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Research Article

Sociology of Artificial Intelligence: A Relational Sociological Investigation in the Field of Health

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Abstract

The effects of artificial intelligence in all areas of life, especially in health, education, economy, family and law, are gradually increasing all over the world. It is now a common assumption that artificial intelligence as a social phenomenon cannot be analyzed without the contribution of the social sciences. The main problem of this research, despite the uncertainty of the effects of artificial intelligence, as a developing country, is widely used in Turkey. For this reason, the primary purpose of this paper is to reveal what artificial intelligence is and its effects on health. To achieve this goal, Harrison White's book "Identity and Control" [1] was used. Thus, ambiguity in both social relations (ambage) and cultural values (ambiguity) has been tried to be revealed. Participant observations and interview data from daily life are discussed with concepts such as "turning point", "liminality"and "ambivalence" in the literature. Thus, a relational sociological study was conducted. In addition, as far as possible, some new concepts have been produced to help us understand this new situation. For example, instead of "robot", the concept of "humanmatic" has been introduced into the literature. In addition, "mistress", " dressing" as metaphors inspired by Goffman [2] also used to explain the location and position of artificial intelligence in Turkey by"reframing".

Keywords: Artificial Intelligence; Health; Humanmatic; Relational Sociology

Introduction

Some sociologists now use Artificial Intelligence (AI) to understand the complex social phenomena they study [3-5]. On the other hand, artificial intellingence has actually become incomprehensible without the help of social scientists [6,7]. The most important issues in the sociology of artificial intelligence are groups, organizations and the identity chosen as the target. In recent years, sociologists interested in "complex adaptive agents" and "AI Distributed Artificial Intelligence" (DAI) have been working with computer engineers to understand the cooperation between complex adaptive agents. In this context entity consisting of many diverse and autonomous components are parts and called agents. These parts are interrelated as weel as interdependent. They usually behave as unified whole in learning. They also try to adjust themselves to changes in the environment. This means strengthening the link between artificial intelligence and sociology. Because artificial intelligence studies are very interesting to sociologists. Even though text analysis, network analysis are already within the interest of sociologists, the dimensions which were previously quite limited thanks to artificial intelligence have been greatly expanded [8,9].

Although there is no consensus on what artificial intelligence is, it is generally accepted that the computer or a computer-controlled robot is the ability to perform various activities in the

same way as intelligent creatures [10]. It is also a science that thinks like people, can make decisions, make suggestions and deal with technology [11]. Indeed, in both universities in Turkey (Hacettepe and TOBB). it has begun training in the engineering departments.

Two types of artificial intelligence are possible: a) Machine learning b) Deep learning

a) **Machine Learning:** Computers learn to use "big data" sets [12] on their own. For example, in 1996, a machine beats Kasparov, the world chess champion. The machine learns all moves in style that will go beyond 15 steps.

b) **Deep Learning:** It is actually a kind of machine learning. Deep means having more than one hidden layer. For example, AI, learns the board game Go and beats the champion.

Machine learning is learning from experience. First we need to have big data. Then we upload a large number of samples to the computer. For example, who will win the competition in a current TV program. All the information we have must be uploaded to the players' performances according to demographic characteristics such as the number of games, who has won in advance, age, education and gender. If the program is a marriage program, it is also necessary to upload data on who, why they are getting married, age, gender, education, family structures, socio-economic levels or professions. If the subject is health, it is necessary to have all the information about a particular disease, such as causes, incidence or prevalence, symptoms, developmental process, relationship with other diseases. This is why big data is needed to reduce the error. However, as we do not have big data in every issue, the ones that are collected in developed Western countries may show deviations from desease or consumption patterns of less developed countries.

Artificial intelligence, developed for different purposes in different sectors such as trade, industry, construction, education, engineering and law, is applied in the field of health with some modifications and the health care we are accustomed to is transformed. Artificial intelligence makes complex calculations faster and more accurate. "Cloud", "Internet of Things" (IOT) is some of the artificial intelligence types. Nowadays, we use high capacity artificial intelligence with very small devices such as telephone, smart phones and google android system.

"Internet of Things", developed by K. Ashton in 1999, means network of internet. It is the technology that connects something at a certain time and place to other people and objects using internet facilities. Cloud covers all artificial intelligence and sensor networks [13,14].

"Cloud" [15] was developed in 2015 at the University of Oregon in the United States to provide personalized medical information for later use when needed to treat diseases such as cancer or Parkinson.Here the cloud is used as a metaphor.

There are two main factors that increase the need for Artificial Intelligence. One of them is "evidence based medicine". Because now more and more evidence-based medicine is applied in treatments. This means diagnosis and treatment based on further test results [16]. The second is "personalized medicine". Because even different doses of medication to be given to patients at different ages and stages of disease should be different. The objective and subjective conditions of people are taken into consideration. This is actually a "patient-centered" medical practice and is very important. Since the genetic and psycho-social characteristics of the patients will be different, personalized medicine and treatments are becoming more common.

We now live in the age of robotized humans and humanized robots, and transformation is similar to honeycomb and is multi-

disciplined. In the field of health, many fields such as health sociology, health engineering, health economics, health law, health ethics, health policy and media have to cooperate in the use of artificial intelligence.

Research Problem

It is possible to talk about the positive and negative effects of artificial intelligence dialectically. The benefits are indisputable, especially in the fields of economics, engineering and education. However, when it comes to human life such as health, the uncertainty of the effects of artificial intelligence is immediately noticeable. In particular, the fact that companies developing artificial intelligence do not share the necessary information, as well as the fact that patients and physicians who use artificial intelligence do not have enough information and the lack of data to evaluate the benefits of health practices increase uncertainties. Therefore, the main problem of this research is the uncertainty in both values and relationships. Harrison White argues in his Identity and Control [1] that people avoid uncertainties and try to control them.

In general, it is claimed that technology is one of the positive effects of liberating people and equality, but more concretely, there is much uncertainty about artificial intelligence and its health effects. Positive impacts include: a) rapidly reaching the target audience in places and situations where health services are not adequately accessible, for example in disaster and war; b) to provide care for patients in some epidemic and infectious diseases (eg AIDS) without cessation; c) to diagnose and treat with a lower error in all emergencies that require a quick and appropriate solution; d) To make the subjects more comfortable to open in the care of the patient and the elderly (negativity they experienced, for example, bruising as a result of falling, etc.) and to make them happy; e) to provide health care to the population of the growing unproductive (age) population at lower cost, f) to meet the need for qualified health workers due to the decrease in population growth rate; g) To provide better quality health education, leisure activities and sports services; h) Providing services that are more sensitive to the environment and produce less waste; h) Breaking the hegemony of male-dominated areas of expertise with the support of technology (for example, increasing the number of female physicians in the fields of surgery and pathology).

Due to the fact that artificial intelligence, mostly produced by male engineers, does not have the female creativity and sensitivity, which makes up the other half of the population, and due to the devaluation of human and labor a) leading to a decrease in the employment of female employees who find high employment opportunities in the field of health b)devaluation of many area of expertize including surgery c) increasing conflicts by disrupting business peace; d) dependence on countries producing advanced technology; e) buying advanced technology more expensive; e) causing deterioration in the mental and physical health of people whose productivity is lost; f) gradually destroying the network of social relationships that play an important role in health and treatment, leading to loneliness and symbolic violence in staff as well as patients; g) to lead to a loss of confidence in oneself and others; h) The rapid shift of life towards uncertainty and the loss of control of both patients and health workers, each as an identity, are negative effects.

Objectives

The answers to the following questions were sought within the limits of this article:

a) What are the health effects of artificial intelligence?

b) What are the concerns about the use of artificial intelligence in health?

c) What are the steps on the relational sociological analysis of artificial intelligence in Turkey?

d) What is the metaphor used to express artificial intelligence in Turkey?

e) Which metaphor can be proposed instead of robot in Turkish?

Methodology

This study was carried out mainly in two branches. Firstly, the existing literature was systematically searched. For this purpose the last five years articles posted on the internet related to artificial intelligence in Turkey were examined. The articles are generally considered positive. Moreover, it is noteworthy that those who publish these articles, most of which are based on translation from the West, are firms operating in the field of health.

The second data source is interviews. It is possible to divide these interviews into two. One of these is in-depth interviews with 20 people representing people from various socio-economic levels in Ankara. Half of them are men and half are women. Similarly, it has been paid attention that education levels fall into three categories as low-medium and high.

Apart from this, using Delphi technique, a group of nurses, physicians, lawyers, economists, engineers and sociologists has been discussed twice (two hours each) which metaphors can be used instead of artificial intelligence. As it is known, Delphi technique is mostly used in estimating the results of some events in the future in a systematic and interactive way by taking the opinion of experts. This method was used by O. Helmer and N. Dalkey in the 1950s to predict military issues in particular [17].

Results

In this section, as much as possible, to answer the questions stated in the aims, and firstly the impacts of artificial intelligence in the field of healt are tried to be explained.

Impacts of artificial intelligence in the field of health

The first notable point is transformation in healthcare professions. The second feature is the focus on "care" and "nursing" rather than cure. In other words, while the need for physicians decreases, it gains value as backbone in nursing and mother care. The use of artificial intelligence is high in medicine, especially in the field of surgery. In fact, this is called "surgery of robots instead of robotic surgery. Also known as the male profession in the field of surgery, robots as well as female surgeons are growing. According to a sociological analysis in the field of surgery [18], in the relationship between the doctor and the patient robot was entered as an "interface" as a third stakeholder. For example, when robot performing surgeries, the physician can no longer touch his patient. There is an ontological rupture. "Touch" is the key concept in this relationship. Touch is actually a privilege in the medical profession. However, in robotic surgery, the physician has lost this privilege and power. Here handicraft and dexterity have lost their value. Because the surgeon can touch the patient indirectly, not directly. Instead of the surgical touch, the surgeon has to talk to the patient with the human touch to reassure him. The daVinci interface used in this type of surgery. In 2000, it was approved in USA. From now on, the entire surgical order changes because the robot replacing the physician is now in the center. The robot is the host here, the physician is like a guest. When the robot touches the patient, the surgeon can only guide the robot with a console. Doctor also monitors the operation in front of the monitor. As a result, in the relationship between surgeon and artificial intelligence, the surgeon loses his former power as dexterity passes to the machine. On the other hand it requires a high cost to use da Vinci, one

should be noted that the majority of users in Turkey are male and reproduction of gender-based inequalities is common.

When the related literature is examined, it is understood that artificial intelligence has five important effects [19]. These are respectively: a) advanced medical diagnosis; b) Virtual health assistance; c) Cost reduction, d) Finding new drugs and f) Interaction / communication.

a) Advanced medical diagnosis: Improvement in medical diagnosis is important in preventing diseases. Early diagnosis is very important especially in diseases such as cancer. Artificial intelligence also reduces the margin of error in IVF. Artificial intelligence is also used in the diagnosis of cancer-causing foods. The use of robots as artificial patients in health education are some of the important developments in diagnostic procedures.

b) The most important effect of artificial intelligence in health care is in the field of data analysis and management. In order to diagnose the patient with high reliability, artificial intelligence first stores the data uploaded to it and then establishes relationships and connections between them. As a result of this process called machine learning, artificial intelligence warns patients about potential problems based on the available data.

c) Virtual Health Assistance (VHA): Virtual Health Assistants is your personal physician who will help you wherever and whenever. There are two types of assistance: the first is to diagnose and control the problem, the second is to remind the prescribed drugs and warn about possible health problems. Virtual assistants use a large data network to identify symptoms. It also develops a natural language generation for patients to do what they say.

d) Cost reduction: According to experts, artificial intelligence reduces the cost by fifty percent (50%). In fact, the most striking is that it is forty percent (40%) more effective despite its low cost. AI, enables physicians and other health personnel to use their resources in the most efficient way and to provide better quality services.

e) New drug production: The classic or rather the previous drug production system is both more expensive and time consuming. For example, the development of a drug can take 15 years. However, artificial intelligence can enable researchers to perform millions of tests in a short period of time. That is why the time and cost reduction effect is mentioned. It should be noted, however, that a new cancer drug has not been produced recently.

f) Interaction / communication: Today, like everything else, technology is used in doctor-patient interaction. Patients are waiting for their problems to be solved quickly by communicating with their physicians in virtual environments. Today, artificial intelligence responds to questions by communicating with patients. Starting from drug dosages, the answers to many of the questions that the patients ask can be given through healthcare both in rapid interaction and even empathically. Even pictures or handwriting are accepted. Facial recognition techniques are actually used to limit freedoms, which is a source of concern.

When it comes to objections in the field of health, it is possible to group them into three main points, as mentioned in the writing of the research problem [20]: Verifying the benefits of artificial intelligence; b) Transparency and reliability; c) Training needs

a) **Verification:** Before artificial intelligence was used so widely, validation and summarization based on different treatment classifications, clinical findings, literature had traditionally been done by human experts. The evaluation of the benefits of artificial intelligence should not be done by artificial tools, but by human experts, as there is not enough statistics available. However, artificial intelligence should be removed from being a black box.

b) **Transparency and repeatability:** Inevitably, the methods used by companies are very different. For example IBM, TESLA, ALPHABET, N vidia companies work with separate software programs. On the other hand, these big companies do not provide enough information to the public in discussion platforms and publications. However, limited knowledge and closeness are no longer acceptable in our age. Surely companies should be more transperant.

c) **Lack of education of the caregiver as much as the patients:** As it is known, nowadays the center of care has shifted from the clinic and physician to the patient. In the care decisions, the previous paternalist structure was abolished and turned into an equal or equivalent relationship. Therefore, both care providers and patients should be trained to provide presicion about changes and big data introduced by AI to prevent AI from replacing the physician, physicians need to know how to use big data, hypothesize and analyze in clinical practice.

As a result, interaction and communication become very important. Because there is a concern in health care that there is a return to the Bio-medical model, which we have criticized a lot, moving away from being human-centered [21]. Mechanical, electronic artificial intelligence can lead to a detachment from the Bio-Psycho-Social Model, of being human-oriented. Because now again the disease comes to the forefront instead of the patient and very precise provisions are produced. In spite of ambitious efforts, "cloud" and "internet of things" unfortunately cannot be avoided in situations where it is necessary to be personal. Because the algorithms are prepared in general templates.

When both positive and negative thinkers about artificial intelligence are examined, the first names that come to mind are Eric Topol [22] and Elon Musk [23]. As a famous cardiologist and author of the book Deep Medicine, Eric Topol argues that human and artificial intelligence will coexist in high-performance medicine. He goes even further, saying that artificial intelligence can bring human-centred understanding to medicine back and that there is a great transformation. Topol outweighs the positive aspect when dealing with the question "how can I bring humanity back to medicine"? Elon Musk, on the other hand, looks both positive and negative. On the positive side, he thinks that artificial intelligence will prepare people for the end while people say they will soon learn a lot of foreign languages thanks to the chips embedded in the brain. However, robots will be smarter than the smartest human being, as the chimpanzee does not understand us today, he reveals his pessimism that we will not understand the robot tomorrow. In fact, it is not surprising that less than four hours of working time and new professions are expected to emerge. As the lifespan is prolonged, the "oldchildren" will require new programs, such as overnight or daytime life education, for care. Turkey, which is open to anyone over 65 years old and four years of volunteer given by the teacher of social science, health and culture courses conducted by the University of Rejuvenation, is a very specific step taken in this direction could be called.

Relational sociological analysis of the current situation in Turkey

At the beginning of many important features about AI's literature in Turkey comes in translations and publishing them on the internet. In these publications, more positive aspects are shared by foreign trading companies (i.e.Price Waterhouse Cooper). Artificial intelligence is the most important news in the field of health. In addition, it is underlined that the public's attitude towards artificial intelligence is positive. For example, in research, artificial intelligence is seen as a felicity, benefaction or even boon. When this situation is evaluated in the focus of uncertainty, ambiguity in values and ambage in social relations are seen [1,24,25].

Ambiquity: The cultural codes of what is right and what is wrong are mixed. Islamic values were stretched by interpretations. However, science, technology and automation are always valuable.

Ambage: Turkey has long been confiding in people and institutions are eroded. People even suspect their relatives. Therefore, the choice of robots is rational. Artificial intelligence is used to determine whether the news is true or not.

In this study, relational sociological [26] analysis was made considering six basic features (Table 1).

Features	Explanation
Dismissal of Cartesien dualities or dichotomies	To give importance to associations
Dismissal of Essentialism	To give importance to uncertainties (liminality)
Process oriented	Change in time and space
Everyday life	Ordinary events
Developing new concepts	Reframing included (E.Goffman)
Turning points	Breakdown points (Turner) included

Table 1: Relational sociological analysis of A.I.

Dismissal of dichotomies: Robots and humans are in continuity with each other. Robots are developed by humans again based on people. Since male engineers are the majority in the production of artificial intelligence, some situations that are still against women in society are being reproduced. In other words, patriarchal features in today's societies and cultures are reproduced with robots. In fact, Bruno Latour's [27] conceptualization of "actor "(human) and"actant" (nonhumanal) is useful in understanding robots. There are many similarities between human and rabots. The concept of "cyborg" used by Donna Haraway [28] is also important. Technology cyborgize people. Cyborg is a hybrid of human and robot. Anyone who has a cell phone for example is cyborg. It is thanks to google that everything you wonder about is instantly learned and not afraid of getting lost. Being both free and dependent has become our main feature. On the other hand, even if the new one is called technology, technology has existed in our lives for a long time: paper, pen, car. Here it is useful to address the concepts of "ambivalence" [29] as well as "liminality" (artificial intelligence) as two useful concepts in understanding and explaining the subject in the context of rejection of dichotomies. Ambivalence, as is known, is to have complex feelings about a relationship or object. It emerges in many intertwined social relationships. It is also the product of complex relational experiences and has transformative power [30]. The interaction in the human-robot relationship has transformative power as a process. It also goes beyond sociological individual experiences. Artificial intelligence can therefore be described in terms of both ambivelance and liminality, which have an important place in the "sociology of emotions" [31]. Because artificial intelligence has the characteristics of both human and machine. It is both useful and spooky.

Dismissal of Essentialism: In relational sociology, undetermined, uncertain fields are emphasized instead of determined fields. Thus refusing dichotomies and not being essentialist are in logical consistency. There exists liminality. We cannot speak for sure in situations that are not the opposite of each other, such as black and white. Instead of being essentialist by speaking, being vague and ambiguous is very valid in both artificial intelligence and health. Because sometimes we act like a robot. There is also a very vague area, like robots. For example, a Turkish scientist named Bager Akbay [32] created a poet. The poet robot was given a female name Deniz Yılmaz and entered the digital media with an average female picture. Deniz Yılmaz possesses both intelligence and emotional quality and writes poems. The person who designed Poet robot, has seen digital art training in Australia and mathematics in Japan. He creates an author as an artist. Teaches syllables, words, rhyming, meter, writing. In fact, he teaches him to write poetry first, and then a novel using Markov-n program. Today, Bager Akbay is trying to defend the rights of the robot. He also works in the field of children's education. Bager Akbay is one of those who think that the future of artificial intelligence is uncertain. He predicts that artificial intelligence is not a competitor to human beings, but can lead to other objects, even to other planets. As proof of this, the artificial intelligence, which defeated the chess champion in 1999, shows that it cannot win the game of starcraft. We don't need to be too afraid of robots if you think he/she has passed the science exam more recently. "We are smarter than mulberry, do we destroy all mulberr", Akbay asks in an interesting inference. So it is unnecessary to fear artificial intelligence [32].

Process Based sociology: When the applications are considered as a process since the first emergence of artificial intelligence, the first evaluations are negative. Despite the diversity, it cannot be claimed that it provides equality and freedom in all areas. Negatively dialectically, like all technological developments, it is observed that it creates both dependence and emancipation. In fact, it has a greater negative impact on women and employment. However, people want to realize their own self by working. In fact, Kurt Levin in social psychology and P.Bourdieu [33] in sociology remind us of the importance of space as well as time. P. Bourdieu's topological analysis and K Lewin's [34] hodological analysis in field theory, while working on life space, is to involve the physical and social environment in the analysis. The degree to which artificial intelligence is affected by space is different. Indeed, it is clear that environmental differences at macro levels in Eastern and industrialized Western societies will affect the effective use of artificial intelligence.

Daily life events: It is necessary to create appropriate new jobs that will respond to new situations in which artificial intelligence produces many of the things that people do with less error, less cost and less time. For example, the labor force in industrial production is employed in the services sector. Innovations in every field are gaining importance.

Turning Points: 2015 is considered an explosion in artificial intelligence. A new automation wave called Industry 4.0 has emerged. According to Eric Brynjolfsson and Andrew Mc Affe [35], the authors of Second Machine Age, Platform Capitalisme does not have personal rights in the system. Digital palatforms such as Uber and Air BnB implement a flexible business model. They are now mass brokers, irresponsible intermediaries. While looking at what is happening in everyday life, process-oriented, important breakdown points are seen. For example, according to marketing professor Scott Galloway [36], the worker who lost his previous job to the robot will have lower wages in his new job and

almost no democratic rights, such as job security and participation in decisions. Many workers already work as intermediaries in jobs called free sharing. The name of the economy is now shared economy. However, employees are rapidly shifted to the status of self-employed. In addition, Wework is nothing more than a deception in that companies want to increase their capital by going public (Initial Public Offer / IPO). According to Galloway [36], "the world is not as impressed with the Silicon Walley as the Silican valley is with itself."

Today, it is outdated to make technology hostility (Luddite Fallacy) like Ned Ludde, which is breaking down knitting machines. Luddite was observed as a machine vandalist movement in England in the 18th century at the beginning of the industrial revolution. What is important today is that societies create new jobs and transform education in this direction. A similar development is expected today, just as people have migrated to the cities and were employed as workers, when mechanization in agriculture has taken place in the past, when the horse was replaced by a tractor and a farrier replaced by industrial workers.

Future of professions: It is possible to deal with the issue in two categories: a) they will disappear and b) they will continue. Lawyers, physicians, engineers, drivers, pilots, publishers, secretaries, cashiers, travel agencies, manufacturing and construction workers, financiers, soldiers, stockbrokers, movie stars will be disappeared. On the other hand, psychologists, sociologists, dentists, nurses, mechanics, artists, scientists and business strategists are the occupations to be continued. By 2034 there will be no need for many intermediate jobs. The wealthy, which is one percent, will be profitable, while the middle class will disappear. There is a redefinition of occupations. Nearly half (47%) of occupations will no longer be available within 25 years. Only five percent will remain the same. According to the World Economic Form, half of the employees are expected to be freed (jobless) in the next 10 years. Artificial intelligence will become widespread outside of arm strength. Because technology is changing so rapidly, education and new business inventions are needed to keep up with society. As such, labor-intensive economies are more anxious.

In fact, the important point to be emphasized here is that, as Zahidi [37] noted, other factors such as global climate change, aging of the population and changing women's job demands also have an impact on business life. Also at first glance women in engineering and mathematics and technical areas seem disadvantaged. In the future, however, women will be in a better position, and uneducated men will be more unemployed.

In the light of the above, it is possible to mention some suggestions for the solution of the problems that may be experienced in business life:

a) Defining new vital goals and objectives to make people happy when the working time is reduced to four hours per day;
b) Re-job descriptions of jobs and professions in accordance with automation
c) Acquiring new skills for middle-aged employees through training
d) Working on average seven or eight different jobs.

Sennet [38] and his work, "Corosion of Character, can in fact be regarded as heralding these changes many years ago. However, the most darmatic aspect is that there are no states and societies that are prepared for these changes. Only 10 transnational companies are the most prepared. They constantly invest in artificial intelligence.

New concepts for new situations: Sociology's explanation of

the emerging changes in time and space, as it was before, not only contented with two basic factors, such as population desnsity (E. Durkheim) and Technology (G.Childe), but also developed new concepts that fit the spirit of time [39].

New concepts that can come y from a non-Western countries. Indeed, one of the appropriate answers could be as follows by making use of Bourdieu's [33] concept of "capital". Turkey, albeit limited economic capital and cultural capital of the faithful people in a country which is very rich as well as profane. Like every positive technological development, they adopt artificial intelligence as a machine. Such as Saint Google.

Metaphor storming to explain our cultural capital must be an effort. For instance kitchen jobs in France "installation" as a metaphor by describing the techniques [40] it is described as "elegant and fine embroidery work" in terms of more detailed jobs in Turkey. Therefore, it is legitimate that the same process is expected to be expressed differently in different cultures. For example, in Turkey we didn't develop artificial intelligence and therefore we call AI, "guest". In Turkey's culture, fundamental norms are to be good to the guests. Moreover, as a machine this guest is beneficial and hence valuable. On the other hand, in both traditional society and modern industry, authority can not be divided. Since robots are constantly working in the chain of command, they can "dress" the weakened patriarchal mentality. The dressing is also considered as a metaphor and "reframe" here [2]. Because patriarchy loses its old power in parallel with the improvements in women's status. Men desire to maintain their power by dominating robots instead of women. On the other hand, women can tolerate the "mistress" of artificial intelligence in order to breathe more easily in their oppressed roles. It is therefore becoming tolerable for men to associate robots to the male-female relationship as a third entity. In fact, as a reframe concept, although mistress is a social institution rejected by women, it is seen as less threat by women in close relationships. So for artificial intelligence, this metaphor was deemed appropriate. Finally, using the Delphi technique, the most appropriate concept for this machine, which is very similar to a human being as a result of a common mind based on brain storming, became "humanmatic" (insanmatik) concept. As stated by Turner and Stets [31], human is a holistic being with its emotional and social aspects as well as biological / physiological (Table 2).

Intelligence Quality Agentic	Emotional Quality Communal
Rationel	Sensitive
Logical	Unreasonable
Independent	Dependent
Creative	Unimaginative
Free	Prefering Movement Together
Dominant	Adaptive
Masculen	Feminen

Table 2: Content of HUMANMATIC.

Conclusion

The effect of artificial intelligence on sociology is more on approach and principles. Artifical intelligence and calculating machineries have the capacity to improve and transform the study methods of sociology. In both text and network analysis, it may be possible to examine time and spatial changes together with artificial intelligence [11].

An area of increasing interest in artificial intelligence and sociology is emotions. For an agent to be social, She/he needs to express his feelings. Emotions help in social performance.

For example, you need sympathetic feelings to be thoughtful. The unity of a community is ensured by solidarity and collective counceis. Emotions play an important role in understanding many actions; people trust or do not trust each other because of love and hate discourses or frustrations. In fact, Artifical Intelligence and, therefore, new computing technologies provide new methods for social data analysis, making theory construction more possible.

The relationship between sociology and artificial intelligence is increasing. As it is underlined by Indian and Chinese clinicians [41] who know how to think deeply in Far Eastern culture, today there is a great transformation in the world with the effect of artificial intelligence. It may be more appropriate to expect these transformations to offer great opportunities. Because artificial intelligence can never be a commiserating clinician, it cannot replace it. Artificial intelligence can replace a clinician only if he manages to empathize with the patient as well as the success of dealing with large data. Therefore, there is no need to be pessimistic, as time will tell us whether artificial intelligence is bane / disaster or boon / felicity.

According to Sir William Osler [41] good physician treats deseases while great physician patient. Medicine is science on the one hand and uncertainty and probability on the other. Those who deal with the patient's troubles with compassion will be as successful as those dealing with big data. In fact, if Eric Topol is right, humanity will win. In addition, our age tends to reject dualities in a relational sociological way. There is no doubt that we are living in an age full of good and evil, as well as reason and stupidity. Despite this progress in science and technology, neither violence nor poverty has disappeared. Modernity doesn't hesitate to show us what it is like to have nothing and nothing. If we choose not to be good, bad, smart and stupid, it is the reality we live. In fact the compassionate physician and patient-centered medicine is the goal. Today, big data is a tool that will only facilitate the physician's work and reduce costs. There is the possibility of the development of artificial intelligence and the acquisition of patient-centered medicine, and it is our duty to make efforts for it. However, it should be remembered that uncertainties in our age tend to increase rather than decrease, and that identities do not like it and try to control them as White points out [1].

On the other hand, the Rise of Digital Authoriterianism: Freedom in Internet Report (2018) draws attention to the negative impacts of artificial intelligence in both totalitarian and democratic countries. In totalitarian countries, for example, there is internet censorship and a comprehensive surveillance system. A kind of lending system controls the transportation, housing, reproduction and other health of the citizens. For example, the credit of those who smoke in China and those in red lights is falling. On the other hand, the credit of those who consume Chinese goods and help the elderly is increasing. In democratic countries, addresses are collected from sources such as facebook, and health-related information and products are marketed. People are labeled through discriminatory hate speech. Through community engineering, people are polarized with labels such as fat, sick, elderly, disabled, minority and immigrant.

According to the Freedom House report (2018), a US non-governmental organization, digital freedoms are unfortunately decreasing, while surveillance for censorship and supervision increases. Totalitarian countries such as Egypt, Russia and Iran follow Chine. For example, Russia closes TELEGRAM, which does not share data. Turkey, Mexico, the Philippines as democratic countries also applied censorship the alleged protection of society. For example, digital freedoms are suppressed to increase violent

discourse against immigrants, ethnic or religious minorities, and the fight against pornography or the prevention of community engineering.

As a result, artificial intelligence is an indispensable phenomenon of our age, in which all scientists, especially sociologists, will work less in parallel to the surplus labor force that is likely to emerge, but what millions of people who have lost so much time in their previous professions instead of traditional goods and services in the new era will work less in parallel to the surplus labor force, they should take precautions by thinking about how to make them happy, and try to save them from uncertainty, if not complete. Robots will undoubtedly have rights in their efforts to control uncertainties and Bager Akbay's work will gain historical significance. This new era will need new concepts and metaphors in our culture will help us. It will not be wrong to say that the "humanmatic" concept that we propose by using the concepts of "liminality" [42,43] and "ambivalence [30] is an original contribution in the age of big data [44] and developments from sociology of things to internet of things [45].

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