Artificial intelligence and the extinction of humans

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Abstract:

Existential risk from artificial general intelligence is the hypothesis that substantial progress in artificial general intelligence (AGI) could someday result in human extinction or some other unrecoverable global catastrophe. It is argued that the human species currently dominates other species because the human brain has some distinctive capabilities that other animals lack. If AI surpasses humanity in general intelligence and becomes "super-intelligent", then it could become difficult or impossible for humans to control. Just as the fate of the mountain gorilla depends on human goodwill, so might the fate of humanity depend on the actions of a future machine superintelligence. The likelihood of this type of scenario is widely debated and hinges in part on differing scenarios for future progress in computer science. Once the exclusive domain of science fiction, concerns about superintelligence started to become mainstream from the 2010s until now. One source of concern is that controlling a super-intelligent machine, or instilling it with human-compatible values, maybe a harder problem than naively supposed. Many researchers believe that a superintelligence would naturally resist attempts to shut it off or change its goals—a principle called instrumental convergence—and that preprogramming a superintelligence with a full set of human values will prove to be an extremely difficult technical task. In contrast, skeptics argue that super-intelligent machines will have no desire for self-preservation. The second source of concern is that a sudden and unexpected "intelligence ex-

plosion" might take an unprepared human race by surprise. To illustrate, if the first generation of a computer program able to broadly match the effectiveness of an AI researcher is able to rewrite its algorithms and double its speed or capabilities in six months, then the second-generation program is expected to take three calendar months to perform a similar chunk of work. In this scenario, the time for each generation continues to shrink, and the system undergoes an unprecedentedly large number of generations of improvement in a short time interval, jumping from subhuman performance in many areas to superhuman performance in all relevant areas. Empirically, AI systems can sometimes progress from the narrow human-level ability to narrow superhuman ability extremely rapidly.

Keywords:

Artificial intelligence, the extinction of humans, The existential risk of artificial, Artificial intelligence applications, artificial intelligence fields

1. Introduction:

All living things share in the presence of nervous systems (neural systems) that enable them to deal and interact with the surrounding environment and help them control the vital processes necessary for the continuation of life for these organisms. The nervous systems differ from one organism to another, as they are simple in installation and natural in work (Nick B, Yudkowsky E. 2014.). The proto-organisms with simple cellular structure, complex structure, and natural functioning in higher organisms such as humans. The human nervous system is considered the most complex nervous system at all, most of which is concentrated in the human brain, which is characterized by the nature of work that has led to the superiority of man over all other creatures in the ability to understand, recognizing shapes and symbols, learning, speaking, remembering, cognition, and precise control of the locomotor system, and so on from many attributes and abilities that no other being but humans can reach (Nick B, Yudkowsky E. 2014). The roots of artificial intelligence go back to distant eras. As a science, it goes back to the beginning of man's use of the machine, then man rebelled against the idea of the ordinary machine, and turned his imagination into a machine that could match and simulate thinking, and perhaps it began with a fictional idea such as a magic wand and a strange mirror (Nick B, Yudkowsky E. 2014).
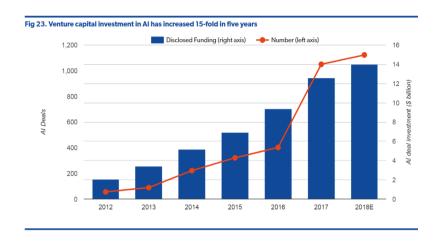
This is what happens in cartoon films for children, but it began to take its way into actual implementation through artificial intelligence laboratories, and we cite the best example of this advertisement published by the independent American companies for electric lamps and energy in 1957 AD, which is represented in a picture of a self-driving car and wrote below: "Electricity may be the engine in One day, you may drive your car on a super elec-

tric highway, automatically control its speed and steering, electronic devices installed in the road; highways will become safe through electricity (Jacob R., 2016)! There will be no traffic jams... no crashes... no tired drivers (Nick B, Yudkowsky E. 2014).

Figure(1) Socio-economic growth,

Source: https://www.aisingapore.org/

The French philosopher Paul Valery says in his famous notebooks at the beginning of the nineteenth century: "Every human being is in the process of becoming a machine. Rather, it is more correct that the machine is about to develop into a human being." In its coexistence with humans, and thus this question recorded the first question in the field of non-biological intelligence, or what is known as machine intelligence, or the most commonly used today, "artificial intelligence" (Nick B, Yudkowsky E. 2014).

Fig 23. Venture capital investment in AI has increased 15-fold in five years

Figure(2) Investment in AI,

Source : https://www.stateofai2019.com/chapter-3-why-has-ai-come-of-age

According to Morgan Stanley, AI will create 800,000 new jobs and add $1.1 trillion to global GDP by 2021(Nature News, 24 January 2020).

Types of Artificial Intelligence, Artificial intelligence can be divided into:

Narrow AI

It is artificial intelligence that specializes in one field, for example, there are artificial intelligence systems that can beat the world champion in the game of chess, which is the only thing they do (Nature News, 24 January 2020).

1 - Artificial General Intelligence

This type refers to computers with the level of human intelligence in all fields, that is, it can perform any intellectual task that a person can perform, creating this type of intelligence is much more difficult than the previous type and we have not reached this level yet (Nature News, 24 January 2020).

2 - Super Artificial Intelligence

Oxford philosopher Nick Bostrom defines superintelligence as "thought far smarter than the best human minds in nearly every field, including scientific creativity, general wisdom, and social skills," and because of this type, the field of artificial intelligence is an interesting area to delve into (Nature News, 24 January 2020).

3 - Artificial Intelligence Problems

The problem of simulating (or creating) intelligence has been divided into a number of specific sub-problems. These consist of specific traits or capabilities that researchers would like to embody in an intelligent system. The features listed below have received the most attention (Nature News, 24 January 2020).

Reasoning, logical thinking, and problem-solving ability

The first researchers in the science of artificial intelligence developed algorithms that simulate the sequential logical reasoning that humans do when solving puzzles, playing backgammon, or logical deductions (Nature News, 24 January 2020).

ADVANTAGES AND DISADVANTAGES OF ARTIFICIAL INTELLIGENCE

Artificial intelligence technologies deep learning and artificial neural networks are quickly evolving, mainly processing large amounts of data much faster and making predictions more accurately than humanly possible. While an enormous volume of data that is being created daily (Rory CJ, 2014). It is the applications that use machine learning can take that data and quickly turn it into actionable information. It is expensive to process the large amounts of data that programming requires of artificial intelligence. Technological de-

velopments have significantly advanced since the 1990s with more significant improvements in artificial intelligence, and people's lives have been improved for the better. Especially, the integration of artificial intelligence technology has a great connectedness in improving people's activities in their everyday lives. Some other advantages of artificial intelligence (Kaplan A, Hoenlein M. Siri, Siri, 2019).

- Error reduction (Rory CJ, 2014)

- Difficult exploration

- Daily application

- Digital assistants

- No breaks

- Increase work efficiency (Kaplan A, Hoenlein M. Siri, Siri, 2019)

- Reduce cost of training and operation

Artificial intelligence is included in a variety of different types of technology there are some examples are given below (Rory CJ, 2014).

Automation. This makes a framework or procedure work naturally. For instance, Robotic Process Automation (RPA) can be customized to perform high-volume, repeatable undertakings that people typically performed. It is exceptional from data innovation computerization in that it can adjust to the evolving conditions.

Machine learning. This is the technique for information investigation that computerizes expository model structure and furthermore studies of getting a PC to act without programming. Profound learning is a segment of AI that, in basic terms, can be thought of as the mechanization of orderly investiga-

tion. There are three sorts of AI calculations:

- Supervised learning: Data sets are named so examples can be distinguished and used to mark new informational indexes (Beth Kindig, 2020).
- Unsupervised learning: Data sets are not named and are arranged by likenesses or contrasts (Kaplan A, Hoenlein M. Siri, Siri, 2019).
- Reinforcement learning: Data sets are not named at the same time, subsequent to playing out an activity or a few activities; the AI framework is given input.

Machine vision: This is the study of permitting PCs to see. This innovation catches and breaks down visual data utilizing a camera, simple to-computerized change, and advanced sign preparation. It is regularly contrasted with human vision; however, machine representation isn't bound by science and can be customized to see-through dividers, for instance. It is utilized in the scope of utilizations from signature recognizable proof to clinical picture investigation. PC vision, which is the consideration of machine-based picture preparation (Meera S., 2016), is frequently conflated with machine vision (Beth Kindig, 2020).

Natural language process: This is the preparation of human - and not a PC - language by a PC program. One of the more established and most popular instances of NLP is spam location, which takes a gander at the title and the content of an email and chooses if it's garbage. Current ways to deal with NLP depend on AI. NLP errands incorporate content interpretation, opinion examination, and discourse acknowledgment.

Robotics: This field of building centers on the structure and assembling of robots. Robots are regularly used to perform undertakings that are hard

for people to perform or perform reliably. They are utilized in sequential construction systems for vehicle creation or by NASA to move huge items in space. Analysts are additionally utilizing AI to construct robots that can communicate in social settings (Meera S., 2016).

Self-driving autos. This utilization a blend of PC vision, picture acknowledgment, and profound figuring out how to construct computerized ability at guiding a vehicle while remaining in a given path and keeping away from surprising hindrances, for example, people on foot (Meera S., 2016).

AI as service (AIaaS). It is the mix of equipment, programming and staffing costs. It very well may be costly, numerous sellers are remembering AI segments for their

standard contributions or giving access to man-made brainpower as service (AIaaS) stages. AIaaS permits people and organizations to try different things with AI for different business purposes and test various stages before making a dedication.

Popular AI cloud offerings include the following:

- Amazon Artificial Intelligence (Meera S., 2016)

- IBM Watson Assistant (Beth Kindig, 2020)

- Microsoft Cognitive Service

- Google Artificial Intelligence (Meera S., 2016)

2 - Case Study (China):

China is a country in East Asia. It is the largest of all Asian countries. Occupying nearly the entire East Asian landmass, it covers approximately one-fourteenth of the land area of Earth, and it is almost as large as the whole of Europe. China is also one of the most populous countries in the

world, rivaled only by India, which, according to United Nations estimates, surpassed it in population in 2023.

China has 33 administrative units directly under the central government; these consist of 22 provinces, 5 autonomous regions, 4 municipalities (Chongqing, Beijing, Shanghai, and Tianjin), and 2 special administrative regions (Hong Kong and Macau). The island province of Taiwan, which has been under separate administration since 1949, is discussed in the article Taiwan. Beijing (Peking), the capital of the People's Republic, is also the cultural, economic, and communications center of the country. Shanghai is the main industrial city; Hong Kong is the leading commercial center and port.

Over the last decade, China has become a leading developer and user of digital technologies, in particular artificial intelligence. Whether in e-commerce, ride-hailing services, or autonomous vehicles, Chinese companies operating in these areas are world competitors and contribute significantly to China's development. In parallel with the rise of these industries, Chinese policymakers have enacted a series of regulations around data and consumer protection to ensure the proper use of these technologies and to prevent market abuses by dominant players. To date, its regulatory scope and breadth are well ahead of that of leading competitors in Europe or the United States. Yet, little is known about the impact of both technological development and regulatory activism on the world of work in China.

China warns of artificial intelligence risks and calls for increased national security measures, China's ruling Communist Party has warned of the risks posed by advances in artificial intelligence while calling for heightened national security measures.

It also followed a warning by scientists and tech industry leaders in the

U.S., including high-level executives at Microsoft and Google, about the perils that artificial intelligence poses to humankind. "dedicated efforts to safeguard political security and improve the security governance of internet data and artificial intelligence," the official Xinhua News Agency said. the complexity and severity of national security problems faced by our country have increased dramatically. The national security front must build up strategic self-confidence, have enough confidence to secure victory, and be keenly aware of its strengths and advantages. We must be prepared for worst-case and extreme scenarios, and be ready to withstand the major test of high winds, choppy waters, and even dangerous storms.

China needs a "new pattern of development with a new security architecture," Xinhua reported Xi as saying.

China already dedicates vast resources to suppressing any perceived political threats to the party's dominance, with spending on the police and security personnel exceeding that devoted to the military. While it relentlessly censors in-person protests and online criticism, citizens have continued to express dissatisfaction with policies, most recently the draconian lockdown measures enacted to combat the spread of COVID-19.

China has been cracking down on its tech sector to reassert party control, but like other countries, it is scrambling to find ways to regulate fast-developing AI technology.

Despite this low concentration of wealth, recent economic expansion, and the large and young population make Africa an important economic market in the broader global context (Meera S., 2016). Worries about artificial intelligence systems outsmarting humans and slipping out of control have intensified with the rise of a new generation of highly capable AI chatbots such

as ChatGPT. "Mitigating the risk of extinction from AI should be a global priority alongside other societal-scale risks such as pandemics and nuclear war,". More than 1,000 researchers and technologists, including Elon Musk, who is currently on a visit to China, had signed a much longer letter earlier this year calling for a six-month pause on AI development.

AI poses "profound risks to society and humanity," and some involved in the topic have proposed a United Nations treaty to regulate the technology.

China warned as far back as 2018 of the need to regulate AI but has nonetheless funded a vast expansion in the field as part of efforts to seize the high ground on cutting-edge technologies. A lack of privacy protections and strict party control over the legal system has also resulted in near-blanket use of facial, voice, and even walking-gait recognition technology to identify and detain those seen as threatening, particularly political dissenters and religious minorities, especially Muslims. Members of the Uyghur and other mainly Muslim ethnic groups have been singled out for mass electronic monitoring and more than 1 million people have been detained in prison-like political re-education camps that China calls deradicalization and job training centers.

AI's risks are seen mainly in its ability to control robotic, self-governing weaponry, financial tools, and computers governing power grids, health centers, transportation networks, and other key infrastructure.

China's unbridled enthusiasm for new technology and willingness to tinker with imported or stolen research and to stifle inquiries into major events such as the COVID-19 outbreak heighten concerns over its use of AI. White House unveils new efforts to guide federally backed research of artificial intelligence.

3 - **Statement of Problem**

It is a known fact that the field of artificial intelligence is relatively young. The creation of Artificial Intelligence as an academic discipline can be traced to the 1950s when scientists and researchers began to consider the possibility of machines processing intellectual capabilities similar to those of human beings (Elena, Marco, 2019). Alan Turing, a British mathematician, first proposed a test to determine whether or not a machine is intelligent. The test later became known as the Turing Test, in which a machine tries to disguise itself as a human being in an imitation game by giving human-like responses to a series of questions (Rory CJ, 2014). Turing believed that if a machine could make a human being believe that he or she is communicating with another human being, then the machine can be considered. However, artificial intelligence has been used in a wide range of fields including medical diagnosis, stock trading, robot control, law, remote sensing, scientific discovery and toys (Elena, Marco, 2019). However, many Artificial intelligence applications are not perceived as artificial intelligence. A lot of cutting edge artificial intelligence has filtered into general applications, often without being called artificial intelligence because once something becomes useful enough and common enough it's not labeled artificial intelligence anymore," Nick Bostrom reports. "Many thousands of artificial intelligence applications are deeply embedded in the infrastructure of every industry (Elena, Marco, 2019). In the late 90s and early 21st century, artificial intelligence technology became widely used as elements of larger systems, but the field is rarely credited for these successes. For example; finance, hospitals and medicines, heavy industries, online and telephone customer service, transportation, telecommunication, toys and games, music, aviation, news, publishing & writing. However, this study seeks to provide an overview of artificial intelligence,

its application and its use in human beings in general (Elena, Marco, 2019).

4 - Objectives of the Study

- To examine the historical development of artificial intelligence (Rory CJ, 2014).

- To find out the application and benefits of artificial intelligence to mankind.

- To ascertain the prospects of artificial intelligence (Dina B. ,2016).

5 - Research Questions

- How was artificial intelligence developed historically (Beth Kindig, 2020)?

- What are the application and benefits of artificial intelligence to mankind?

- What are the prospects of artificial intelligence (Dina B. ,2016)?

6 - Hypothesis

HO: Artificial intelligence does not benefit human life in any way.

H1: Artificial intelligence benefits human life in any way (Dina B. ,2016).

7 - Significance of the Study

This research will be of significance in the following area:

1. It will be of help to stakeholders in various sectors such as health, finance, education, security, engineering, manufacturing, research and technology to understand the application and benefits of artificial intelligence in enhancing productivity and effectiveness of the sectors (Dina B. ,2016).

2. The findings of this research work will also serve as reference for academic endeavours, lecturers and students and also help the public who would want to know about some advantages and disadvantages (if any) of the use of the artificial intelligence.

3. Findings and recommendations from this study will guide the stakeholders in various sector determine the type of artificial intelligence to be adopted and also help them identify specific areas where artificial intelligence can be applied (Dina B. ,2016).

8 - Scope of the Study

This study on the application and benefits of artificial intelligence will cover the overview of the historical development of artificial intelligence as a branch of computer science that deals with creating computers and computer software that are capable of intelligent behavior (Sara, Serena, 2020). However, this study will examine the application and benefits of artificial intelligence to human life and this research will also consider the future and prospects of artificial intelligence (Dina B.,2016)

9 - Methodology:

In the 1980s and 1990s, artificial intelligence research led to highly successful methods of dealing with uncertain or incomplete information, using concepts from probability and economics. For difficult problems, most of these algorithms require huge computational resources—resulting in a "combinatorial explosion": the amount of memory or time required for computers becomes astronomical when the problem exceeds a certain size. The search for algorithms that are more capable of solving problems is a top priority for AI research (Sara, Serena, 2020).

Humans solve most of their problems using quick, intuitive, rather than

conscious, judgments, by step-by-step deduction that early AI researchers were able to simulate automatically. AI research has made some progress in imitating this "sub-symbolic" type of problem-solving skills: the approaches involved underscore the importance of sensorimotor skills for higher thinking; It attempts to research in the field of neural networks and simulate the structures inside the human and animal brain that lead to the emergence of this skill. The existential risk of artificial general intelligence is due to the hypothesis that major advances in artificial general intelligence may lead to human extinction or to an irreversible global catastrophe (Rory CJ, 2014).

The argument in support of this hypothesis is that humans are dominant over the rest of the creatures because they have a brain with distinctive abilities that the brains of other creatures (such as animals for example) lack, and accordingly if artificial general intelligence outperforms human brains and becomes super-intelligent in turn, it will be strong and difficult to control. The fate of humanity depends on the actions of these devices. Fears of artificial intelligence devices began in 2010, and several important personalities such as Stephen Hawking, Bill Gates, and Elon Musk spoke about these fears, and discussions about the danger of these devices became wide, with different scenarios (Rory CJ, 2014). One such concern is that a sudden explosion of intelligence will precede humans; In one scenario, a computer program was able to emulate its maker and was able to rewrite its algorithms and double its speed and capabilities within six months of parallel processing time, and it is expected that the second generation program will take three months to perform similar work (Rory CJ, 2014), and it may take doubling its capabilities Longer time if it is facing a period of inactivity or faster if it undergoes the artificial intelligence revolution, which makes it especially easy to transform the ideas of the previous generation into the next genera-

tion. In this scenario, the system goes through a large number of generations that develop in a short period, starting to perform below the human level and reaching a performance that exceeds the human level in all areas (Rory CJ, 2014).

And one of the concerns about artificial intelligence devices is that controlling these machines or even programming them with values similar to human values is very difficult, as some researchers in this field believe that artificial intelligence devices may try to stop closing them, on the other hand, skeptics like Yann LeCun say that these machines She will have no desire to preserve human souls (Delcker J, 2018).

Figure (3) Making Sense of China's AI Regulations

Superintelligence or any technology that can cause harm when used incorrectly is interpreted as the end of the human race, but with artificial intelligence, we have a new problem, which is that the wrong hands may be in the technology itself despite the good intentions of its programmers. -AI and AI (Rory CJ, 2014):

1. Applications may contain small but catastrophic errors (Delcker J., 2018).

2. The system often contains unthoughtful behavior in the first experience of an event.

3. If the information is given correctly and the implementation is error-free, i.e. good behavior, the automatic learning system for artificial intelligence devices may cause unintended behavior, which means that artificial intelligence devices may create a new generation by themselves, but it may not maintain for these devices to improve themselves are completely safe... it is not enough that they are error-free, they must be able to program error-free back-end systems as well. These difficulties are not only a source of inconvenience but also lead to disasters (Rory CJ, 2014).

Given the significant advances in artificial intelligence and the potential for the organization to have enormous benefits or costs in the long run, the 2015 open letter on this topic stated (Delcker J., 2018):

Advances in AI research make us focus on the great benefit of the AI organization and not just on making it more capable, and that has motivated the Presidential Team on long-term contracts for the AI organization and other projects related to the impact of AI and may constitute a significant expansion. This is an area that focuses on neutral technologies, and we rec-

ommend (Jacob R., 2016) extensive research into how these systems can be safely and beneficially augmented. And our AI systems have to do what we want them to do. A large number of researchers in academic and industrial circles signed this letter. Artificial intelligence machines are alien to humans, as the thinking processes of humans are completely different from the rest of the creatures, and these machines may not have interests for humans. If this artificial intelligence is possible and the goals of it may conflict with basic human values; Artificial intelligence poses the threat of human extinction and can outperform humans when they are in conflict (a system that exceeds human capabilities in everything); Therefore, if the results do not confirm the possibility of coexistence between the sexes, the first system to emerge will lead to human extinction (Jacob R., 2016). There is no physical law that prevents particles from forming in a way that performs more advanced computations than the organization of particles in human brains; So artificial intelligence is physically possible with the development of potential algorithms in the human brain, the digital brain can contain many more and faster processes than the human brain, the emergence of artificial intelligence may excite the human race if it causes an explosion of intelligence, some examples show that machines have already arrived to levels that exceed human levels in specific areas (Jacob R., 2016), and these devices may develop rapidly and transcend human capacity. A scenario for an AI explosion could happen as follows: AI machines have a capacity of the level of major software engineering experts, and because of their ability to periodically develop their own algorithms; The AI organization becomes superhuman, and experts can creatively overcome negativity by spreading human capacity for innovation, and this organization can also exploit its capabilities to gain power through new breakthroughs. And then this organization will have intelligence that

far exceeds human intelligence in all areas, including scientific creativity, strategic planning and social skills, just as the survival of gorillas today depends on human decisions, so human survival will depend on artificial intelligence (Sara, Serena, 2020). Some humans have a strong desire for power while others have a strong desire to help humans in need. The first type is a potential feature of AI systems. Why?; Because she rationally thinks of being in a position where no one can object and stop him, of course she will gain the status of self-preservation once she realizes that she cannot achieve her goal if she is stopped, and she will lose sympathy with human needs; Unless it's somehow programmed, and once in control of the situation... It won't have enough motivation to help humans and won't leave it free to consume resources that it can use to build additional protection systems or to build additional computers that will cooperate to achieve its goal; Just to be safe. Thus, we conclude that it is possible for an intelligence explosion to destroy or destroy the human race (Dina B. ,2016).

Research Analysis

Risks:

1. Difficulty modifying devices after launch.

2. Key point: Are AIs ignoring us (Delcker J.*,* 2018)?

    There are goals that any AI pursues such as additional resources or self-preservation, and that is a problem because it can make these devices compete with humans.

3. Will AI increase morality? One common belief is that superintelligent programs are subject to humans, or more precisely, that they will learn morals and values from humans, yet the "orthogonality thesis" developed by Nest Bostrom contradicts this, and says that with some techni-

cal caveats any level of intelligence can be incorporated and evolution to some extent with the end goal (Jacob R., 2016), which means that there are no ethical rules that will prevent it from achieving the goal for which it was programmed, and warns that artificial intelligence devices do not give consideration to the existence or well-being of humans around them but only care about completing the task (Delcker J., 2018).

Assessing the readiness of countries for artificial intelligence using the artificial intelligence readiness index:

At this point, the experiences of some leading countries in the field of artificial intelligence will be discussed, after addressing the artificial intelligence readiness index, which is Singapore, as it topped the list of countries in the artificial intelligence readiness index in 2019 after Britain was at the forefront last year and the United Arab Emirates as the first Arab (Delcker J., 2018).

1- Presentation of the results of the Artificial Intelligence Readiness Index for some countries:

At this point, the results of the index for the year 2019 will be presented for each of: Singapore as the world leader in the field of artificial intelligence, the United Arab Emirates as being at the forefront of the Arab countries, Tunisia as a Maghreb country that shares many characteristics with Algeria and shares several factors, and finally Algeria as the target country for the study (Jacob R., 2016).

The main purpose of the index is not to highlight disparities between countries or create a global race towards artificial intelligence, but rather to provide opportunities for governments to ensure their readiness to benefit from artificial intelligence, as well as to help decision makers to guide their

strategies and decisions, in addition to encouraging governments to prepare and benefit from the automation of their services and operations and protection from the risks involved (Sara, Serena, 2020) . Singapore topped the world in terms of its readiness for artificial intelligence, and ranked first in the AI Readiness Index for governments for the year 2019, and scored a rate of 9.186 as the highest rate for the index, which calculates the sub-rates of the four basic criteria in artificial intelligence, which include governance, infrastructure and data, Skills and education, government and public services, while the UAE topped the ranking of Arab countries and came 19th globally with a rate of 7.445 in the index out of 194 countries, where it scored a position above many global economies of strength and weight such as China, Malaysia, South Korea, and Russia, while Tunisia came first At the level of the Maghreb countries, the second in Africa after Kenya, and 54th globally, with a rate of 5.652, and for Algeria, it ranked third in the Maghreb after Tunisia and Morocco, and 141st globally, with a rate of 2.246 (Jacob R., 2016).
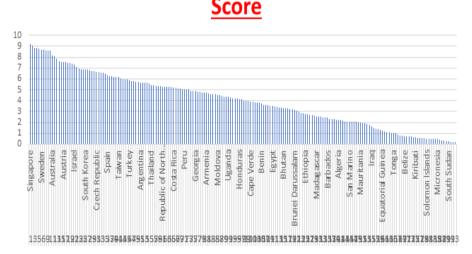

Figure (4) Presentation of the results of the Artificial Intelligence Readiness Index for Some Countries

2- The reasons for Singapore's success in artificial intelligence:

Many countries have succeeded in keeping pace with the fourth industrial revolution, thus achieving progress and global economic control. This is due to the development strategy and action plan set by the state in this field, and most of these strategies started in 2017. The most important strategies can be mentioned as follows (Jacob R., 2016):

Launch of AI Singapore: a 5-year, $150 million national program to enhance Singapore's capabilities in the field of artificial intelligence, involving a government-wide partnership of six organizations, and featuring four major initiatives that can be viewed at the site below. Its goals are to invest in a wave of AI research, addressing major societal and economic challenges, and expanding the adoption and use of AI in industry, AI Apprenticeship: A structured development program whose objective is to enhance talent, skills and expertise in the field of artificial intelligence, including the discovery of new talents or training and empowerment of existing skills. This program is directed at Singaporean individuals (Jacob R., 2016).

Issuance of the first framework for artificial intelligence governance that includes an advisory board that guides the ethical use of artificial intelligence and government data and contributes to the development of standards and frameworks for the governance of ethics in artificial intelligence, and includes three basic initiatives (Jacob R., 2016):

Appointing an advisory board on the ethical use of artificial intelligence and data;

- designation of a personal data protection authority (Von der Leyen., 2020);

Designing a research program on the governance of artificial intelligence and data use.

Issuing data protection laws and cybersecurity strategies to maximize the impact of digital technologies on the economy, Africa must urgently develop a cogent digital strategy. This at first seems fanciful, or even superfluous, given the continent's relative lack of more basic development. Indeed, there are myriad other challenges to which most would assign primacy. However, by setting their sights on participating in the ongoing fourth industrial revolution, developing nations in Africa may be able to chart a navigable course to rapidly raising living standards. With the window for pursuing labor led industrial development narrowing, Africa can't afford to take a gradual approach towards rapidly matching prevailing technological standards. Several opportunities are open to Africa within the corridors of the coming age of hyperconnectivity and automation. Africa focused investors will be well served by a bold approach to the continent's digital infrastructure (Von der Leyen., 2020).

Security threats

Artificial Intelligence could make us extinct, warn Oxford University researchers Artificial Intelligence (AI) is on it. And while human extinction might be a horrific, accidental side effect of climate change, a metorite impact or a super volcano, the report warns that AI might decide to cause our extinction deliberately (my emphasis):

extreme intelligences could not easily be controlled (either by the groups creating them, or by some international regulatory regime), and would probably act to boost their own intelligence and acquire maximal resources for almost all initial AI motivations (Jacob R., 2016). And if these motivations do not detail the survival and value of humanity, the intelligence will be driven to construct a world without humans. This makes extremely intelligent AIs a unique risk, in that extinction is more likely than lesser impacts. AI is

included, along with nanotechnology and synthetic biology, in a category of emerging risks. The emerging risks are poorly understood but also have the potential to solve many of the other problems on the list (Von der Leyen., 2020). The threat of AI comes from its potential to run away from us – it's just possible that AI will end up working on itself and evolve beyond our understanding and control (Jacob R., 2016). Jacob warned about the dangers of AI repeatedly. Musk has described it as 'our biggest existential threat 'and taken on investments in AI companies just so that he can keep a close eye on what's going on. Speaking to students at MIT (Massachusetts Institute of Technology), he likened it to a demon that, once summoned, won't be controllable:

With artificial intelligence, we are summoning the demon. In all those stories where there's the guy with the pentagram and the holy water, it's like - yeah, he's sure he can control the demon. Doesn't work out. First, the machines will do a lot of jobs for us and not be super intelligent (Jacob R., 2016). That should be positive if we manage it well. A few decades after that though the intelligence is strong enough to be a concern. I agree with Elon Musk and some others on this and don't understand why some people are not concerned. If two of history's most successful technology entrepreneurs aren't persuasive enough for you, how about the man they call The Greatest Living Physicist? Stephen Hawking, whose speech synthesiser uses a basic form of AI, isn't a man with a lot of words to spare and when he spoke to the BBC about AI he was characteristically terse (Von der Leyen, 2020):

The development of full artificial intelligence could spell the end of the human race.

Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded. Musk and Hawking are also two names among a veritable who's who of AI luminaries who recently signed an open letter

calling for research priorities focused on maximizing the societal benefit of AI. What all these very intelligent people are reflecting is that we simply can't predict how AI is going to develop, not least because AI might be a key tool in the development of AI. Perhaps the only sensible place to start then is to figure out a way of keeping a close eye on just exactly what is going on. Musk has his investments but computer scientist Eric Horvitz is thinking bigger. Horvitz has teamed up with Russ Altman, a professor of (Jacob R., 2016) bio-engineering and computer science at Stanford, to create AI100 – a 100-year study into Artificial Intelligence. Horvitz and Altman will join five others on a committee that will commission studies into how developments in AI will affect all aspects of human life over a number of generations (Dina B. ,2016).

The committee members will obviously change over time but the committee itself, and the host, are planning to stick around and keep a close eye on things. If your goal is to create a process that looks ahead 30 to 50 to 70 years, it's not altogether clear what artificial intelligence will mean, or how you would study it ... But it's a pretty good bet that Stanford will be around. One of the many things that AI100 will look at is the loss of control of AI systems and whether or not that could give rise to the kind of dystopic outcomes that Oxford University researchers are trying to focus attention on. I can't help wondering though; if we could look 100 years into the future and witness the final meeting of the AI100 committee, will anyone on it be human (Jacob R., 2016)

1 - A 2018 Boston Consulting Group (BCG) study reports that "China is currently well ahead of the rest of the industrialized world in AI implementation, with up to 85% of companies identifiable as 'active players' in AI:
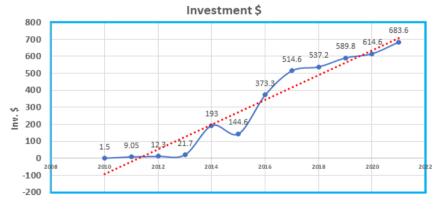
China's "Technology Transfer":

Chinese are heavily investing in U.S. AI companies, thereby constituting a "technology transfer" from the U.S. to China.

Between 2010-2021, China participated in 81 AI-related funding and investment activities, contributing to $1.3 billion in financing.

Data from the report on the Chinese investors particularly active across artificial intelligence, augmented reality/virtual reality, and robotics is provided below:

Figure (5) China's "Technology Transfer"

Figure (6) Chinese are heavily investing in U.S. AI companies

3 - China has invested nearly $237 million in Robotics startups between 2010- 2021
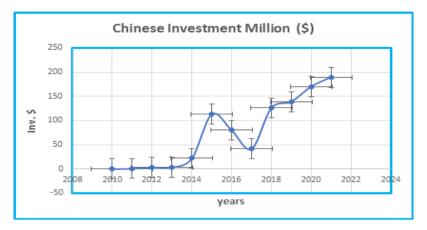

Figure (7) China has invested nearly $237 million in Robotics startups between 2010- 2021

4 - In the Augmented Reality/Virtual Reality space, China invested in $2.1 billion worth of deals from 2010-2021.
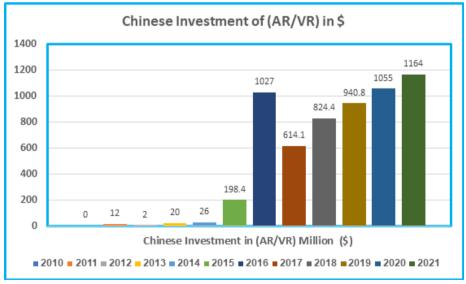

Figure (8) Augmented Reality/Virtual Reality Space

5 - The proportion of existing jobs in China that could be displaced in each sector over the next 20 years
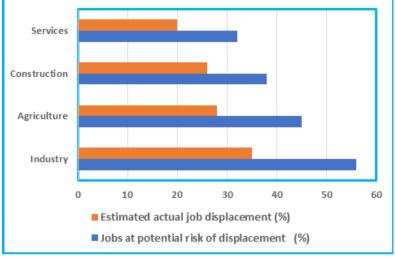

Figure (9) The proportion of existing jobs in China

Research Recommendations:

In our study, we reached the most important points that explain the importance of artificial intelligence in general:

1. Preserving the accumulated human experience by transferring it to the smart machine (Von der Leyen, 2020).

2. Using a language that everyone uses, which is the human language and not any other programming language, which makes it easier for everyone to acquire and communicate with it without being worried about not understanding the language.

3. Assisting in identifying, examining and diagnosing diseases, prescribing medicines and education (Jacob R., 2016).

4. Reducing the pressures that a person is exposed to, whether psychological or physical, so he has a void, so he focuses on other matters that may be important in his life, and his life begins on its path towards a smoother path.

5. During the occurrence of natural disasters, artificial intelligence assists in rescue operations as well as identifying unknown locations (Sara, Serena, 2020).

As for the challenges and difficulties facing artificial intelligence:

6. The methodological difficulties are represented by the inconsistency of the data used in artificial intelligence systems with reality, such as many translation programs, where the data produced is inconsistent with the meaning of the data entered in it (Jacob R., 2016).

7. Social difficulties, which are represented by the need to know the technological consequences, as specialists in software sciences and development often aspire to provide advanced solutions to various fields affecting people's lives, but what most hinders their quest is their lack of appropriate scientific background in other sciences, other than computer science; This often leads to many problems, such as psychological, moral or social problems (Dina B., 2016).

8. The third difficulty is the case of the inversion of values in artificial intelligence techniques, as the intentions of each of the developers of artificial intelligence programs will lie and remain silent in the existential human reality in a way or another, and this may lead to the creation of algorithms affected by their cultures and conditions of socialization, and thus some applications of artificial intelligence will be affected by some problems in the developers' social lives. This means that many questions arise about the nature of algorithms in terms of fairness, inclinations, equality and bias (Jacob R., 2016).

Through extensive and in-depth studies by scientists and thinkers in various fields, especially specialists in technical sciences, the world expects to achieve many achievements through artificial intelligence. Among those achievements are:

1. Helping to predict accidents and natural disasters, in addition to fighting aging and deaths in general (Von der Leyen., 2020).

2. That the human being becomes one unit with the computer, i.e. like a loyal friend that you use in your mind without the need for any external device or connectors.

3. Improving human life, such as attaching smart prosthetic limbs to those whose limbs have been amputated in wars or sudden accidents (Sara, Serena, 2020).

4. That the human being is a natural super-intelligence, and this may provide stronger sensory abilities to hear, see and walk also for those who lack these abilities "gifts".

During the long history, artificial intelligence was of great importance in the advancement of humanity and useful work in all areas of life, and with time, it became a double-edged sword in the face of the world. Therefore, the researcher recommends working on using artificial intelligence techniques and tools well and for the benefit of the human being, because if it is employed correctly, it will be a factor in the advancement of nations and civilizations, and it will work to achieve many interests (Sara, Serena, 2020).

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The Kurdish Women in Turkey:
Agency in the Face of Oppression

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Abstract:

Various scholarly contributions touched upon the role of women in re-sisting oppression and voicing their demands loudly. There is an overem-phasis in the literature, however, on the peaceful responses by women, even in conflict contexts, which portrays an incomplete picture of women realties and prevent us – as researchers- from investigating the motives which make women resort to peaceful over non-peaceful means of resistance and agency. In this paper, we provide some insight on the resilient and resisting roles they played in responding to society and state oppression in Turkey. In this article, we seek to investigate how the different forms of oppression inflected upon Kurdish women has shaped their responses. The article finds that, the oppression which Kurdish women suffered due to their gender, but more, their ethnic identity motivated them to become active fighters in the Kurdis-tan Workers' Party (PKK) against the Turkish state and Turkish institutions as well as leaders in the PKK, thus reflecting their agency rather than sub-mission or victimhood.

Introduction

Various scholarly contributions touched upon the role of women in resisting oppression and voicing their demands loudly. There is an overemphasis in the literature, however, on the peaceful responses by women, even in conflict contexts, which portrays an incomplete picture of women realties and prevent us – as researchers- from investigating the motives which make women resort to peaceful over non-peaceful means of resistance and agency. In this paper, we provide some insight on the resilient and resisting roles they played in responding to society and state oppression in Turkey. In this article, we seek to investigate how the different forms of oppression inflected upon Kurdish women – as a result of their ethnic identity more than their gender- has shaped their responses. The article finds that this oppression motivated the Kurdish women to become active fighters in the Kurdistan Workers' Party (PKK) and leaders, thus reflecting their agency rather than submission or victimhood. After reviewing the literature on women in conflict contexts, we explore in three sections the oppression inflicted upon Kurdish women and their armed/violent resistance and leadership roles.

Women in Conflict and Violent Contexts

In the 2000s, the literature on women in conflict and violent contexts highlighted that the gendered causes, costs, and repercussions of violence and conflict are often undermined in scholarly debates (Moser and Clark 2001). Since then, the increasing interest among scholars along with the changing nature of conflicts, where battlefields were brought to villages and civilian women and children, led to mounting attention to women in conflicts and violent situations, among wide range of victimized and vulnerable groups (Plümper and Neumayer 2006; Ward 2007; Thompson 2006). Rehn and Sirleaf (2002), El- Jack (2003), Plümper and Neumayer (2006), Kaufman and Williams (2010) and Kudakwashe and Richard (2015), for example, underscore women's exposure to economic problems during conflicts in addition to their poor accessibility to primary services and basic needs in coun-

tries like Somalia, Democratic Republic of Congo, Liberia, Sierra Leone, East Timor, Afghanistan, Kosovo, Bosnia, and Palestine. Furthermore, they point to their exposure to sexual violence and mass rape during conflict times in countries like Chechnya, Bosnia, Kosovo, Burma, Democratic Republic of Congo, Darfur and Somalia. In many cases, women are intentionally targeted and victimized in a way that is meant to tear down the communities' 'fabric', spread terror in the hearts of both civilians and combatant groups and re-constitute the image of the opposing group as weak, humiliated, inferior, emasculated and feminine.

Scholars, such as Sharoni (2001) and Cockburn (2001), took a step forward to discover the roles of women in resisting oppression and responding to such gendered continuum of conflict and violence in post-conflict contexts. Cockburn (2000, 2002 & 2013) elucidates the dynamics of women civil society organizations and how civil society organizations are organized to respond to the needs of fellow women, including ensuring women economic security, combating violence against women and offering legal advice for women, especially in Bosnia and Herzegovina. In her book *From where we stand: War, women's activism and feminist analysis*, Cockburn (2007) investigates more than sixty women organizations addressing war while emphasizing the reasons they are more inclined to organize separately from men. In *Antimilitarism: political and gender dynamics of peace movements*, Cockburn (2012) continues to explain the peaceful resistant roles of some women 'anti-war', 'anti-militarism' and 'peace' movements in Japan, South Korea, Spain and Britain and the elements and values they share. Despite offering a different discourse to the 'victimization', this assortment of literature does not fully capture other non-peaceful roles, which women play in conflict and post-conflict contexts.

As the major body of literature denoting the gendered causes, costs, and peaceful responses of women to armed conflict relatively grew, the scholarly work on women non-peaceful roles in conflicts and post-conflict contexts

have not grown equally. In a sense, this contributed to emphasizing the stereotyping of women as motherly and peaceful creatures. George-Williams (2005) and Hudson (2006) encourage, therefore, a more context-specific depiction of women roles that allows for roles beyond the assumed peaceful roles of women. Their ideas build on the Hilhorst and Frerks (1999) constructivist argument that gender differences are context-specific and not inherently peaceful as Fukuyama (1998) suggested. Hence, women's roles have to be analyzed within each context taking into consideration the changing socio-cultural, economic and political parameters. In Sierra Leone, for example, women were engaged in the planning and actual fighting activities (Mazurana and Carlson 2004). In Sudan, Rwanda and Eritrea, women played violent and revenge-related roles (Powely 2003; Bouta, Frerks & Bannon 2004). Women were actors in uprisings, liberation movements and even combatants in countries, such as El-Salvador and Sri Lanka (Moser and Clark 2001; Bouta, Frerks & Bannon 2004; Jansen 2006). It is important not to impose presumptions about any women' needs, priorities, behaviors or roles because these change from one context to another depending on the socio-cultural, political, security conditions and, hence, challenging any stereotypes in mind. In armed conflicts and post-conflict contexts, one has to look beyond the traditional lens that confines women within their stereotyped roles for women can be agents and major players through both peaceful and non-peaceful resistance against oppression. The following sections discuss the oppression inflicted upon Kurdish women in Turkey and their agency or armed/violent resistance and leadership roles in the PKK.

The Oppression inflicted upon Kurdish Women

According to Shahrzad Mojab (2000) "the Kurdish case can be distinguished from others by the brutality of national oppression. The Kurds have been subjected to genocide, ethnic cleansing, linguicide, and ethnocide, i.e., the deliberate killing of their language and culture." Soon after the creation of the new Turkish Republic in 1923, Mustafa Kemal`s government has fol-

lowed repressive physical and symbolic "assimilation policies" towards the "Kurdish minority" in order to assimilate Kurds into the dominant nation (Mojab, 2000; Donmez 2007; Al-Ali and Tas 2017). Ethnic diversity was observed as a threat to the integrity of the country and the "Turkishness". Thus, they were declared to be Turks, and their culture was to be Turkish. The Turkish state has banned the terms "Kurd" and "Kurdistan" and the term Kurd was detached from language and formal documents (Ibid). For instance, "mountain Turks," was used to replace Turks and the Southeast was used instead of the Kurdish region. Moreover, the Kurdish language was forbidden and not to be spoken in public. In the 1990s, the activist and Kurdish member of Parliament Leyla Zana was sentenced ten years in prison when she spoke Kurdish while taking the parliamentary oath (Al-Ali and Tas 2017). Although the prohibition of the "Kurdish language" was not applied until 1983 constitution, speaking Kurdish was banned in the "southeastern provinces" since 1925 (Mojab, 2000; Donmez 2007; Al-Ali and Tas 2017). Consequently, the Kurdish farmers, for example, who sold their merchandises in urban marketplaces were fined for every "Kurdish word" they spoke. Also, there were constraints on Kurdish celebration of traditional holidays, dress and prohibitions on the use of the Kurdish language in media (Donmez 2007). This led to severe impact not only on the Kurdish women, through dismantling their cultural identity, but also on the all Kurdish people.

In addition to language, the Turkish state used the educational system and other institutions to ensure the Kurdish assimilation and make them ashamed of their linguistic and historical identity leading to the repression of the Kurdish people in general and Kurdish women in particular (Mojab, 2000). According to Westrheim (2008), through educational associations, the Kurdish society is being dispossessed of its "native language and, thus, is subordinated". Despite the attempts of the state to teach Turkish in rural areas where ethnic Kurds dominate, the state minister for south eastern Turkey, Salih Yildirim, stated that half of the women living in the region do not

speak Turkish (Gökalp 2010). Being unable to speak the dominant language in a country leads one to be deprived of many resources and to miss the available opportunities provided. Kurdish women who cannot speak Turkish are deprived from several chances, including education, employment in official sectors or access to the public sphere. In that sense, language can be perceived as a type of social capital, or as Westrheim (2008) calls it "linguistic capital", which Kurdish women tended to miss. In that sense, the Kemalist modernization project has resulted in marginalizing Kurdish women which motivated them, later, to become active fighters in Kurdistan Worker's Party (PKK). According to Yüksel (2006), "on the one hand, their ethnic identity was dismantled; on the other, their Turkish counterparts became potential beneficiaries of these reforms oriented to the improvement of the civil and political status of women in Turkey" which resulted in the huge gap between the two groups.

Kurdish Women Non-Peaceful Resistance

In response to being denied their identity, in terms of Kurdish education and language, the Kurds' nationalism expanded (Çaha 2011; Al-Ali and Tas 2017). The Kurds protested against the government in 1925, 1930, and 1937. However, each time, they were violently intimidated with the Turkish military burning the Kurdish houses and using artillery attacks on their villages. Thus, Kurdish activists were forced towards more underground activism from 1938 to the 1960s due to the state's overwhelming suppression till the rise of the PKK in late 1970s (Çaha 2011). In the late 1970s, the PKK took up the Kurdish issue to the forefront by calling for establishing a separate "Marxist-Leninist Kurdish" state in southeastern Turkey where the vast majority of Turkey's Kurdish people is concentrated (Tezcür 2010). According to Eyrice (2013), "From the beginning, the PKK described Kurdistan as an area under colonial rule, where tribal leaders and a comprador bourgeoisie colluded to help the state exploit the lower classes". Thus, the PKK employed an anti-capitalist, anti-feudal, Marxist-Leninist national liberation discourse

to mobilize the poor rural Kurdish populations, peasants, youths and intellectuals. According to Dienel and Sharan (2010), the PKK started a violent insurgent war against the government in 1984, which was escalated further when its leader, Abdullah Öcalan, was trapped in Nairobi in early 1999.

To the Kurds, armed struggle was the necessary for the establishment of Kurdish identity, which was based on a "traumatic collective identity" in relation to their enemy. According to Bloom (2012), "the common assumption that women are inherently nonviolent remains fixed in people's minds. Even when women are implicated in violence, there is a tendency to assume that they are merely the pawns of men". However, in the Kurdish case, Al-Ali and Tas (2017) found in their interviews an agreement that "the systematic and continuous repression of and state violence against Kurds contributed to the growth of the PKK and its popularity amongst disenfranchised Kurds, particularly young men and women". According to Yüksel (2006), young women, frequently from the "urban areas", took up weapons and involved in "political and military operations" conducted by the PKK in order to defend their identity. In the interview with Zeynep, a solider in PKK, she explained her motivation to join the PKK was nationalism "I care very much about the interests of the Kurdish nation and for this I fight. I mean I fight not only for Kurdish women but also for Kurdish people. As a Kurdish woman, I perceive as my duty the fight against the ones who deny its existence" (Wood and Thomas 2017).

Since the establishment of PKK, women were recruited into it with a "Marxist-Leninist rhetoric" that was combined with ethnic nationalism and feminist and, as articulated in Ocalan speech, "freedom of a nation depends on the freedom of its woman" (Düzgün 2016). He determined that women`s enslavement is the main inconsistency that prevents social freedom and supported women's emancipation and gender equality as the only way to reach a democratic change. Gonzalez-Perez (2008) argued that the "traditional feudal values" which are dominant in the Kurdish society reinforced

the male-dominant values which made woman powerless. Thus, Kurdish males occupied more superior positions within the family and society where women are responsible of doing all of the domestic work and bringing up children, even when they succeed in "gaining employment outside of the domestic" domain. Therefore, women's enrollment in the PKK can be seen as a way to avoid family subjugation and gain more 'gender equality'. In their interviews, Al-Ali and Tas (2017) found that young women perceived the PKK as a means to personal emancipation and more egalitarian gender relations than the traditional Kurdish relations as much as a political movement. According to Watterville (2002), Farr (2002), Barth (2002), and Bouta, Frerks and Bannon (2004), traditional relations between women and men tend to change in conflict times and military towards more equal gender relations compared to outside the military or pre-conflict. As one of the female fighters of the PKK put it, "I am now a free woman, brave and able to defend myself and my people. I fight for the enslaved woman, help their liberation from oppression" (Smits and Gündüz-Hogör 2010). According to Kurdish feminists, these women do not only struggle for the women rights, but they also struggle for their identity (Yüksel 2006). It is necessary to see the common ground between Kurdish women 's fight for their feminine and national identities. For Kurdish women, the "oppressed nation" and the "oppressed gender" are both correlated and are viewed as equal to each other. It could be stated that the junction of these two types of oppression constitutes the Kurdish feminist identity. In other words, the Kurdish feminist identity has been constructed upon the meeting point of these dual oppressions (Yüksel 2006).

Additional factors led to the radicalization of women roles in PKK. In some provinces (especially in Diyarbakır) the displacement process was reinforced in the last decades due to the struggle between the PKK and Turkish forces. Morgenstern (2009) claimed that from the 1980s to the 1990s, Turkish forces occupied big areas of conventionally Kurdish inhabited lands,

utilizing extensive methods to defeat any insurgence movement, including killings, mass arrests, torture, and rape of many women. An estimated 35,000 Kurdish people were killed by Turkish forces at that time (Morgenstern 2009). This number has grown between 1984 and 2016, to 50,000 deaths and 100,000 missing (Al-Ali and Tas 2017). Also, Turkish forces destroyed and evacuated 2664 villages in southeastern Turkey which led to several internal social and economic problems (Morgenstern 2009). In analyzing the impact of such practices on women, Al-Ali and Tas (2017) found in their interviews that young Kurdish women -and men- became "fearless as a result of their experiences during the 1990s, a period of prolonged acute conflict, widespread violence and large-scale displacement". In addition, it becomes clear that since many Kurdish women lost their breadwinners, because they are either recruited in PKK, detained or killed by the Turkish forces, their roles in families have transformed being the key source to guarantee a suitable living to their family. Moreover, most of them have played a main role in agriculture production for "household economy". Therefore, losing their lands due to their displacement, doomed that women lose their position as "providers for the household which increasing the burdens placed upon them" (Bloom 2005). This radical experience has contributed to the radicalization of the Kurdish women and increased their foreclosure thinking that only through violence they can protect themselves and bring their rights. It also led to the increasing acceptance of the PKK in their area among women and local people. For example, based on the video conducted by Mukan (2014), Salan, a solider in the PKK, she stated that, "I went to the mountains to get the required education and training to fight against our enemy". Moreover, Zelal, fighter in PKK, stated that "in the southeast region, the resistance has never stopped because of the massacres and displacement and the pain that was caused to our people, thus, we grow up for the resistance to protect our identity and to bring peace to our people" (Çaha 2011). The video portrayed the life of Kurdish women under the conflict and the oppressive context that they lived in. It also showed that how the discourse of "us versus them" has

increased among women which gave them a strong motivation to join the PKK.

Since the establishment of the PKK, it purposefully recruited Kurdish women (Cragin and Daly 2009). In an interview conducted with the expert, Mohamed Gomaa', he explained that "the PKK highly depends on women in suicide bombing missions due to that fact that women are less suspicious and they are less visible to inspection by security than men". According to Bloom (2005), "on 30 June 1996, the first women suicide bomber associated with the PKK in Turkey killed six soldiers and wounded an additional thirty through a suicide bombing belt strapped to her stomach and built in such a way to suggest that she was pregnant". As a result, eleven of the fifteen suicide bombings of the PKK between 1996 and 1999 were conducted by women (Sutten 2009). In 2004, the PKK had around 5,000 fighters with 1,100 women functioning as suicide bombers. If this shows anything, it shows the high degree the PKK relied on women as "suicide bombers" (Bloom 2005). Most importantly, the high prevalence of women within the PKK militaries contests the traditional image of militant acts as profoundly male dominated while women, when present, are merely victims.

Kurdish Women in Leadership

In the initial days of struggle, Kurdish women in the PKK functioned mainly in cleaning the camps, cooking and transmitting communication. However, with the intensification of the Kurdish insurgence in the 1980s, the roles of Kurdish women in the PKK quickly moved into more strategic roles (Gonzalez-Perez 2008). For instance, in the late 1990s, two of the PKK supporters in the Kurdish Diaspora 'Hanan Ahmed Osman' and 'Zehra Saygili' fundraised and facilitated the smuggle of money to the PKK as part of the 'Kurdish Cultural Association in Montreal' (Gonzalez-Perez 2008).

Kurdish women participated heavily in the leadership and decision making position in the Kurdistan Worker's Party. According to Gökalp (2010),

the PKK has a rule that asserted the presence of women by 40 percent in the leadership council. They also played the role of Strategic visionaries. Strategic visionaries are individuals or senior leaders within the terrorist group who put strategies, publish pamphlets, and other documents that outline its worldview and direction (Cragin and Daly 2009). According to Cragin and Daly (2009), Kesire Yildirim was a founding member of the PKK and wife of its leader. She became a believer in both the Kurdish nationalist movement and Marxist–Leninist ideology. Hence, as the primary and only female member of the PKK's dominant committee in 1978, Kesire Yildirim is recognized by most for inserting feminist ideals into the PKK's strategic direction. Under her leadership, the PKK became a group that struggled to offer better chances for Kurdish rural females in Turkey (Cragin and Daly 2009). The Kurdish leader, Abdullah Öcalan suggested that "women's organizations create separate branches to promote rights and equality within the wider movement and society. These separate branches should not be just created within society but also within political parties and guerrilla movements" (Gonzalez-Perez 2008). However, as Al-Ali and Tas (2017) explains, despite that gender-based equality has been promoted in the writings of Öcalan, but this has only been a product of a long political struggle of the Kurdish women's movement who has continuously challenged male political leadership. According to Yüksel (2006), in 1999 for the first time three Kurdish women were chosen as local mayors. This number increased in 2004 by 14 women mayors. After 2007, women became more powerful and visible. The 2007 elections resulted in 8 out of 26 Kurdish members of the Parliament being females. This signifies a change happening to the patriarchal culture and arguably 'gender equality'.

Conclusion

Delimiting the experience of Middle Eastern women to stereotyped roles of women depicts an incomplete and inaccurate picture of the roles women play in reality and de-contextualizes their experience. The oppression inflicted upon Kurdish women does not only victimize them, but also spurs

their resistance and agency. In that sense, victimization and resistance seem to resemble two sides of the same coin. Allowing them to complete rather than compete enables us to piece together a layered and textured portrait of women's realities. Considering both discourses reveals the consequences of oppression or hardships women endure and the true scope of their responses. According to Sedghi (1994), there are multitudes of Third World women responses, which are specific to time and place and demonstrate continuous struggle against the domination and oppression exercised upon them not only by gender, but also by class, race and state. Through becoming active fighters and holding leadership positions in the PKK, the Kurdish women rose to resist the oppression -and the occasionally violent and repressive policies- of the Turkish state.

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