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ARTIFICIAL INTELLIGENCE AND POTENTIAL FUTURE POSSIBILITIES

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ABSTRACT

The explosion of technological knowledge and the spread of the globalisation process in the last two decades have opened many windows of opportunities for technological innovations and disintermediation in the way routine and creative activities are carried out. Thanks to Artificial Intelligence (AI). These developments have implications for creating more leisure for humans, paradoxically creating unemployment on the one hand and more employment on the other hand, opening up infinite possibilities for doing business in a totally different manner in areas such as medicine, education, sports, entertainment, personal welfare, security and safety, agriculture, marketing, navigation, warfare, forecasting, microclimate, resource mapping and extraction, resource management, telecommunications, and scientific research, among many other possibilities. This article will concentrate on these areas only. The changes in the world of Information Communication Telecommunications (ICT) and technology in general have implications for changing drastically the way business is carried out. That is the area of focus of this paper which will try to project into the future and give the author's idea of how developments in Artificial Intelligence will affect and portray new scenarios in the lives of people. This is an article which will be based on secondary data or published sources and also incorporate some creative ideas of the author. The results expected in this article will therefore be based on speculation and educated guesses, inspired by the works of futurists and novelists such as Noam Chomsky, Alfred Toffler, Alexandre Dumas, Nostradamus, Samuel Huntington, H.G. Wells, Mary Shelley, George Orwell, J.R.R. Tolkien, Fukuyama, among many others. Scientific innovations and inventions sometimes spring out of science fiction and fairy tales.

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INTRODUCTION

When Mary Shelley wrote her science novel Frankenstein in 1866, little did she realise that she was writing something about our time in the 21st century concerning Artificial Intelligence (AI) which some sceptics think can be developed into modern Frankensteins or monsters beyond human control (futureoflife.org, n.d). Experts in AI believe that sooner rather than later, AI can turn the world into both a fearful state of robots and automatons driving all forms of human developments and doing all manner of tasks, both routine and creative, and making decisions which may conflict with human goals (Adams, 2017). In an online article, Adams provides a lot of examples of how AI is helping businesses make more

money and also assist the welfare of many individuals in the First World. Adams (2017) opines that current AI is made up of robots and automatons which carry out pre-defined tasks which are routine. Adams (2017) gives the example of voice-powered assistants such as SIRI of Google and ALEXA of Amazon which have powerful algorithms for voice recognition and carry out commands, auto searches and collation of online data. Ford Motors have developed TESLA as an intelligent car with auto-navigation facilities and intelligent features. Adams (2017) posits that the current state of AI is rudimentary because they are pre-programmed to do things as they have no mind of their own for cognitive thinking and they possess no human emotional, cultural, and social intelligence. Adams (2017) cites NETFLIX as intelligent software which is able to recommend videos and movies to customers based upon their previous choices. Other AIs are COGITO, PANDORA, Google's DEEPMIND and IBM's WATSON (Adams, 2017). In another article online by Future of Life Institute (FLI), they

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hold the view that currently there are weak AIs which use pre-programmed algorithms and that in no time there will emerge strong AIs which can think for themselves and make intelligent decisions on behalf of humans. The catch is how those decisions can be considered humane, ethical and human goal-centred. Future of Life Institute believes that the current use of AI in face and voice recognition, auto-piloting of cars, aeroplanes and ships, solving of equations, among others, are a tip of the iceberg of things to come. They predict that soon strong AIs will take over the world and these super-intelligent AIs will work faster, smarter, efficiently and more accurate and sapient than human beings (FLI). FLI believes that the advent of super-intelligent AIs will confer many benefits as well as pose many threats and dangers to humankind. FLI posits that future AIs will be so powerful as to be creative, human-like and they will have a mind of their own to make decisions. This is where there is fear of creating Frankenstein monsters which will create machine-human conflict. Such mechanical versus humanoid conflict will be inevitable and can be harmful to those who have no access to AI.

Currently there are drones which are unmanned robotic vehicles which are deployed to destroy with precision targeted enemies. The drones are also deployed for peaceful purposes such as aerial surveys, delivery of essential items, among others. They can be deployed for system controls such as in the energy sector and the tracking of wildlife and migrants. FLI states in their article that eminent gurus and scientists such as Bill Gates and Stephen Hawking have expressed misgivings about the dangers posed by AIs. Some sceptics believe that the advent of super-intelligent AIs may usher the world into a new era which if not properly managed can lead to self-destruction of humankind. Such agnostics and sceptics can be referred to as technophobes while optimists of the positive effects of technology can be termed technophiles. FLI mentions that the 2015 Puerto Rico Conference on IT concluded that super-intelligent AIs can be developed before 2060. There is the fear that super-intelligent AIs will become Frankensteins and difficult to control as they may get out of hand. They may behave like one headless god in Greek mythology who went about harvesting the heads of people with heads because it felt jealous of them.

The super-intelligent AIs may become dangerous because they will be sapient, au fait and savvy, as they will have a mind of their own and their own agenda which may conflict with human will. It will be like a dangerous virus or gene which mutates and crosses the animal barrier to attack humans such that there is no known cure. One of the foremost scholars on AI is said to be Stuart Russell, a British-born scholar who lives and works at the University of California, Berkeley. Adams (2017) refers to the current weak state of AI as pseudo-intelligence compared with what is to come and he is right. Adams (2017) envisages that many of the current problems of humankind such as drought, pests, poverty, diseases, traffic congestion, war, pollution, among others will be things of the past in the era of super-intelligent AIs. FLI also states that quantum computing will render many internet sites to be exceedingly vulnerable to hacking and there will be no security of data as banks and sites of national security agencies will no more be safe from hackers. One may ask whether that era will be Utopia on the one hand or Armageddon on the other hand. Perhaps, that era will be the era of the Stars War and Inter-galactic travel by robots and automatons which have been shown in science fiction movies, becoming reality in the

21st century. The forecasted era of super-intelligent AI may usher in a period of conflict between human organic intelligence on the one hand and mechanical or robotic machine intelligence (AI) on the other hand.

Main Body

Human civilisation has come a long way with developments such as the invention of the wheel, the pulley system, the telescope, and the abacus, the latter by the Romans. Foremost among the institutions whose works have driven the frontiers of computing and the internet are the European Centre at CERN (European Centre for Nuclear Research), MIT, CALTEX, and Silicon Valley in the USA, AT&T, Bell Laboratories, plus the ideas of people such as Albert Einstein, John von Neumann, Norbert Wiener, Francis Kofi Ampenyin Allotey, Thomas O. Mensah (fibre optic pioneer), Victor B. Lawrence, Bertrand Russell, Charles Babbage, Alan Turing, Philip Emeagwali, Henry T. Sampson, Nii Narku Quaynor, Leo Szilard, and Tim Berners Lee, among many others (google online sources).

Applications in Medicine

Super-intelligent AIs will in future conduct surgeries and monitor people by keeping tabs on their owners and updating and alerting them on their cell phones of their health status. Such health status will automatically be shared with digital repositories, pharmacies and hospitals for proactive action if the owners agree. Furthermore, small chips will be implanted in humans to regulate their health and monitor them. Nano-chips will be implanted in humans to carry out internal surgeries and repairs and attack harmful organisms and toxins. The work of doctors and pharmacists may reduce. Only nurses and care-givers will be in great demand.

Applications in Education

The advent of super-intelligent AIs will render schools, colleges and face to face physical teaching irrelevant as tuition will be done mostly online with softwares such as the ones from Khan Academy. Students will be examined online whether they write multiple-choice or written exams as there will be algorithms to mark long essays while they are being written online as there will be answer templates embedded in remote servers. Teachers and lecturers will no more have the tedium of marking many scripts to assess students. There will be no need for authors as super-intelligent AIs will become authors by reviewing and updating existing scholarship by networking with global databases. School and college buildings will become redundant and they may be used as warehouses or shops or residential quarters. Examiners will be robots conducting and marking oral examinations. Students will have online chat room schools and online academic communities.

Applications in Sports

Football matches and other sports will in future be accurately handled by robots on the sidelines in an unbiased manner. This will avert riots, stampedes and maltreatment of referees and umpires. Sportsmen and women will have robotic trainers and coaches who will be with them 24 hours to monitor their training regimen and also serve as their mentors. Referees and umpires will be robots.

Applications in Entertainment

Already AI exists in the entertainment industry but the advent of super-intelligent AIs can create many possibilities such as having AI robotic producers and directors in the TV and radio stations with some serving as Disc Jockeys and intelligently answering your call-in queries and greetings. AI robots will be creating and producing cartoons, dramas, and other forms of entertainment, and doing the marketing, inventory, and all the procurement and ordering procedures, even producing periodic updates and annual financial reports automatically. AI robots will become serendipitous, creative, and proactive and they will never get tired of solving complex multivariate problems. Where will humans be in this scheme of things? They will be having more leisure and collecting the tabs by not even handling money because their robotic personal assistants know their tastes and needs and will take care of ordering and taking care of their lives. Humans will only eat, socialise, travel for sight-seeing and leisure, and engage in sports and other pastimes.

Applications in Safety and Security

There will be minimum thefts as all the durable goods bought will be embedded with personal digital codes such that stealing will be made redundant and very dangerous indeed because wherever you go, you leave tell-tale carbon trails and footprints which will be fed into the crime data centre. The national identification process will capture all your details and wherever you are, powerful drones and powerful cameras will follow you and give your coordinates through Global Positioning Satellite (GPS). Police duties will become redundant as super-intelligent robots and drones will chase you and apprehend you if they spot you as a criminal.

Applications in Agriculture

In future, pests and animal and crop diseases will be controlled by intelligent robots which will be able to identify and deal with all threats. They will be pre-emptive in forestalling poor harvests by taking remedial action such as conserving and regulating water supply through drip-irrigation. Farm work will be done by robots. Agriculture research will be carried out by robots. Robots will be intelligent enough to create new species of crops and animals through cloning.

Applications in Marketing

Whenever people shop, they leave a trail which robots will compile and thereafter, supplies will be automatically delivered. Payments and receipts of income will be centralised so that no one will carry cash or credit and debit cards. It will be strictly a cashless society as well as a paperless one. Robots will design advertisement messages and jingles as well as delivery of those adverts to the media outlets and channels. Settlements of debts will be centralized and automatically debited and credited such that defaults on debts will be zero. Lawyers, bailiffs and debt collectors will be made redundant. Robots will be creative enough to use past data to research and forecast human tastes and design extraordinary adverts.

Applications to Navigation

Already, self-navigating cars, aeroplanes and ships are using auto-pilot. In future, all vehicles will take off and land without

pilots as robots will be at the controls. Fewer accidents will occur because there will be no human errors. Inter-galactic travel will be undertaken by robots which will not go hungry, feel pain or miss their friends and relatives. They will not suffer from gravitational force or the ill-effects of weightlessness in space.

Applications to Warfare

When super-intelligent AIs become possible, there will be no need to deploy armed forces as robots will fight all wars. However, these robots should be created and programmed by ethical and good people or else there will be doom. Poor and less developed countries without the advanced robots will be fighting conventional warfare with robots.

Applications to forecasting

Weather forecast will be so accurate and will be given a year in advance so that the robots themselves will create and trigger microclimates to pre-empt bad weather. They will seed clouds and take precautionary measures to avert major climatic disasters. They will give advance warning to disasters long enough before those catastrophes occur. The work of statisticians and planners will be made easy as super-intelligent AIs or Alternate Intelligence robots will be in charge of human beings.

Applications to Micro-Climate

Climatic interventions will be made by AIs which will know the causes of climatic changes and what to do through micro or nanotechnology to avert climatic disasters. They will have centuries of climatic data in their memory in order to format chemical, physical and biological solutions and interventions.

Applications to resource mapping and extraction

Nanotechnology or microelectronic methods will be used to extract raw materials, recycle waste and to afford exploitation of outer space resources from other planets through inter-galactic travel by robot space workers such as robot miners, robot maintenance or repair crew (robot doctors), robot pilots, robotic scientists, robot assemblers and packers, among others.

Applications to resource management

Super-intelligent robots will be used for mineral prospecting as well as mining. Mine disasters will be a thing of the past as robots will find their way out wherever they get trapped in the bowels of the earth. They will drill and 'eat' their way out and will not suffer from heat, lack of oxygen, claustrophobia, among others.

Applications to telecommunications

Robots will be able to schedule appointments, talk to people and carry out sophisticated telecommunication functions as they will store all phone calls and keep track of affiliates wherever they may be. Robots will automatically make calls for people and intelligently execute tasks. They will have limitless memories for storage of phone numbers and they will be automatically linked to big data in super data repositories such as cloud data banks and warehouses. They will have phenomenal knowledge of reading human moods and

emotions through super-sensors and will be able to react. Humans will carry electronic chips in their bodies which will communicate with super robots.

Applications to scientific research

Since science is exact and deterministic, it will be easier for robots to use their embedded scientific knowledge to carry out experiments faster and safer and derive new results through their own serendipity. They will carry out infinite permutations and combinations to derive new and innovative results beyond human capacity. They may engage in some alchemy to produce gold from combining some elements, and precious metals will no more be rare or scarce but they will be used for industrial applications rather than as ornaments. The rich who have hoarded gold and diamonds will be made ordinary. Ownership of vast amounts of property will be useless as the robots will detect all those hiding wealth and cash, and gold and diamonds will be worthless.

Conclusion

When fiction converges with scientific facts, there can be said to be Eureka or enlightenment. Over the centuries, fiction and fairy tales have spurred on scientists to dream big and come up with theories and discoveries such as those of evolution by Charles Darwin, and the Big Bang Theory by physicists such as Stephen Hawking.

It takes people of fertile imagination to simulate future scenarios and to innovate and invent technologies which will help solve human problems. This paper has pointed out that many AIs are currently in use but their future extension and possibilities bodes well and ill for humanity in the same breath. Therefore, there will be need to control AIs as there is possibility that in future, super-intelligent AIs will outlive man and they will be cloning themselves and cloning other humans whose DNA codes they will have in their possession. There will be selective cloning of humans by super-intelligent AIs which will be masters of man rather than the other way round. Will that be the real manifestation of Shelley's 1866 *Frankenstein* or the era of Cyborgs, Zombies, Genii, and the age of alternate man?

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