THE COGNITIVE DEMEANORS OF FRANKENSTEIN'S FIEND WITH REFERENCE TO MARC HAUSER'S THEORY OF HUMANIQUENESS

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Abstract: **The distinctness of human beings over animals is a subject of study, from the age of Darwin. Animals share many of the building blocks that comprise human thought but paradoxically, there is a great cognitive gap between humans and animals. This mental gap is clearly enunciated by Marc Hauser highlighting the four aspects of human cognition. In the beginning of the novel Frankenstein's goal is to create a human being but later the creator himself denies the human nature of his creation and asserts it to be a monster. Frankenstein's monster is not clearly portrayed as a human being; the creature is traced somewhere between the vacuum of humanity and inhumanity. This paper attempts an analysis of the cognitive demeanors of Frankenstein's fiend with reference to Marc Hauser's theory of humaniqueness.**

Keywords: **humaniqueness, cognitive demeanors, mental gap, Marc Hauser.**

1. INTRODUCTION

Complex attempts to understand human mind and its bizarre physiognomy gave rise to cognitive science researches in the mid 1950's .This study encapsulates philosophy , psychology, artificial intelligence , neuroscience, linguistics and anthropology. The chief pursuit of cognitive science is to analyze the acquisition, perception and usage of human knowledge. The cardinal notion of this field is "thinking can best be understood in terms of representational structures in mind and computational procedures that operate on those structures" as proposed by Thagard Paul. Advanced Cognitive researchers focuses on the capacities of abstraction, generalization, concretization and meta reasoning which involves beliefs , knowledge , desires, preferences and intentions of intelligent individuals , objects, agents and system.

The most accepted definition of cognition is that it is the "ability to process information through perception (stimuli that we receive through our different senses), knowledge acquires through experience and our subjective characteristics that allows us to integrate all of this information to evaluate and interpret our world". Cognition can be specific, abstract and even artificial. It constitutes thinking, memory, judgment, prediction , attention , computation , planning ,executing , reasoning, awareness , intuition and knowledge.

The distinctness of human beings over animals is a subject of study, from the age of Darwin. Darwin believed that we have nothing different from other animals; and it is just that we became more intelligent during the process of evolution. Thomas Suddendorf, a specialist in the cognitive development of children and non-human primates mentions that there appears to be a tremendous gap between human and animal minds which is not really about the brain size. He considers theory of mind and thus asserts the difference between mankind and animals. Betrard Russell asserts that certain traits like speech, fire, agriculture tools and large scale co-operation, sets human apart from other animals. Micheal Tomasello

suggests that our ability to outperform certain tasks such as social learning, communication and reading differentiates human race from animals .Researchers suggests that what appears to be lacking, even in great apes, is a motivation to find means to exchange what is on each other's mind.

The main differences between human and animal cognition occurs in four varied areas. They are

1. The competency to perceive knowledge and to formulate a unique understanding.

2. The potential to generalize a situation and to solve the problem with regard to previous experiences.

3. The capability to simplify knowledge by creating sensory inputs and symbolic representations.

4. The ability to convert raw inputs into knowledge.

Marc D Hauser, an American evolutionary biologist and a researcher in primate behaviour, animal cognition and human behaviour suggests that there exists a large mental gap between human race and other animals. Hauser says "animals share many of the building blocks that comprise human thought but paradoxically, there is a great cognitive gap between humans and animals… By looking at key differences in cognitive abilities we find the elements of human cognition that are uniquely human. The challenge is to identify which systems animals and human share which are unique, and how these systems, interact and interface with one another."

Marc Hauser, proposes four aspects of human cognition such as

1. Generative compilation.

2. Promiscuous combination of idea.

3. Mental symbols.

4. Abstract thought.

2.   GENERATIVE COMPUTATION

Generative computation is that humans can formulate symbols words, ideas and codes. According to Mac Hauser, it is the capability to create a virtually limitless variety of expressions, be they arrangements of words, sequence of notes, and combination of actions or strings of mathematical symbols .There are two types of generative computation.

1. Recursive generative computation.

2. Combinational generative computation.

Recursion is the repeated use of action by which new expressions are created. Mariam Webster dictionary defines recursion as ' the determination of a succession of elements by operation on one or more preceding elements according to a rule or formula involving a finite number of steps' .Combinatorial generative computation , suggests the mixing of discrete elements to form a new idea. This includes enumeration, construction and optimization. Human beings as a routine combines memories, attributes and knowledge from their previous experiences in a number of ways to form a new array of ideas.

3.   PROMISCUOUS COMBINATION OF IDEA

Human beings have promiscuous combination of ideas ranging from relationship, technologies, geography, science and so on which can be used to generate new ideas and laws. These perceptions results in the creation of various domains such as

1. Moral domain

2. Motor action domain

3. Folk psychological domain

4. Object domain and

5. Number domain.

We connect thoughts and experiences from each of these domains to form an alternate arena of knowledge .Hauser explains that promiscuous combination of ideas allows the mingling of different domains of knowledge such as art, sex, space , causality and friendship thereby generating new laws , social relationships and technologies.

4. MENTAL SYMBOLS

It is a human habit to encode memories as symbols with the aid of words, pictures, graphs, charts etc. The sensory inputs are then converted into complex forms of communication such as language, music, art, literature, software and so on. The sensory experiences or inputs are of two kinds.

1. Real

2. Imagined.

These inputs facilitate the expression of human mind. Mental symbols are human strategy of encoding sensory experience. They are the base stones of language, communication, art, literature and architecture, but it is our choice whether to keep the mental symbols for ourselves or to express them to group that we are in. Mental symbols according to Morgan Alex are hypothetical internal cognitive symbols that represent external reality. David Marr mentions it as a "formal system for making explicit certain entities or types of information, together with a specification of how the system does this. They may or may not be actually present to the senses.

5. ABSTRACT THOUGHTS

Abstract thoughts enable us to think beyond our sensation. It allows us to ponder about the non-tangible concepts that are beyond what we see, hear, taste,smell or touch .We have no clear connections towards this perpetual experiences .It is a contemplation of things beyond what we experience .Developmental psychologist, Jean Piaget argued that children develop abstract reasoning stills as part of their last stage of development .Abstract thinking is involved in

1. Usage of metaphor and analogues

2. Understanding verbal and non - verbal communication

3. Spatial reasoning

4. Manipulating of objects

5. Complex reasoning

6. Critical thinking

7. Scientific reasoning

8. Problem solving.

Hauser points out that our unique capacity for abstract thought, grants us the ability to ponder the existence of afterlife, Gods and concepts like justice.

Recently, scientists have concluded that animals have the same thinking ability that was once thought to be unique for human beings. They possess episodic memory, non linguistic mathematical ability and also a capacity to navigate memorizing the land marks. But still there is a gulf that exists between man and animal. This paper identifies that difference to be the four aspects of human cognition proposed by Marc Hauser and attempts a character deception of Frankenstein based on these four attributes.

Frankenstein is an early science fiction infused with the elements of Gothic novel. Brian Aldiss has argued that it should be considered the first true science fiction story because , in contrast to previous stories with fantastical elements resembling those of later science fiction , the central character "makes a deliberate decision" and " turns to modern experiments in the laboratory " to achieve fantastic results. According to Joseph Caroll, the monster occupies a border territory between the characteristics that typically define protagonists and antagonists.

'Frankenstein – the modern Prometheus' portrays the events occurs after Victor Frankenstein, the young man at university discovers how to give life to dead bodies and thus creates a monster. The relationship between the creator and creature remains fascinating and compelling all at once. At the course of the story monster turns out to be a brutal demon and there begins a struggle between the maker and his friend and it ends in the destruction of both. This book is introduced as epistles and then as recount of Victor Frankenstein's story. Meike Ciervogel in her review says that "Shelley was able to observe the conflict inside her, between wanting to create a story and the fear of writing something useless and horrible. Ultimately, she created an iconic image for a writer's fears of the story she is producing".

Frankenstein has always portrayed the creature as a monster. Anne k Mellar raises two questions based on ontology and epistemology, explored in the depth of Rousseau, Voltaire and Immanuel kant .She finally proposes that creature's gigantic, yellow-skinned body is monstrous and evil. Victor Frankenstein addresses the creature after denouncing him as 'devil' and a 'vile insert'. Walton who glimpses the creature exclaims that "Never did I behold a vision horrible as his face of such loathsome, yet appealing hideousness. I shut my eyes involuntarily". (271) The creature is yellow-skinned and black-lipped and this leaves him anatomically incomplete between the living and the dead. Walton observes him as a 'savage inhabitant' of some 'undiscovered island'. Shelley says that " I considered the being whom I had cast among mankind …nearly in light of my own vampire ,my own spirit let loose the grave"(84) .Frankenstein , the creator denies the human nature of his creature . He identifies it to be a demon.

Jung expresses that monster is an "unnatural aberration of the nature order… hostile towards others … inspire dread and embody evil…not human - even those that look and act like people are not fully human" and all of these can be found in the creature according to researchers. Jung also expresses that monsters are "products of man's scientific progress and erring vision". This is accepted and acquainted by Mary Shelley, the writer herself. Author remarks that "where they ought to see a feeling and kind friend, they behold only a detestable monster".

Shelley almost says that society invites monsters which we almost deserve as an aftermath of our own actions. The monstrous nature of the creature is aroused after being accused of trying to murder a girl. It exhibits the pain of false accusation saying that

"This was then the reward of my benevolence! I had saved a human being from destruction and as a recompose I now writhed under the miserable pain of a wound which shattered the flesh and bone. The feelings of kindness and gentleness which I have entertained but a few moments before gave place to hellish rage and gnashing of teeth. Inflamed by pain, I vowed eternal hatred and vengeance to all mankind". (169)

Researchers also suggest that monsters have no community. Even Satan says 'had no fellow fallen angels, but the monster is totally alone'. Thus in Frankenstein the creature who is alone is regarded as a monster. On the whole fiend in the novel is regarded and is depicted as a monster since ages.

6. COGNITIVE FEATURES OF FRANKENSTEIN'S FIEND

In the beginning Frankenstein's goal is to create a human being but later the creator himself denies the human nature of his creation and asserts it to be a monster. Frankenstein says "abhorred monster! Fiend that thou art! The tortures of hell are too mild a vengeance for thy crimes". (113) But with the aid of a cognitive science research we can presume that Frankenstein's monster is a human.

1. Establishment of human brain:

The fiend was created with a brain. Frankenstein collected organs from human remains and designed his creature with a human brain. Brain is identified as the base stone of human behaviour. It is a complex organ with a deep self. Frankenstein "collected bones from the charnel – houses; and disturbed, with profane fingers, the secrets of human frame". (55) This human frame included a brain by which the monster was able to control its movements. The establishment of human brain is regarded as the basic physical feature that forms the framework of cognition by modern cognitive scientists. Thus the presence of a human brain justifies the human nature of the creature.

2. Presence of an active consciousness:

Max Velmans and Susan Schneider write that "Anything that we are aware of at a given moment forms part of our consciousness. Making conscious experience at once the most familiar and mysterious aspect of our lives". Consciousness is self awareness as well awareness of the external features. Throughout work we find that the creature is having an active consciousness. He was born with essential parts of his consciousness formed.

3. Application of thinking:

Thinking skills like analysis, interpretation, inference, explanation, self – regulation and evaluation are relevant human attributes but application of thinking is regarded as a more complex cognitive activity. Fiend's actions are transformed by his thoughts and he admits that as he says

"can you wonder that such thoughts transformed me with rage? I only wonder that at that moment, instead of venting my sensations in exclamations and agony, I did not rush among mankind, and perish in the attempt to destroy them". (171)

4. Usage of a language to communicate to his creator:

Language acquisition and communication is a byzantine cognitive process. The fiend understands phrases and is able to relate with his previous exposure to those phrases in the past. The creature as he explains his molding even narrates about the complex efforts he took for acquiring a new language. He narrates the initial trouble learning language, its process of association, pronunciation of sounds and so on. Confinement towards linguistic rules and the mastery of language the fiend exhibits to communicate with its master defines the complex cognitive capability of the fiend.

5. Fiend's display of empathy:

When monster was associated with Agatha, Felix and their father he discerns that "when they were unhappy, I felt depressed; when they rejoiced, I sympathized in their joys". (131) Empathy is the capacity to understand or feel what another person is experiencing from within the other person's frame of reference that is the capacity to place oneself in someone else's shoes, according to Bellet S Paul. There are three types of empathy displayed by an average human being, namely

5.1 Cognitive empathy

5.2 Emotional empathy

5.3 Compassionate empathy

Three of the above is visible in the social interactions of Frankenstein's creation and is   an index of its cognitive capabilities.

6. Fiend's Perception about himself:

The monster has a horrid experience as he views himself in the lakes and he remarks.

"but how was I terrified, when I viewed myself in a transparent pool! At first I stared back, unable to believe that it was I who was reflected in the mirror; and when I became fully convinced that I was in reality the monster that I am, I was filled with the bitterest sensations of despondence and mortification."(133)

To be human is to be perceived. Frankenstein's creature understands himself and this cognitive process of self- perception confirms him of being a human.

7. MARC HAUSER'S THEORY OF 'HUMANIQUENESS' AND FRANKENSTEIN'S FIEND

Hauser proposes four novel ingredients of human cognition and how it makes human beings unique. The abilities to combine and recombine information to gain a new understanding, create symbolic sensory inputs and decode raw perceptual inputs sets human beings apart from other living beings. According to Hauser "animals have laser beam intelligence, in which a specific solution is used to solve a specific problem. But these solutions cannot be applied in new situation. In contrast human beings have floodlight cognition, allowing them to use thought processes in new ways and to apply the solution of one problem to another situation."

Frankenstein's monster is deformed and is menacingly powerful. It acts like a demon of vengeance. It is an epitome of irony. It beholds profound love, loyalty, great compassion and tenderness at the same time it exhibits inhuman rage, envy and destruction. Though regarded as a monster, Hauser's theory of humaniqueness supports the idea of the monster as a human being by nature, unlike his creator.

1. Generative computation and Frankenstein's monster:

Generative computation is the artistry in creating virtually limitless variety of symbols, expressions and codes. It can be arrangement of words, combination of experiences or even mathematical factors. Generative computation can be recursive or combinatorial. Recursive is repeated usage whereas combinatorial is mixing of ideas.

In the novel, an image of rejection and despair was formed in the monster after being beaten up at the De Lacey family. He develops a stranded feeling and loneliness deep down by combining his previous experiences. Monster says that "They produced in me infinity of new images and feelings, that sometimes raised me to ecstasy, but more frequently sunk me into lowest dejection".(152) In the De Lacey cottage the monster teaches himself to read and write. These learning processes of complex cognitive involvement can be accomplished only with the aid of generative computation. Thus it is understood that the monster displays generative computation in its acts.

2. Promiscuous combination of ideas in the monster:

Human beings connect between different domains of knowledge, to be precise, technology, art, language, linguistics and so on. By establishing these connections we discover a new arena of knowledge and understanding.

Taking into account the language learning process we can identify the attributes of promiscuous combination of ideas in the creature. " I soon perceived that although the stranger uttered articulate sounds and appeared to have a language of her own she was neither understood by or nor herself understood the cottagers".(137) The monster here uses his previous encounter with the sounds to analyse the articulations of the stranger. In another instance, the monster combines himself to Adam and Satan. He says, "many times I considered Satan as the fitter embelem of my condition, for often, like him, when I viewed the bliss of my protectors, the bitter gal of envy rose within me". (154) Here the monster combines his biblical knowledge and the learning he received by reading to form a new idea. It is evident that, the promiscuous combination of ideas is employed by the fiend in the process of establishing himself.

3. The usage of mental symbols by the monster:

Mental representation is a formal system for making explicit imageries that are not actually present. They make alive experiences into a form of virtual reality such as language art or music

In the work, the fiend explains about his usage of language and music as follows "these thoughts exhilarated me and led me to apply with fresh ardour to the acquiring the art of language…yet I pronounced such words as I understood with great ease". (134)Yet again the pleasant weather makes the monster express him poetically saying "the pleasant showers and genial warmth of spring greatly altered the aspect of the earth…happy, happy earth! Fit habitation for Gods". (135)Monster here expresses the mental symbols which are the result of complex cognitive processes in his communication with the creator.

4. Abstracts thoughts and Frankenstein's fiend:

Abstract thoughts enable us to believe in something's existence which we are not sure about. We are allowed to think beyond our senses and experiences with these kinds of thoughts and they are the root of creativity. In the novel, the monster says,

"I endeavored to crush these fears and to fortify myself for the trail which in a few months I resolved to undergo; and sometimes I allowed my thoughts, unchecked by reason, to ramble in the fields of paradise, and dared to fancy amiable and lovely creatures sympathizing with my feelings and cheering my gloom". (156).

Here the fiend clearly tracks his thoughts which are separated from reason and thereby trends to be abstract. The presence of abstract thoughts in the monster is thus understood.

Frankenstein's monster is not clearly portrayed as a human being; the creature is traced somewhere between the vacuum of humanity and inhumanity. But the cognitive capabilities displayed by the monster, when analyzed with the aid of Hauser's theory of humaniqueness, suggests that Frankenstein's monster is a human. This story of the hunter becoming the hunted and the pursuer becoming the pursued is thus a tale of humanity. Monster evolved out of the creature can be understood as an evil invited by the mankind with its actions.

REFERENCES

PRIMARY:

[1] Shelly, Mary. 2010. *Frankenstein.* London: HarperCollins.

SECONDARY:

[2] Thagaed, Paul. 2008 Ed. *Cognitive Science*, The Stanford Encyclopaedia of Philosophy.

[3] www. Sciencedaily.com/terms/Cognition.htm

[4] "CogniFit," (08 June 2016.) *Cognition and Cognitive Science*- The Importance of Cognition.

[5] Boundless.(2013.) *Anatomy and physiology*. Boundless, p.975.

[6] "What Separates Us from Other Animals?" New Scientist.

[7] Thomas, Suddentrof. (2013). *The Gap: The Science of What Separates Us from Other Animals..*Print.1st Edition.

[8] Why Are Humans More Intelligent than Animals.

[9] Hauser, Marc (2009) *"The Mind."* Scientific America. September:44-51.

[10] Gross, Richard. (2012) *Being Human: Psychological and Philosophical Perspectives*. London: Hodder Education. Print.

[11] Mregnor. (01 Jan 1970.)"Egnorance." *How is Man Different from Animals?* Harvard discovers Aristotle.

[12] Jarrett , Christian. (2011)."Gender and Species Differences." *The Rough Guide to Psychology an Introduction to Human Behaviour and the Mind.* Print.

[13] Morgan, Alex (2014). Representations Gone Mental" (PDF). Syntheses 191.2.213-44.

[14] Marr, David (2010). Vision. *A Computational Investigation into the Human Representation and Processing of Visual Information.* The MIT Press. ISBN 978-0262514620.

[15] Harwood ,R., Miller, S.A., &Vasta, R. (2008). *Child Psychology: Development in a Changing Society.* Hoboken, NJ: John Wiley &Sons.

[16] Tutorial : (24 July 2012).Concrete Vs Abstract Thinking. Tutorial Concrete Vs Abstract Thinking Retrieved http://www.projectlearnt.org/tutorials/Concrete-vs-abstract-thinking.html

[17] Decenty. Jean and Phillip L. Jackson. "*The Functional Architecture of Human Empathy.*" SAGE Journals. University of Washington.

[18] Gunther, R. Kim. " *Human Cognition.*" Hamline University.

[19] Shelly, Mary Wallstone craft, and Lynd Ward. (2009). Frankenstein: *The Lynd Ward Illustrated* Edition. Mineola, NY: Dover Publications,Print.

[20] The Detached Retina*: Aspects of SF and Fantasy by Brain Aldiss* (1995), Page 78.

[21] Caroll, Joseph et al(2012). Graphing Jane Austen: *The Evolutionary Basis of Literary Meaning*, P. (30, Palgrave MacMillan).

[22] Valentine . " Frankenstein by Mary Shelly- Review." The Guardian . Sept.2017.

[23] "Book Review: *Frankenstein-* Marry Shelly." Book Review- Circle.com

[24] Ziervogel, Meike. (28 Aug2014). " Frankenstein by Marry Shelly, Book of Lifetime: Gothic Classic shows the Writer Has No Control Over Her Story." *The Independent*. Independent Digital News and Media.

[25] "Introduction : An Overview of Frankenstein."*Frankenstein : Character Studies.*

[26] 1.Susan Schneider and Max Velmans(2008). "Introduction". In Max Velmans, Susan Schneider. The Blackwell Companion to Consciousness.Wiley. ISBN 978-0-470-75145-9.

[27] Bellet, Poultry S.; Michael Jackson. Maloney (1991)."*The importance of empathy as an interviewing skill in medicine."* JAMA. 226 (13): 1831-1882.

[28] "Hauser Presents Theory of "*humaniqueness*"." Harvard Gazette., 14 Feb. 2008.

[29] Starnes, Dori. "Frankenstein Chapter 7 Summary." Study.com. Study.com.,

[30] Wade, Nicholas(2010-08-20). "*Harvard Finds Marc Hauser Guilty of Scientific Misconduct."* The New York Times.