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Artificial Intelligence A Byproduct of Natural Intelligence and Their Salient Features

Aftab Ahmad Malik¹, Mujtaba Asad², Waqar Azeem³

¹ Professor Department of Computer Science, Lahore Garrison University (LGU), Pakistan

² PhD Scholar, School of Electronics Information & Electrical Engineering, Shanghai Jiao Tong University Shanghai China

³ Senior Lecturer, Department of Computer Science Lahore Garrison University (LGU), Pakistan
dr_aftab_malik@yahoo.com¹, asadmujtaba@sjtu.edu.cn², waqar.azeem@lgu.edu.pk³

Abstract

This paper mainly focuses on the creation of Artificial Intelligence (AI) using natural intelligence but the question to be considered whether the natural intelligence can be created using artificial intelligence or not. The Artificial intelligence is the outcome of functionality and capabilities of human brain called neural Network. In this paper, it is presumed that the artificial intelligence is a by-product of natural intelligence and then we discuss some relationship between both of these, especially the working of natural intelligence. Some other important questions are raised to understand a deep linkage between natural and artificial intelligence. There exists lot of non-material phenomenon created by dint of natural intelligence (not created by human) causing to produce systems run by artificial intelligence theorems and algorithms working at backend. The software based on Knowledge Based Systems (KBS) derives its power from human wisdom and natural intelligence. There are several limitations on artificial intelligence. In creation of natural intelligence there is a great role of spirituality. Humans are creator of artificial intelligence with limited abilities. Actually AI started with invention of machines. The applications of creation of natural intelligence are vastly and abundantly known to humans of 21st Century, which are incorporated in the areas of Space Science, Anatomy, and motion of Plants, spin of electron, Electronics, plant intelligence and Neural Science etc. The working of machines depending upon the artificial intelligence doesn't provide creativity or self-motivated innovations, within the meaning of natural intelligence.

Keywords: Artificial intelligence, Natural intelligence, Spirituality

1. INTRODUCTION

This paper mainly is concerned with artificial intelligence based on natural intelligence. To develop the thesis of this paper, we briefly introduce a few preliminaries first. It is described in [1] that due to the advent of I.T and modern computing facilities the efficiency, reliability and accuracy of machines and related systems has enhanced. The tasks performed by humans are formulated in logical order to constitute Algorithms to make the machines work. In order to facilitate the further discussion

and presentation of the thesis of this paper, we first introduce some preliminaries related to Artificial Intelligence, Natural intelligence and finally the "plant intelligence [2]". According to [2], synapse is at the intersection of neuron and target cell, where the communication between these cells occurs by releases a chemical to send the message to receptor. The target cell is also called the secretary cell, the communications of the neurons is also carried out by electrical synapses, also termed as electrical connections. According to [1], behind machines the human knowledge, intelligence and wisdom works. The

machines cannot suo-moto produce creativity, which is a logical activity and is beyond reason. However, a machine follows the scheme prepared by human engineers and performs its functions in a prescribed manner what we call artificial intelligence. Human intelligence works with Natural intelligence. Artificial intelligence is used when human brain cannot per-form difficult jobs.

2. THE ARTIFICIAL INTELLIGENCE STATE OFAFFAIRS

Artificial intelligence has been designed and created by human beings. The Artificial Intelligence effectively embraces the areas such as machine learning and Human Computer Interaction. The major working areas of artificial intelligence [5] are Knowledge representation, Knowledge bases Systems (KSB), Knowledge in learning, Knowledge agents, intelligent agents and their behaviour, searching techniques, optimal and decision making process in games. However, the area based on theory of probability is frequently applied, what is called probabilistic reasoning over time to make single and complex decisions. Other areas of most significance in Artificial Intelligence [5] are Image formation and processing, communication, natural language processing, Robotics and Robot application. The machines have no compassions of their own. The designed systems in Robots can make them feel, but they have no passion of love. Entirely, the Artificial Intelligence is the outcome of human abilities and therefore machine intelligence is a result of Artificial Intelligence. According to [6], the usefulness of inductive logic programming for the problems of learning, reasoning and knowledge representation is of immense importance. The framework of learning programs is highlighted in [6]. The neural network ensembling has been discussed in [7] where several networks are simultaneously utilized to solve a problem and the activity of ensembling has been described with use of genetic algorithms. The useful 'Bagging and boosting' ensembling approach has been discussed in [7]. The applications of integrated Artificial Intelligence in the area of machine learning and Robotics have been explained in [8] using engineering theory in electrical and mechanical. Further [8] elaborates the use and integration of electrical engineering and mechanical engineering. Fortunately, nowadays a new discipline has emerged known as

Mechatronics Engineering. The theory and applications of "Argumentation" in Artificial intelligence plays an important role which is highlighted in [9] particularly with respect of "Similarities" and "Differences", which formulates the bases of Artificial Intelligence. The famous algorithms in Artificial Intelligence algorithm are Nearest Neighbour, Naive Bayes, Decision Trees, Linear Regression and algorithms for Support Vector Machines (SVM) and Neural Networks. The scientists are replicating the natural human intelligence to convert to Artificial intelligence, where, special algorithms are working in driving a car without driver or flying an airplane without pilot. The important machine learning Algorithms have been designed for unsupervised, semi-supervised, supervised learning, and reinforced learning. The systems working with Artificial Intelligence Algorithms have fabulous speed, operate 24 four hours seven days a week. They are less biased and work with more accuracy and prediction; for example in stock market applications. The Artificial Intelligence is frequently applied in the area of Communication, E-commerce, Human Resource Management, healthcare Cyber security, Logistics, Supply Chain and most impotently manufacturing and assembling, for example Computer and Electronics hardware and Car Assembling.

3. HOW HUMAN BRAIN WORKS

The brain performs five well known functions planning, handling feelings, emotions, controlling social interactions and most importantly the element of creativity. It controls all functionalities of the human body.

It is elaborated in [3] about the ensembling of neural networks whereas [4] highlights several aspects of artificial intelligence, working of human brain, comparison of human brain and computer. The Surface area of the adult human brain is nearly 2500 cm² which works with about twenty billion neurons and 240 trillion synapses having 15 um size of neuron, size of one synapse is 1 um. It is well known that motor system of the brain plays pivotal role and undertakes the major tasks such as movement control and send signals to motor neurons to activate the muscle actions. The muscle connections pass through the spinal cord and action messages travel to torso and limbs. The following Figure (1) shows the different parts of human brain of diverse actions.



Figure 1: Structure of Human Brain

3.1. The Element of Natural Intelligence

The element of natural intelligence exists in all creations such as planets, earth, human beings, animals, plants and other species living in sea have been created and induced by the creator of the universe. The difference between the alive and dead body is the “soul” present or absent. The soul makes the living beings to perform their usual functions. Science has not been able to design and make a living cell capable reproduction of another living being. The DNA and RNA can be perhaps synthesized but having no traces of soul. The natural intelligence works with limitations varying from one being to another.

3.2. Guilford Structure of intelligence

According to [10] and [11] there are 150 component of intelligence regarding operations, products and the contents represented by each cube in the Guilford Model shown in Figure(2) .

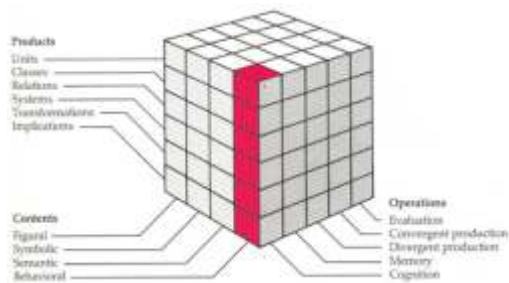


Figure 2: Guilford Structure of Intelligence [10],[11]

3.3. Sternberg's Triarchic Theory

This Theory deals three abilities for intelligent behaviour such as analytical, creative and practical. It advocates more importance and focus on environment and learning.

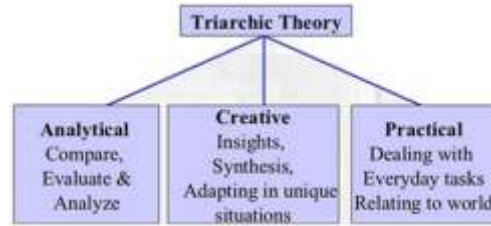


Figure 3: Sternberg's Triarchic Theory [15], [16]

3.4. Carroll's Three-Strata Model of Intelligence

In Carroll's Model three are mainly three Stratum or layers such as general, broad and narrow abilities. Their components are shown in Figure (4).



Figure 4: Carroll's Three-Strata Model of Intelligence [14], [15]

3.5. Some important Questions for the reader of this paper

In order to establish the thesis of this paper, authors are obliged to raise the some questions in this section. The purpose of these questions is to think inside of the creation of Natural Intelligence, which gives rise to artificial intelligence. Most of questions are on the products of natural intelligence. These phenomenon shown in Table 1 are the state of brain. For example, during the laughter endorphins and cortisol are released in the brain and one feels happiness. But the question still remains to be answered that who designed these and using what?

Table 1: Human Brain Phenomenon and different states of brain.

Phenomenon			
Knowledge	Anger	Speech	Hatred
Wisdom	Happiness	Vision	Love
Thinking	Pain	Listening	Silence
Intelligence	Liking	Hearing	Voice
Memory	Disliking	Depression	Noise
Speech	Enmity	Sadness	Vacuum

Table2: Natural Intelligence and Statistical Information about Human Body [20],[21]

ELEMENT	NUMBER	ELEMENT	NUMBER
Neurons	100 Billion	Receptors	100 Billion
Skin Cells	100 Billion	Receptors to feel	60 Million
Blood Vessels	42 Billion	Red Blood Cells	30 Trillion
Retinal Cells	127 Million	Thoughts per day	60000
Rod Cells in Eyes	120 Million	Heart beats per Day	115000
Color Shades	10 Million	Data Brain Stores	10 Million Billion Bits

The above mentioned elements in Table 2 are not made up of any matter but have deep impact on our life and that give rise to artificial intelligence. In order to further explain the idea of Natural Intelligence, following questions are raise having trivial answers.

4.1. Cell Destiny

The life originates from parent's Cells and sometimes from single parent cells by the germ cells and hence by the combination and formation of Zygote which later on becomes embryo. According to our basic knowledge, the embryo after development is responsible for the various organs. The multi-cellular organism issues the instructions to cells and decides what limb is to be prepared. The genes which determine what the cell is to become, are known as Hox-Genes. About 10 to 20 Million Cells are born per second and the same number of old cells is automatically destroyed.

4.2. Who designed, made and Controls the following natural systems

- Q: Ten 10 billion Galaxies and one hundred Billion stars per Galaxy?
- Q: Who induced Spin and revolutionary motion about an axis in the Planets?
- Q: How the planets, stars and galaxies remain in order while travelling in Universe?
- Q: Why planets and stars don't collide with one another? Do they have intelligence?
- Q: How the resultant force of gravity of a planet is balanced with other planets?
- Q: How the angle of inclination of Earth, while rotation is maintained at 67.50?
- Q: How the trajectories of the revolution of the planets are disciplines as per prescribed route?

Q: How the motion of Electrons about nucleus of atom in various states is maintained?

Q: How the nucleus of Uranium atom has been designed to contain enormous amount of energy? Who has designed it? One kilogram of U-235 possesses 2 to 3 million times more energy as compared to 1 Kg coal or oil. The energy released from 1 Kg U-235 is approximately 24X10⁶ KWh.

Q: Who has programmed the bee to fly over valleys suck the fluid from flowers and convert it to mouth of other bees in their house on mountains and trees? The bees keep of transferring the fluid to other bees until its moisture is reduced from 37% to 20%. This how pure honey is produced.

Q: Who has programmed the seed of the plant to possess a database and a mechanism for the embryo to grow when appropriate condition of temperature, moisture and suitable soil is available? How the seed knows when to grow? What sort of knowledge it possesses to decide how tall would be the stem and what type fruit or flower to produce.

Q: Who has designed the Knowledge, wisdom and intelligence which is induced in protoplasm (the embryonic) material placed in eggs of humans, animals, birds and other species?

Q: Can artificial intelligence design a living cell for without using natural cell?

Q: How natural intelligence is designed to work to produce a living cell, DNA and RNA?

Q: How the parts of human, animal or bird's babies are automatically developed in the womb or Egg?

4.3. Genetic Modification

The Gene is fundamental functional unit [13], which determines the heredity. It has been designed and created from DNA. The knowledge of genetic manipulation and modification of a living organism, using the processes prescribed in Genetic Engineering and biotechnology has expanded and efficiently producing results. For example cloning technique is highly developed.

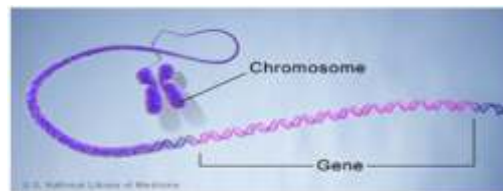


Figure 6: Structure of Chromosome

4.3.1. Cloning Technique- a combination of Artificial and Natural intelligence

In order to further elaborate the preposition of the paper, now we discuss systems where a combination of Artificial Intelligence and Natural Intelligence work together, for example Cloning Technique. This enables [12] us on to produce multiple copies of the same person, animal or other species. The Cloning and genetic engineering has been successfully applied on plants, using natural sources. The Soybeans and corn resulted in lecithin as a food experiments called Soybeans cloning.



Figure 7: Similarities in different human shapes Source: *The Centre for Bioethics and Culture (CBC)*

Using reproductive cloning, identically the same specie through the technique called somatic cell nuclear is transferred to the incubator. In this manner [12], a new embryo is developed to be injected into uterine environment, what we call incubator. Similarly, using genetic engineering meaningful changes in the nucleus membrane of the cell can be made to produce parts of human body or limbs. Human cloning is therefore, producing genetically same copy of the Human. Using this method, cells and tissues can also be produced for transplantation.

4.4. Shapes and Colours of humans and other species are due to Natural Intelligence

The basic driving force in Natural Intelligence is not sensibility, therefore, it is evident in ants, hyenas and humans [13]. It is important to visualize how the different colourful and symmetrical designs are formed inside the mother's womb or egg? Following are some relevant images shown in Figure:



shutterstock.com · 645392431



Source: *Labroides dimidiatus*



Source: *phone855.com*

Figure 8: Shape and Structure of different Species

4.5. Plant Intelligence

The secrets of plant life, intelligence, memory and their signal behavior has been discussed in [17] [18] and [19]. The plants exhibit intelligent behavior such as perdurance, modulation, selectivity and attention subject to their cognitive ability. The seeds of plants are produced fully intelligent to grow and adapt their destination according to database information they contain. They follow up prescribed procedure to produce the outcome. Their conduct is intelligent due to built in components. They possess communication components, for example, the Sunflower possesses the intelligence to move its flower towards the direction the sun.

5. CONCLUSION

The deliberations are arguments presented here have been directed to prove the basic philosophy of the thesis of this paper, which is that the Artificial Intelligence is created by Natural Intelligence where as several components of Natural Intelligence have not been created by man. Few questions in support of the assertion have been raised for the learned readers. More dominant is the Natural Intelligence.

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