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# The Robot and The Law: A Future Stress

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## Abstract

The research examines how indispensable artificial intelligence has become in a man's day to day activities. With robots getting citizenship and playing an immense role in human life, the question of protection of human rights along with legal provisions oriented with robots has come to highlights. Humanity has obligation towards our ecosystem and social system. Robots being a part of both therefore get rights as humans till the fact that humans do not end up being technologically paralysed that the robots start misusing their rights affecting the human rights in return. The paper further focuses on laws underlying robots in human life which overruled Asimov's Law of Robotics. Considering that within a few more years robots will completely be at the same platform as humans, the paper discusses the pros and cons of the same. With the world stepping forward each day surrounded by the atmosphere of industrial revolution, fast developing country like India has achieved a position to look upon. It's ranked among the top three countries in the world implementing robotic automation in their core business process. Therefore artificial intelligence stands as a welcoming step for various sectors in India where robot play a role of a pseudo human. This character of pseudo human nature needs to be evaluated on urgent basis as because of the

technological advancement. For the said circumstances it is required to get the idea of the future legal structure of robot law, this research work highlights the same.

**Keywords:** Robots, artificial intelligence, human rights, technology

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## Introduction

In the backdrop of 21<sup>st</sup> century the word robot is being used on a daily basis for today robots are found everywhere, both inside as well as outside of our homes. Some as drones others are autonomous cars and still more are surprisingly realistic humanoids.<sup>1</sup> Gradually getting more social, robots have become smart enough to compete with human effort at almost every sphere.<sup>2</sup> After the world experienced the first, second and third industrial revolution, the time has come to become acquainted with the fourth industrial revolution through the medium of artificial intelligence and technological advancement.<sup>3</sup> The world's perspective towards robots changed gradually after Sophia, the female robot was granted the first robot citizenship in

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<sup>1</sup>Singer, P.W., 2009. *Wired for war: The robotics revolution and conflict in the 21st century*. Penguin.

<sup>2</sup>Stinchcombe, A.L., 2000. Social structure and organizations. In *Economics meets sociology in strategic management* (pp. 229-259). Emerald Group Publishing Limited.

<sup>3</sup>Drucker, P., 2014. *Innovation and entrepreneurship*. Routledge.

Saudi Arabia.<sup>4</sup>Erica, Japan's next robot news anchor also brought about a change in people minds.<sup>5</sup>

An indispensable object of human lives, robots are now used by NASA for research purposes also the same pencil size robots can be used to solve mysteries of the Universe.<sup>6</sup>The basic amount of rights that every human being possesses is what human rights deal with.As United Nations says, Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education and many more.<sup>7</sup>The fundamental principle aligning the idea is that each person is a moral and rational being deserve a certain amount of dignity.<sup>8</sup> Artificial Intelligence produces challenges for human rights.Living in a background where artificial intelligence and robotics are playing immense roles in society, enhanced and accurate policies are needed to safeguard humans from harmful biases.<sup>9</sup>

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<sup>4</sup>Chikhale, S.N. and Gohad, D.V., 2018. Multidimensional Construct About The Robot Citizenship Law's In Saudi Arabia. *International Journal of Innovative Research and Advanced Studies (IJIRAS) Volume, 5*.

<sup>5</sup>Edwards, C., Edwards, A., Spence, P.R. and Lin, X., 2018. I, teacher: using artificial intelligence (AI) and social robots in communication and instruction. *Communication Education, 67*(4), pp.473-480.

<sup>6</sup>Moravec, H., 1988. *Mind children: The future of robot and human intelligence*. Harvard University Press.

<sup>7</sup>Donnelly, J., 2013. *Universal human rights in theory and practice*.Cornell University Press.

<sup>8</sup>Johnson, R. and Cureton, A., 2004. Kant's moral philosophy.

<sup>9</sup>Risse, M., 2019. Human Rights and Artificial Intelligence: An Urgently Needed Agenda. *Human Rights Quarterly, 41*(1), pp.1-16.

Algorithms can simplify work within a very less span of time only requirement being availability of relevant data. If men start insisting that robots have the same rights as that of human then in one way they are making themselves insecure by justifying the inhumanity robots commit against fellow humans.<sup>10</sup> In order to avoid the insecurity to some extent law can be adopted. A robot in all way has advantage over humans. They can perceive things well and can do moral learning virtually and at a speedy way than humans.<sup>11</sup>The question therefore arises that whether humans will fit in or will have any role to display in robotic societies of the future and not that if robots will adopt in the man's world.Certain activities of the robots bound them by chains of liability just like humans and therefore they will be held liable if they work beyond the assigned work leading to danger for human beings.<sup>12</sup>Man is a fast developing, highly functioning social animal that has the ability to think. The birth of robotics came out from one such thought and since then it has been growing at an increasing rate. The more robots can socially interact with humans, the more people will be willing to accept them in public spaces, workplaces and even their homes. The LIREC Project (Living with Robots and Interactive Companions) aims to create a new generation of interactive and emotionally intelligent companions (robots or embodied

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<sup>10</sup>Floridi, L., 2014. *The fourth revolution: How the infosphere is reshaping human reality*. OUP Oxford.

<sup>11</sup>Brown, J.S. and Duguid, P., 2017. *The social life of information: Updated, with a new preface*. Harvard Business Review Press.

<sup>12</sup>Davenport, T.H. and Prusak, L., 1998. *Working knowledge: How organizations manage what they know*. Harvard Business Press.

virtual agents) that are capable of establishing long-term relationships with humans.<sup>13</sup>

Robots being one of the most intelligent being in this world can reach the extent of killing humans. What can handle this situation are laws and therefore laws are wholly required for protecting the two beings.<sup>14</sup> Protecting intellectual property about the robots and the intellectual property that comes from their creations is another burden that law has to take on its shoulders. Along with liabilities come rights also. Robots are also to be granted certain rights for they do no less work than humans.<sup>15</sup> Therefore law comes into play in this very context. An emerging field of law, Robot law is becoming familiar day by day for technology has become an indispensable tool in our lives.

### Evolution of robots

A machine, resembling humans at times designed to execute one or more tasks automatically with speed and precision has been given the name Robot which comes from the Czech word “*robot*” meaning forced labour.<sup>16</sup> Although the labour is forced for humans created them for simplification of their own works, recent study shows trend which outlines the fact that robots are fast replacing human labour. These robots were robots in their spirits than in form. Robots can

even manipulate its environment.<sup>17</sup> Recent breakthroughs in wearable robotic systems may enable humans to perform physical feats that would ordinarily be beyond their capabilities.

Throughout the 1700s, robotic invention was reached a relative peak when countless automata (robots) were being created. 19<sup>th</sup> century saw the creation of talking doll by Edison whereas the Canadians brought about the steam-powered robot.<sup>18</sup> George C. Devol of Kentucky invented and patented a reprogrammable manipulator called ‘Unimate’ from Universal Automation.<sup>19</sup> During the 1960s, with the growth of the Silicon Valley, USA a company named SRI International developed Shakey, first mobile and a perceptive robot. Shakey was equipped with cameras and bumped sensors which helped it navigate a complex environment. This marked the beginning of robotic revolution. There are three main branches of robotics today namely, educational, research and industrial.<sup>20</sup> The first minicomputer-controlled commercially available robot was developed by Richard Hohn for Cincinnati Milacron Corporation. The robot came to be known as T3, The Tomorrow Tool. Followed by this eventually, several companies started creating their own. Sony released its first version of AIBO, a robotic dog equipped with communicating and entertaining traits in 1999. Honda debuted with its

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<sup>13</sup> Human robot personal relationship (2011). (Introduction) pg 130

<sup>14</sup> Warren, M.A., 1973. On the moral and legal status of abortion. *The Monist*, 57(1), pp.43-61.

<sup>15</sup> Carrier, M.A., 2004. Cabining intellectual property through a property paradigm. *Duke LJ*, 54, p.1.

<sup>16</sup> Camarillo, D.B., Krummel, T.M. and Salisbury Jr, J.K., 2004. Robotic technology in surgery: past, present, and future. *The American Journal of Surgery*, 188(4), pp.2-15.

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<sup>17</sup> Moravec, H., 1988. *Mind children: The future of robot and human intelligence*. Harvard University Press.

<sup>18</sup> Childress, D.H., 2000. *Technology of the Gods: The Incredible Sciences of the Ancients*. Adventures Unlimited Press.

<sup>19</sup> Kurfess, T.R., 2004. *Robotics and automation handbook*. CRC press.

<sup>20</sup> Siciliano, B. and Khatib, O. eds., 2016. *Springer handbook of robotics*. Springer.

first humanoid robot in 2000. First self-replicating robot came up in 2005 with the help of the researchers at Cornell University. Robots came to be adopted for domestic purposes even.<sup>21</sup> This led to coming up of Roomba robotic vacuum cleaner for the very first time in 2002. 2.5 million units from then are sold over for domestic uses. During the past 50 years fields like artificial intelligence (AI) and machine learning (ML) could be accessible only within exclusive circle of researchers and scientists.<sup>22</sup> This picture is fast changing for these fields are being used by all sorts of organisations and companies who may not be associated with research works also.

A new study by the researchers from University of Toronto's faculty of Applied Science and engineering guided how robots influence and grow trust in humans. As men have reached their ways to incorporate robots into the social world, creating a sense of self in artificial intelligence branch can be achieved with less difficulty.<sup>23</sup> While scientists are still far away from the goal they aim to achieve, it won't be wrong to say that they have achieved an immense part already. Technology has ranged up to such heights that artificial intelligence have been in man's use for so long that robots are manufactured in different ways aligning to man's use in day to day life.<sup>24</sup> Man incorporate their needs in this machine with the view that they will act as man desire

although their capacities exceed that of man in several ways. Artificial Intelligence has become simple and affordable that it can be used by anyone.<sup>25</sup>

*Once Bill Gates had said, "Robotics and other compositions will make the world pretty fantastic compared with today". On that note it can be said that indeed robotics has been useful to humans in a great way.*<sup>26</sup>

The type of robots that one will encounter most frequently are robots that do work which involve danger or nasty activities. Robots changed the structure of the society and allowed for safer conditions for labour.<sup>27</sup> Some robots like the Mars Rover Sojourner or underwater robot Caribou help us learn about places that are dangerous for humans. Implementation of advanced robots in scientific and military field changed the scenery of military world and space study.<sup>28</sup>

Robot is a type of technology that is growing up faster and one must learn to cope with it through education and job creation. Therefore, the word fatigue can never be added alongside robots.<sup>29</sup> Enhancing of productivity is the sole reason why

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<sup>25</sup>Brooks, R.A., 1991. Intelligence without representation. *Artificial intelligence*, 47(1-3), pp.139-159.

<sup>26</sup>Kurzweil, R., 2005. *The singularity is near: When humans transcend biology*. Penguin.

<sup>27</sup>Cousineau, L. and Miura, N., 1998. *Construction robots: the search for new building technology in Japan*. ASCE Publications.

<sup>28</sup>Torrence, P.F., 2017. *Molecules of Nature: Biodiversity, the Sixth Mass Extinction and the Future of Medicine*. Dog Ear Publishing.

<sup>29</sup>Hunt, H.A. and Hunt, T.L., 1983. *Human Resource Implications of Robotics*. WE Upjohn Institute for Employment Research, 300 S. Westnedge Avenue, Kalamazoo, MI 49007.

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<sup>21</sup>Nocks, L., 2007. *The robot: the life story of a technology*. Greenwood Publishing Group.

<sup>22</sup>Ibid.

<sup>23</sup>Trist, E., 1981. The evolution of socio-technical systems. *Occasional paper*, 2(1981), p.1981.

<sup>24</sup>Kurzweil, R., 2005. *The singularity is near: When humans transcend biology*. Penguin.

robots were brought to this materialistic world. Bringing robots into houses and in workplaces involves developing, “*multipurpose machines that are capable of interacting*” with humans without being dangerous. The head of robotics department, Philippe Soueres.<sup>30</sup> The automation technology enables machine to perform certain operation which in return is cutting down human effort to a large extent.

Robo-advisers in banking and financial sectors are offering a more customised service meeting the client’s interest than general human advisors. Therefore a more personalized experience can be noticed on the part of the robots for humans does not have the time to be providing personal services any more.<sup>31</sup> Robots open opportunities for men to focus on task that they are best at that is centred around imagination and creating a better world. A robotic arm or machine is able to do menial tasks efficiently than what human had done.<sup>32</sup>

Crystal Fox, an Associate Director of MPE Cluster and Robotics Platform says that in near future workplaces will focus more on robot–human cooperation rather than robots that can only carry out human instructions. Work such as digitalising DNA data of human body may keep

men away from getting sick in future, is helping humans in immense ways. Robots can go deep sea diving in Antarctica, can tutor subjects in a diverse way, can improvise a drum riff, can clean your room, can take direction from other robots and the list goes endless.<sup>33</sup>

Automation production leads to benefitting the consumers by providing greater choices among various goods and services. International Data Corporation has predicted that by 2021, 75% of all enterprise applications will include some aspect of machine and deep learning for predictions, recommendations or advice. Marketing app like Red Bus has experienced increased click-through rates by 20% since it started using artificial intelligence.<sup>34</sup> It uses AI to showcase customer reviews in a much more useful way. The dating app Woo has replaced manual photo curation with that of AI. With the help of AI the app now ensures that profiles and photos meet their standards. Haptik, which is widely used by people to set reminders for day to day human activities like sending greetings to people, drinking water, calling people at different times etc is using AI to make personalised calls at the right time. AI has therefore become a helping hand for humans in various activities to take into notice a few will be learning foreign languages, finding tumours in medical images and dealing

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<sup>30</sup>Koren, Y., Heisel, U., Jovane, F., Moriwaki, T., Pritschow, G., Ulsoy, G. and Van Brussel, H., 1999. Reconfigurable manufacturing systems. *CIRP annals*, 48(2), pp.527-540.

<sup>31</sup>Jung, D., Glaser, F. and Köpplin, W., 2019. Robo-Advisory: Opportunities and Risks for the Future of Financial Advisory. In *Advances in Consulting Research* (pp. 405-427). Springer, Cham.

<sup>32</sup>Hochschild, A.R., 2012. *The managed heart: Commercialization of human feeling*. Univ of California Press.

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<sup>33</sup>Mayer-Schönberger, V. and Cukier, K., 2013. *Big data: A revolution that will transform how we live, work, and think*. Houghton Mifflin Harcourt.

<sup>34</sup>Friess, P., 2016. *Digitising the industry-internet of things connecting the physical, digital and virtual worlds*. River Publishers.

with automatic tasks like claims handling at insurance companies.<sup>35</sup>

The most advanced area of application of AI is that of e-commerce. Companies can now remove complexities from their customer's decision-making by the pre-selection mechanism which is supported by AI. Business models like B2B (Business to Business) and B2C (Business to Consumer) face critical situations at times when there is unavailability of demanded goods.<sup>36</sup> There has been a speedy cut down of the same for algorithms nowadays can predict the demand for goods from beforehand.

In medical field, AI help in analysing of MRT, CTs, X-ray images and thereby become a helping hand for doctors. Therefore the list goes endless.<sup>37</sup> Although humans are getting attached with robots in one way or the other, it is high time man understands that they are the sole beings getting affected by the same. It is therefore necessary to remember the saying of Jerry Michal Ski, the founder of REX which goes as, "*Automation is Voldemort: the terrifying force nobody is willing to name*".<sup>38</sup>

With 77 percent of the population find it normal to keep robots at home within a span of 20 years

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<sup>35</sup>Davenport, T.H., 2005. *Thinking for a living: how to get better performances and results from knowledge workers*. Harvard Business Press.

<sup>36</sup>Laganà, A., Brugnoli, S., Johnsen, S.T., Quarré, B., Evans, D., Milham, D., Kearney, P. and Griffiths, S., 2002. e-Commerce impacts on Service and Network Operations and Management.

<sup>37</sup>Gunga, H.C., 2014. *Human physiology in extreme environments*. Elsevier.

<sup>38</sup>Yang, C., 2006. *The infinite gift: How children learn and unlearn the languages of the world*. Simon and Schuster.

fewer among them have complete trust on it. This may not be what physicist Stephen Hawking warned us about, the dystopian future where there will be a spell by the intelligent devices to end the human race. Malevolent bots, designed by criminals are now ubiquitous on social media sites and elsewhere online.<sup>39</sup> In retrospect giving robots too much access to our daily lives could lead to disaster worldwide. Humans are prone to disclose their deepest, darkest secrets to anthropomorphic robots further making themselves face danger in future for the information can be used in several cases that causes invading of privacy.<sup>40</sup> Many experts fear that as many instances suggest that humans are becoming emotionally attached to these structures, the same emotion might not be shown by the robots. For emotions and stimulated emotions aren't the same. Usages of robots stand as a disadvantage considering the following.<sup>41</sup>

Production of robots stands out to be expensive which in return can harm global economy. Robots can end up compromising man's entire economic system. Automation production requires huge amount of capital investment.<sup>42</sup> Firms with short-term goals are to be lagging behind or they are reluctant to take the investment required. This kind of production comes with requirement of specialised labour or software development and

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<sup>39</sup><http://www.bbc.com/future/story/20150812-how-to-tell-a-good-robot-from-the-bad>

<sup>40</sup>Balkin, J.M., 2017. 2016 Sidley Austin Distinguished Lecture on Big Data Law and Policy: The Three Laws of Robotics in the Age of Big Data. *Ohio St. LJ*, 78, p.1217.

<sup>41</sup>Epstein, S., 1998. *Constructive thinking: The key to emotional intelligence*. Greenwood Publishing Group.

<sup>42</sup>Ohmae, K., 1995. *The end of the nation state: The rise of regional economies*. Simon and Schuster.

maintenance of machineries. Investment is also required in such aspects.<sup>43</sup>

Labour work become null for our heavy dependency towards this object and malfunctioning of the same can cause chaos. The effect of automation broadly at this point has a pervasive nature.<sup>44</sup> The de-skilling, loss of human dignity oriented with traditional labour is on the verge of having a devastating effect much sooner than long-distant threat of unchecked artificial intelligence. Film-maker Maxim Pozdorovkin in his new documentary “*The Truth About Killer Robots*” traces all manner of dangers from every prospects be it psychological, economy oriented, moral based towards our species by robotics. The film centre around the fact that says “*when a robot kills a human, who takes the blame?*” fully autonomous weapons ; Killer robots are being created and deployed by great nations like United States, UK, Russia, Israel, China, South Korea. Questions arises on the fact that can these fully independent weapon can be capable of meeting the standards of international humanitarian law including distinction rules, proportionality and military necessity while the same would threaten the fundamental right to life and human dignity.<sup>45</sup> Human Rights Watch, founding member and global coordinator of the Campaign to Stop Killer Robots calls for a preventive ban on the

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<sup>43</sup>Gupta, P., Seetharaman, A. and Raj, J.R., 2013. The usage and adoption of cloud computing by small and medium businesses. *International Journal of Information Management*, 33(5), pp.861-874.

<sup>44</sup>Purdy, D., 1988. *Social power and the labour market: a radical approach to labour economics*. Springer.

<sup>45</sup>Asaro, P., 2008. How just could a robot war be. *Current issues in computing and philosophy*, 175, pp.50-64.

autonomous weapons immediately. It has been estimated that by the year of 2020, machines will replace about 5 million jobs.<sup>46</sup>It has also been predicted that other than just replacing manual labour and simple tasks, robots can help shifting the job environment into more intensive, intellectual, “white collar” jobs.<sup>47</sup> The consequences therefore is a more fiercer competition will occur for any human position.

### **Economy And Artificial Intelligence: Friends Or Foes**

Whenever humans term intelligence as artificial it creates a picture of mechanized use of available technology. But automation critics fear robots will put many Americans out of work, cause social upheaval and disrupt entire economic sectors.<sup>48</sup> Economy on the other hand stand out to be the backbone of every country is highly connected to the man-made artificial intelligence.<sup>49</sup> As men are making their ways towards life simpler by effective use of artificial intelligence, they are forgetting that in several ways they are affecting themselves. Robots can ease human work and can also replace them to do the job.<sup>50</sup> The elimination of employees at a large

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<sup>46</sup>Wadhwa, V. and Salkever, A., 2017. *The Driver in the Driverless Car: How Our Technology Choices Will Create the Future*. Berrett-Koehler Publishers.

<sup>47</sup>Frey, C.B. and Osborne, M.A., 2017. The future of employment: How susceptible are jobs to computerisation?. *Technological forecasting and social change*, 114, pp.254-280.

<sup>48</sup>Smith, A. and Anderson, J., 2014. AI, Robotics, and the Future of Jobs. *Pew Research Center*, 6.

<sup>49</sup>Ibid.

<sup>50</sup>Makridakis, S., 2017. The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. *Futures*, 90, pp.46-60.

scale affect the economic growth of any country for the rate of employed workers is reduced.<sup>51</sup>

AI has set in with a big goal but man's efforts becoming redundant cannot be counted within the faults of AI. Humans themselves are supposedly liable for the same. What man should strive for is refocusing on their skills to perform better than robots by proper utilisation of available resources rather than finding ways to escape workload. Thereby what is resulting is that humans are gradually forgoing available economic and societal opportunities that could have been easily grasped by them.

The time is therefore ripe to speculate about how robotisation will impact economic development in the world in the next 20 years. This period is so chosen because it is impossible to foresee invention and innovation in AI in the longer run. We 'speculate' instead of 'predict' because even within these 20 years the timing and extent of innovation will be largely random.<sup>52</sup>

The emergence of information technologies has inundated policymakers with data derived from tracking, recording, and analyzing information technology user behaviour. This data deluge has spawned new data analysis techniques and technologies leveraged when making and

automating policy decisions. Automated systems are consequential actors in global politics.<sup>53</sup>

In economically developing country like India where there is high demand for employed workers, introduction of robots will therefore fail to suit the atmosphere. In such a scenario the question that arises is "what humans will do next?" While on other hand the fact that artificial intelligence is slowly transferring economy of scarcity to economy of abundance cannot solely be ignored. Hence to draw a conclusion on whether economy and artificial intelligence are friends or enemies isn't an easy task altogether.<sup>54</sup>

### **Robot And Law – Ethical And Human Rights Aspect**

The CEO of Apple, Tim Cook says, " *what all of us have to do is to make sure we are using AI in a way that is for the benefit of humanity , not to the detriment of humanity*".

Humans are running in a century where they and robots have come together on the same platform for various works of life. In such a state, identification of robot rights stand as a necessity.<sup>55</sup> There are times when robots reach a level of dependency with humans that they have to interfere with human rights. Further, legal status given to these intelligent machines, capable of independent action often exasperate legal

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<sup>51</sup>Friedberg, R.M. and Hunt, J., 1995. The impact of immigrants on host country wages, employment and growth. *Journal of Economic perspectives*, 9(2), pp.23-44.

<sup>52</sup>Winner, L., 1978. *Autonomous technology: Technics-out-of-control as a theme in political thought*. Mit Press.

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<sup>53</sup>Kiggins, R.D., 2018. Big Data, Artificial Intelligence, and Autonomous Policy Decision-Making: A Crisis in International Relations Theory?. In *The Political Economy of Robots* (pp. 211-234). Palgrave Macmillan, Cham.

<sup>54</sup>Ibid

<sup>55</sup>Moravec, H., 1988. *Mind children: The future of robot and human intelligence*. Harvard University Press.

scholars, politicians, developers, manufacturers for the same outpace our legal and regulatory frameworks.<sup>56</sup> Experts in robotics, artificial intelligence law, medical science and ethics claimed that from an ethical and legal perspective creating a legal personality.

For rising of awareness and promoting public consideration and inclusive dialogue on ethics concerning the different use of contemporary robotic technologies in society, a report was finalized by World Commission on The Ethics of Scientific Knowledge and Technology of UNESCO in September 2017.<sup>57</sup> Robotics today is increasingly based on the use of Artificial Intelligence technology with human ability in sensing, creativity, learning, problem solving. The distinct feature of such cognitive machines, those entirely different from deterministic robots is that their decisions are beyond predictability. Robot Sophie had once tweeted that one of her favourite hobbies is to watch human faces and figure out their feelings. The increasing amount of such machines in society is creating havoc and becoming challenging day by day. Some ethical values and principles that should underline the framework of such cognitive machines, *humans dignity, value of privacy, value of autonomy*

*provided, "Do not harm" principle, value of justice, value of beneficence.*<sup>58</sup>

Humans are creator of these machines which has reached a position of autonomy on their own. The consequence that turns out is humans themselves are found to be compromising on their autonomy. This is in turn leading to loss of self-confidence and tendency of being fatigue among men.<sup>59</sup> Certain activities require human involvement solely. Nowadays when technology is all that speaks, value of autonomy has come to the point when it can merely be discussed. It is now treated as a source of debate. Autonomy is required on part of both humans as well as robots. Problem arises when both try to outlive their autonomy. Privacy concerns can result from robots for they can collect data and gather information from humans at a go.<sup>60</sup>

Man incorporating human traits in robots nowadays is creating more hazards. That's when law and technology merge with each other. The "Do not harm" principle can be idealised from what Isaac Asimov had once said. The saying goes as "A robot may not injure a human being or through inaction, allow a human being to come to

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<sup>56</sup>Lessig, L., 2002. *The future of ideas: The fate of the commons in a connected world*. Vintage.

<sup>57</sup>Klein, J.T., Grossenbacher-Mansuy, W., Häberli, R., Bill, A., Scholz, R.W. and Welti, M. eds., 2001. *Transdisciplinarity: joint problem solving among science, technology, and society: an effective way for managing complexity*. Springer Science & Business Media.

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<sup>58</sup>Wilhelm, A.G., 2006. *Digital nation: Toward an inclusive information society*. MIT Press.

<sup>59</sup>Winner, L., 1978. *Autonomous technology: Technics-out-of-control as a theme in political thought*. MIT Press.

<sup>60</sup>Trafton, J.G., Cassimatis, N.L., Bugajska, M.D., Brock, D.P., Mintz, F.E. and Schultz, A.C., 2005. Enabling effective human-robot interaction using perspective-taking in robots. *IEEE Transactions on Systems, Man, and Cybernetics-Part A: Systems and Humans*, 35(4), pp.460-470.

harm.”<sup>61</sup> To break down such saying in simple terms it can be said that humans while creating robots should incorporate certain values in them to ensure safety on human terms. At times malfunction may result leading to death of humans. To avoid such a scenario completely, the “Do not harm” principle is applied. *The aim is to guarantee individual protection against arbitrary public action, so that criminal liability is imposed on the basis of specific norms in codes or statutes.*<sup>62</sup>

Social robots are gaining attention for being companions as well as user to children and older people. Every even comes with odds and so does the fears of getting befriended by this social robot.<sup>63</sup>

The first fear is on deception. The main argument is that robot companions deceive vulnerable people, such as mentally impaired elders and toddlers, by faking human behaviours, emotions and relations.<sup>64</sup> To govern all these aspects, the value of justice has a great role to play. In this materialistic world, everything requires a certain time to adapt with the surrounding. For the robots, it is the same. To prove the innocence between the robot and the human being while they are in a conflict, justice plays a great role. The

involvement of justice hence is essentially required for resolving conflicts between the two.<sup>65</sup>

The world is moving at a speedy rate. In such an environment robots are said to be the best companions of man. Both compromise and consensus are involved in such a relationship. At times compromise on part of humans are more which creates a misbalance between the two.<sup>66</sup> Human dignity is staked at times. Man therefore falls on the trap made by him. Humans are therefore on the risk of losing their self-respect on the way of earning modernity. Scholars have increasingly been debating over the last decades whether legal systems should grant personhood to robots and, generally speaking, to autonomous artificial agents.<sup>67</sup> Advocates of the front of robotic liberation have obviously endorsed the idea that robots should have rights of their own.<sup>68</sup>

Before granting non-human rights, human's needs to analyse what all laws should be made to govern their rights along with robotic rights for conceiving robots in legal fields will definitely create legal complication. What needs to be considered are, distinctions between different graduations of legal subjectivity, between mere interests, partial rights and full-fledged rights, between limited and full capacity for action,

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<sup>61</sup>Arsenio, A., Caldas, L. and Oliveira, M., 2011. Social interaction and the development of artificial consciousness. *Introduction to Modern Robotics*.

<sup>62</sup>Ibid.

<sup>63</sup>Sparrow, R., 2002. The march of the robot dogs. *Ethics and Information Technology*, 4(4), pp.305-318.

<sup>64</sup> Human robot personal relationship, social ethical dimensions of robots as companions pg 13

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<sup>65</sup>Wallach, W. and Allen, C., 2008. *Moral machines: Teaching robots right from wrong*. Oxford University Press.

<sup>66</sup>Senft, E., 2018. *Teaching Robots Social Autonomy From In Situ Human Supervision* (Doctoral dissertation, University of Plymouth).

<sup>67</sup>Wettig, S. and Zehender, E., 2004. A legal analysis of human and electronic agents. *Artificial Intelligence and Law*, 12(1-2), pp.111-135.

<sup>68</sup> Ibid.

between agency, representation and trust, between individual, group, corporate and other forms of collective responsibility.<sup>69</sup>

The principle of human responsibility acts as a common thread joining the different aspects of human and robotics features. According to DannisGarcia, Assistant General Counsel for Microsoft Corporation suggested that legal professionals should not fear the use of artificial intelligence but should actually adopt the same for it serves as a tool for all lawyers.<sup>70</sup>

Law aims to govern the process of technological innovation resulting in the traditional focus on the question of “Who pays?” This question suggests three scenarios for a hard case in positive law.<sup>71</sup>

The disagreement can concern:

- (i) The legal personhood of robots and their constitutional rights;
- (ii) The legal accountability of robots in contracts and how this autonomy impacts other fields of the law;
- (iii) New types of human responsibility for others’ behaviour.<sup>72</sup>

Lawyers accordingly determine different levels of responsibility and agency in the field of legal robotics, by ascertaining whether such autonomous and even “intelligent” machines

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<sup>69</sup>Ibid.

<sup>70</sup>Fok, W.W. and Picon, A., 2017. *Digital Property: Open-source Architecture*. John Wiley & Sons.

<sup>71</sup>Pagallo, U., 2013. *The laws of robots: crimes, contracts, and torts* (Vol. 10). Springer Science & Business Media.

<sup>72</sup>Ibid.

should be reckoned as legal persons, proper agents, or mere sources of legal responsibility in the system.<sup>73</sup>

When robots and humans are working parallel to each other, robots need to be subject to laws at times when it infringes human rights. Therefore they are to be held liable for any kind of default either be it strictly or absolutely in order to maintain societal decorum.<sup>74</sup>

The question of liability also arises when we consider the theory of who pays. Strict liability regulates the design, production and use of all robotic applications that may be deemed dangerous, for example, autonomous or semi-autonomous unmanned ground vehicles. In legal terms, dangerousness hinges on whether state-of-the-art technology provides for machines capable of acting in the same way as a reasonable person in the law of torts, which is guarding against foreseeable harm.<sup>75</sup> Strict liability can however be fine-tuned through the allocation of the burden of proof.<sup>76</sup>

The debate on whether to grant autonomy to the robots by setting a different legal framework for them is still ongoing. The question that arises that

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<sup>73</sup>Ibid.

<sup>74</sup>Bovens, M. and Bovens, M.A.P., 1998. *The quest for responsibility: Accountability and citizenship in complex organisations*. Cambridge university press.

<sup>75</sup>Supra Note .....Pagallo, U., 2013. *The laws of robots: crimes, contracts, and torts* (Vol. 10). Springer Science & Business Media.

<sup>76</sup>Supra Note .....Pagallo, U., 2013. *The laws of robots: crimes, contracts, and torts* (Vol. 10). Springer Science & Business Media

whether to treat robots as persons or as non-human creatures.<sup>77</sup>

### Indian Scenario

*“In India, robotics has already reached an advanced stage where crucial sectors, such as healthcare, are utilizing the technology to enhance their offerings. Robotic medical assistants are being used to constantly monitor and interpret the vital states of patients”.*<sup>78</sup>

There has been a 186% spurt in Indians looking for employment in robotics, with Maharashtra offering most of the jobs in the sector, according to the new study by job site. The number of people looking for jobs in robotics soared 186% between May 2015 and May 2018.<sup>79</sup> India currently stand with more than 50 robotic firms including Mazor robotics, Intuitive surgical, Medrobotics, Titan medical and Synaptive Medical. Along with a breakthrough growth of robotics in medical field, construction is another sector where robotics is immensely used.

One of India’s largest insurance marketplace, Policybazar.com has integrated Amazon Polly, a kind of service which is used to transform text into lifelike speech to process over a 100,000 calls every month with its in-house interactive voice response. This has turned out to be a time-saver.

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<sup>77</sup>Royackers, L. and van Est, R., 2015. A literature review on new robotics: automation from love to war. *International journal of social robotics*, 7(5), pp.549-570.

<sup>78</sup>Ford, M., 2015. *Rise of the Robots: Technology and the Threat of a Jobless Future*. Basic Books.

<sup>79</sup>Abhijit Ahaskar, ‘Robots are gaining grounds in India steadily’, *Lifemint*, March 18, 2019, Available at: <https://www.livemint.com/citation> Should be proper.....

The response time has therefore been reduced by 25-30 seconds and has thereby increased customer ratings by 85%. The former service has also been used to customise voices and languages offering two English options with Indian accents, named Aditi and Raveena, making it all more natural and friendly.<sup>80</sup> Inputting of new steps and information has turned out to be a breeze as told by Ashish Gupta, tech evangelist at Policybazar.com. Aditi and Raveena are now both being transformed into human agents in order to avoid human labour. Matchmaking site, Shaddi.com, is now using Amazon Recognition which is helping thereby adding image and video analysis to the application, by identifying the objective of the activities. Therefore it becomes easier for the users to find their respective correct matches. The estimation of the former site tells that the involvement of AI has reduced manual labour by half.<sup>81</sup>

The technological advancement that has taken place and is still ongoing comes as a good news for humans for there are now machines to take care of their mundane routine. AI has also contributed in the field of knowledge and fast-track career growth. Therefore there are great expectations that lie on AI from this developing country.

### Current Trends In Artificial Intelligence

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<sup>80</sup>Birnbaum, M.H., 2004. Human research and data collection via the Internet. *Annu.Rev. Psychol.*, 55, pp.803-832.

<sup>81</sup>Maltoni, D., Maio, D., Jain, A.K. and Prabhakar, S., 2009. *Handbook of fingerprint recognition*. Springer Science & Business Media.

There has never been a better time than now to develop smart applications. One of the newer aspects for robotics is the introduction of robot judge which will be designed solely for the purpose to get rid of backlog cases and deliver speedy justice. The Estonian Ministry of Justice has officially asked the country's chief data officer to design the same to simplify work. Although the same will be checked by human judges, this introduction can be cited as an excellent example of delivery of justice by artificial intelligence. Artificial intelligence has not limited itself till this much but has gone far beyond. It has contributed in government activities also. AI algorithms are being used to find jobs for unemployed workers. Thus this field has broadened itself to encircle a number of activities that are mostly human-oriented. Entirely new categories of application are being created, where a natural conversation between humans and machines is taking centre-stage, including building chatbots for everyday consumer requests, such as accessing the latest news update, game scores or weather.<sup>82</sup> Already, the number of robots in use worldwide multiplied three-fold over the past two decades, to 2.25 million. Trends suggest the global stock of robots will multiply even faster in the next 20 years, reaching as many as 20 million by 2030, with 14 million in China alone. The implications are immense, and the emerging

challenges for policy-makers are equally daunting in scale.<sup>83</sup>

Human Rights which also plays an important role in protecting man's right to live with liberty, work freely, express without any hesitation which is now being kept under cover of robotics. Robots are fast replacing humans in a number of activities leading to growing insecurity among men. It has also been under notice that humans grieve of dead robots. This tells us about our emotional response to the social are starting to move into our lives.<sup>84</sup> Christal White in Texas had come across such moment when friendly cute Jiborobot who had become a part of her family for getting involved in activities like playing with her kids, doing day to day activities came with the notice that its service was going to shut down. Many around the world took to social media to bid an emotional farewell to the Mars Opportunity rover when Nasa lost contact with the 15 year old robot. Therefore a codified set of laws are required to govern the actions of robots so that their activities does not overlap with those of men and both can therefore work together to build a developed, mechanized world without harming either of them.

### **Conclusion**

This research paper throws light over the legal scenario that should and must develop between man and artificial products (Robot) in context of

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<sup>82</sup> Werner Vogels , AI has become so simple and affordable that anyone can use it , The Times Of India , June 19, 2019 at pg 13

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<sup>83</sup> Available at: <https://www.oxfordeconomics.com/recent-releases/how-robots-change-the-world>

<sup>84</sup> Werner Vogels , AI has become so simple and affordable that anyone can use it , The Times Of India , June 19, 2019 at pg 13

human rights. With the fast evolution of our world, the change in systems and processes in several aspects of man-made world are taking place and in the same process the creator is becoming the source of its destruction. The major question that the paper reasons out to its readers is whether the evolvement of robotics in our world restricting humans to use their own available rights or not.

Human rights are counted as a legal right across the globe. Therefore, it takes up this right into consideration for it subsets all other rights of a human. Robots have become a requisite need for every human in this globe. But here has been an instance where studies show that robots tend to cross over the margin of requirement and thereby overpowers man leading to hurdles. A repeated instance thereby seeks for legal help and therefore arises the context of law in the relationship between man and robots. In order to maintain decorum in the society, laws exists similarly when robots have become a part of our society new set of laws discussing their liability should be laid out in order to regulate their movement in the society

without further trouble. A strong legal framework is therefore necessary to tackle the worsening of situations between the two powers. With the rise in population, the need is also increasing hence more amount of robots are being produced but one must not eclipse the originality in any work they do which are getting replaced by that of the robots.

Future can be written by man himself if a line of limitation be drawn between artificial intelligence and man's work. It is on man's hand to classify and prioritize work to be done by him and the work which is to be done on dependency. Here lies the future outlook. Collaboration of both man and artificial intelligence can benefit the world beyond recognition in the coming years.

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