs his creation. In the continuation of the same movie, we see David developing paranoia to understand & theories of evolution. He hates it kills

all the humen in the spacecraft. It destroys the planet of "creators", only while its own ~~experimenting~~ experimentation with "life", continues.

Robotics can be a boundary or a thin line, which demands maculate precision from the human while deciding how far to develop and what to develop.

Robotics should not be the death created by man.

On the other hand, robotics with artificial intelligence can co-exist on Earth, helping to develop together.

Grey or colourful - what is the future of robotics?

Staying foote in presence and having a vision of the future are what needed while deciding on robotics.

Robotics can solve many complex and compelling problems of human life. It can help understand human physiology and pathology through nanobots to develop "personalized medicines". It can help explore deep space and dark energy. In short, it can be the catalyst to accelerate human progress.

But it depends on regulations or external safeguards and personal ethical constraints of the innovators which decide what we build, weapon or friend.

Global cooperation and sound legal framework in development and applications.

It should be a facilitator not a thief of others' rights on resources.

Who or what decides fate of robots?

It depends on who decides its source code or mother board. Normally states being the funding agency decides the role for robotics.

There would ^{be} one declared as a goal and another undeclared goal, expectedly for state. for the world, it would build robotics for humanitarian uses. for the oblique, selfish interest it would develop weapons of robotics.

After a certain stage of development, it depends on how much computing power left for the robot to develop consciousness based on machine learning. Tools here shared computing, & can be a weapon for robots to turn them against human. Shared computing creates multiple presence at same time. So a simple switch off won't be able to turn off a rogue robot.

Moreover, a robot would know the vulnerabilities of human, physically, mentally and emotionally.

If it acquires human characteristic traits it would be dangerous. Esimov's three laws of robotics would seem too naive to control robots.

Again, whether robot will steal jobs, render labourers jobless, widen the inequality, bring more discontention, depends on the usage as planned. Not robots, but its human masters will be responsible.

"Digital Divide" will give way to "robotic divide". as few will be able to afford, others not. This again depends on the makers. A non state actor can trash ethics to make killer bots.

on resource

In Upanishad there is a concept called "accountability of knowledge" a Robot It warrants sustainable and ethical use of knowledge. It says knowledge when applied for evil purpose can bring "yama" but vice versa can bring "Khama" or empathy.

Similarly, "Robotics" should be an accountability of science towards humanity.

Conclusion

There is a branch of robotics which is called robotical surgery. This has envisaged a new avenue in surgical cure to tumors especially in inacessible areas previously unthought of reaching. Now so tiny robots can reach the deepest recesses in the brain to reach out to the malignant growth and deliver brachytherapy there only, minimizing side effects due to medications. Previously mid ~~year~~ ^{term} survival rate was less than 1 or 2 years. Now it has gone upto 10 years with minimal impact on DALY scale.

Volga has been Russian pride

and a magnet for population pollution also. Robots deployed there clean the river even in subzero temperatures.

Similarly in Chernobyl site, robots only can go and fetch the residual radiation records. No nuclear accident mitigation has a solution in Robotics.

Robots can supplement soldiers in Siachen frontier if Indo-Pak both agree. So, robots can help protect our sovereignty also.

As Vivekananda said, "To loose trust is evil". So we should start to trust robots. They will deliver benefits. They can bring equality. It will be difficult to codify corruption in programming of robots. So, on a lighter note, robots can solve our lack of probity in public life; and balance corrupted human.

Robotics ushers a new era, we can that we should welcome. Adversities are natural but logical. Our ethical deliberations can extract best out of robots;

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Section B

2. A civilized society must recognize that woman is a mother, a daughter, a life partner, but above all she is an individual.

Bhagvat Gita notes Srikrishna as saying

"~~You~~ know that prakrti and purusha both are begininglers, and modifications and gunas arise from prakrti"

"Prakrti" is women. She has been portrayed in "Shantism" as "Shakti" who has multipresence, in multiple forms ("shatarupena adhistaya"). Shakti, as Parvati in Shiva's consort, as "Durga", the protector of goodness. ("Asworbhavashini"). As Maa Kali she is the co-destroyer of the universe. Same "nari shakti" has been painted by Vivekananda and Ramakrishna as her Vedanta, as "Dakhina Rani" who takes care of her "prayas" i.e.

Human

Searching in Indian ancient traditions we can find the centrity of womanhood. It creates, it nurtures and it destroys. It is the power, eternal and unlimited:

In society we see women playing different roles but unfortunately those roles take over their individuality.

"Shakti" has been chained by social customs, where she cannot decide her roles, her destinations. Women has been bound through ancient and medievalic paternalism. Though, modernity is in full swing, women still lack the self-determination as an independent individual,

Different roles played by women

"Society is a house of customs and customs create person" person"

Right from birth, woman has their identity preoccupied. In the first electoral roll prepared for India in 1951, the majority of women did not have name. They were registered as, daughter of some father, wife or some husband or mother of some son. So unfortunate that India, boasting of its tradition of women empowerment, failed to name its half of the population.

The paternal outlook of the society does not want daughters to be born (The Mystery of missing woman as elucidated in metapreference of last child born fitted to male - Economic survey 2018-19). Even if they are born, they remain missing as sisters of unborn "son". Privileges exclude them while they grow up. They don't go to better school, they are the last ones to be fed, they need to adjust to playing second fiddle to his male siblings. Daughters, who could have been the princesses of the family, are rendered to the last stigma of the word "they are daughters". They could not find relevance as human being.

Their miseries were contained, as they are married early (80% of Indian women are married before 18 years). Reason is simple, older "daughters" are not only economically unstable, but burdens in the market of marriage.

A woman did not have chance to flourish ~~educa-~~
tionally, their choices have been curbed by the
male chauvinistic society. They don't even determine
when ~~to~~ they will leap the faith of marriage. Society
and biased family decides her fate. She has to now
"play" a "wife" in her ~~the~~ "life" or societal drama.
nobody cared to ask her what she wanted. She could
not claim what ~~she~~ was rightfully her decision, because
she was not given the education to think beyond the
description of "daughter". What a story in the
land of Ram-Sita. Sita was co-equal to Rama in
all ~~the~~ chapters in Ramayana. As Rama failed to protect
her dignity, she entered into "earth". And our society
has made women as objects controlled by males,
during bringing up or during marriage.

She plays a loving wife, caring
and bringing up children. But their life is limited
within those four walls. Outside work is not allowed
by society. A female cannot work far from home.
Society says the roads are not safe. The reason is
males do not want their wives to work, to taste income
In case, work may bring independence. The favourite
"puppets" will break the shackles. India's female
labour force participation stagnates at 30%.

As a mother she is weighed
in the scale how many "sons" she produced. And
"woman becomes the daughter, daughter becomes the woman"
The saga of vicious cycles continue. And the mothers,

bereft of any economic insurance and independence, lives the life of savages, if the sons ~~that~~ considered her life to be significant enough. She dies. ~~No~~ No stone is shifted, no change happens. As Amartya Sen said, "the most uneventful death; even the"

Who is an individual in civilized society

To understand what women lack, we need to fix the benchmark of individuality which will depict the deficits, in womanhood suffers.

Individuality is the recognition of human existence in human society. Humans are social, society and state are nothing but collective existences of human. But, individuality is self-determination which is ensured through preexistent condition as per John Rawl's justice theory i.e. liberty, equality in opportunity and difference principle i.e. extra advantage to the disprivileged section (that includes women).

Self-determination has a few stages. A person must have the knowledge to understand, think and decide what is best for him and her. Individuality is like allowing oneself the end goal and the means herself.

What is the link between individuality and different role plays

A comparative study will suit the discourse. A man is also a son, a husband or a father but in contrast

to woman, identity-crisis never creeps him. He is blessed with best possible education, best-affordable careers and an independent-life. The roles are not imposed by rules of society but men make the rules of the society. Their dignified presence is beyond those roleplays of son, husband and father. For the women the reverse is true, as they are trapped within those stereotypes, beyond which they have little existence.

Womewondercraft, the famous

feminist says that, a female is trapped not only through male domination but male institutions also. A female is described by her ascriptive aspects, not by individualities. They have a generic presence, not specific presence. Society, family, state, legislation, judiciary all are the institutions which are fundamentally opposed to the individuality of women.

Vivekananda said, "The bird (woman) is never allowed to fly free in the open sky" The similar theme is found in "Beth Bachao, Beth Padhao" scheme. It spreads the requirement of empowerment, dreams for a girl. They are so much more than just a daughter, wife or mother.

This lack of individuality is proven as we find only 11% of MPs in Lok Sabha are women. Top corporate posts are dominated by male. Panchayats do have female representation close to 5%, but mostly they are proxies of male relatives, only to bypass reservation criteria;

Private sector has been paralyzed by glass ceiling effect and public sector fails the devolution of the power to women. On the other hand, World bank report says with more than 50% female labour force participation, we can have 2-3% extra GDP growth.

"It is not our fate but deliberate ignorance of male identity which "clouds our future"

— Theda Skocpol.

Is individuality sufficient for women to get over stereotyped roleplay?

Knowledge empowers men, Education imparts knowledge. Without education one is slave of "unfreedoms". And those unfreedoms (disempowerments) do not let one to understand the discrimination he is subjected to.

— World Development Report 1990.

So, only individuality is not sufficient for liberation of one female potential. There has to be empowerment of the soul. In the words of David Coleman, there must be emotional intelligence. Women must understand themselves, their potentials, their trends, their reactions to the outer world. They should understand the tone tendencies of the outside world to them. They, then only, can manage interpersonal relations to reach the heights of success.

Societal conventions play an important role. Ram Mohan

helped abolish "sati", Vidyasagar brought widow empowerment, Sabita Phule started Bahika homes. Do we need a revolution in the modern social structure also? We have ready models to follow.

As in Jaintia tribes of Meghalaya we have matriarchal society as opposed to our patriarchal society. Mother decides the norms and males follow that.

That would be too radical, too "fit for fat". That will blur the difference between male and female ethics. The key is in chauvinism and feminism ethics. The key is in peaceful mutual existence. The reciprocal respect can bring wonders. There is no foundational contradiction between two genders. Rather than engendering all the aspects, bringing gender sensitivity in all would be prominent factor. Because Gandhiji said, "treat the evil, not the evil doer."

The institutional aspect can be a deciding factor, too. So, Rawl's difference principle comes into play. There should be reservation of posts in all educational and professional posts for women as far as practicable. Till the womenhood reaches the co-equal social status of menhood, this would work as an enabler.

~~As females are truest enemy of females.~~

Though controversial, this aspect needs light too. Under domestic violence act and dowry prevention act, ~~more~~ close to 50% of all charged are women themselves.

So, if women discriminates women, it creates a situation of paradox. But this is the practical situation. There is lack of fraternity among women.

A very interesting fact was pointed out through the feminine movement of 1980s. It said "linguistic slavery". The word fraternity literally means brotherhood. Why does it not say sistership? It is said the paternalism is so deeply entrenched in our society, that even the language and the terms endanger the female identity. But exceptions were always there. Plato advised not only philosophers king but also philosopher Queen.

What is civilized society? What is its relevance to women's individuality?

Civilized society means a society with modern values and civic conscience. It is contradicted to medieval societies. But in modern context it is a relative and westernized term. As development and modernization remain fragmented throughout the globe, the civilized civilization seems to prefer only in high GDP countries with economic abundance. But as Pandit Nehru said in one of the lectures in NAM (Non Aligned Movement) summit, civilization does not exclude any third world society. It may very well be present in an egalitarian tribal society. It denotes the values of modernity like liberty, fraternity and equality.

These values are important for a women's individuality. This perception of civilization creates a fertile ground for the oppressed gender, to flourish upto its envisioned height;

What is the way forward?

"Be the change, you want to see in others."

women, themselves have to come forward. There should be a women-led, women-determined movement to determine the actions they want to spread. The movement should start from grassroots. The higher economic strata enjoys far more female empowerment than the majority rural female who face social ostracism.

There should be zero tolerance to institutions like khaps panchayets which dictate morality for women.

Ministry of Women and child affairs brought the concept of "agents of change" i.e. young school girls who bring changes in the very social outlook to female individuality. It provokes the process with emotional bondages like "selfie with daughter" campaign. Contrast when contrasted to the situation of honour killing "in the hand of father", love and affection seems exception than rule.

It should not be about need or sympathy but "rights". Equality should be attained for all sections political, economical, social all of them;

Conclusion

In the "Dangal" film, a father seems to fight to the society to train her daughters as wrestlers, That is based on an exceptional true story of "Phogat" sisters of Haryana, who went on to win medals for India in wrestling. So the daughters went on to become individuals.

Mary Kom is a daughter, is a wife and a mother of two. But she is also a trained boxer, who has a habit of winning golds. She comes from a rural background and a stereotyped society.

So, above stories prove hope is always there for women individuality to break the shackles to find the place, it deserves. continuous efforts is the only way out because

"Kaushish Kasne walo ki kabis Par nehi hoth!"

(There is never a defeat for who tries).