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**“LIQUEFYING HUMAN BRAINS”: POSTHUMANISTIC READINGS OF *LUCY***

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**ABSTRACT**

Post humanism, apart from being a mere theoretical concept has filtered into the everyday lives of human beings in the twenty first century. This article sketches the demarcation between the terms post-humanism and trans-humanism as a preface to the introduction of post-humanism, which forms the crux of this paper. Human potential to gain control over everything in the universe through technology and this perspective being gradually replaced by the ultimate technological control over mankind forms the chief thought of this paper. The negative impacts of technology encircle the human world contrary to the expectations that the increased use of the human brain capacity could influence a human's position in the world. The 2014 French American science fiction film *Lucy* illustrates the representation of post humanistic elements and portrays the technological integration into the body and dissipation into omnipresence. Post humanistic stress on the irrelevance of the biological body as well as the existence of being human and identity crisis in *Lucy* serves as a superb illustration of how subtly the control of our body, emotions and intellect slips away from man to technology and how human beings are left as bare spectators to that technological control.

Keywords: Post humanism, Trans-humanism, Technology, Existence, Identity crisis.

The inexorable urge of humanity to step beyond its biological restrictions and mould alterations has unendingly been part of human psyche. Modifying human body through scientific technology is as old as humanity itself. From the very early period, humans devised tools and learned to harness fire. Human evolution enabled more sophisticated intelligence of any animal on the planet and human beings have been using that intelligence to conquer their biological deficiency. From humanism, there has been an inevitable shift to a new state of uncontrollable indirect control, where technology mends the lives of human beings. The romanticised view of human potential, its control over everything –of power, emotions, machines, etc. has easily been replaced by a new relationship between humans, non-humans and technology.

The term post-humanism has attracted wide attention simultaneously invoking confusions regarding the terms post-humanism and transhumanism as detected by a famous sociologist James Hughes. In the introduction to their book on *post- and transhumanism*, Robert Ranisch and Stefan Sorgner address the source of this confusion, stating that post-humanism is often used as an umbrella term that includes both transhumanism and critical post-humanism. Although both subjects relate to the future of humanity, they differ in their view of anthropocentrism. Pramod Nayar, author of *Post-humanism*, states that post-humanism

has two main branches: ontological and critical. Ontological post-humanism is synonymous with transhumanism. The subject is regarded as “an intensification of humanism.” (11) Transhumanism retains humanism’s focus on the *Homo sapiens* as the centre of the world but also considers technology to be an integral aid to human progression. Critical post-humanism, however, is opposed to these views. Critical post-humanism “rejects both human exceptionalism (the idea that humans are unique creatures) and human instrumentalism (that humans have a right to control the natural world).” These contrasting views on the importance of human beings are the main distinctions between the two subjects. Transhumanism is also more ingrained in popular culture than critical post-humanism, especially in science fiction. The term is referred to by Pramod Nayar as “the pop post-humanism of cinema and pop culture.” (16)

In *How We Became Posthuman*, N. Katherine Hayles argues that the “dream” of leaving our bodies with the aid of digital technology is for her a “nightmare,” and she defends a “posthuman” rather than “transhuman” worldview that still recognizes the importance of embodiment, materiality, and affect in the computational age. In this context three themes become relevant: “how information lost its body,” “how the cyborg was created as a technological artifact and cultural icon,” and “how a historically specific construction called the human is giving way to a different construction called the posthuman”. Interestingly Hayles deliberates upon Hans Moravec’s concept of the translation of human bodies into information which seems indispensable at two levels such as how the boundaries of our embodied reality have been compromised in the current age and how narrow definitions of humanness no longer apply. Post-humanism, thus emphasises on a loss of subjectivity based on bodily boundaries, a strand often associated with Donna Haraway’s concept of the cyborg. The struggle between different versions of the posthuman continually co-evolves alongside intelligent machines and such coevolution, according to some strands of the posthuman discourse, allows one to extend their subjective understandings of real experiences beyond the boundaries of embodied existence.

Posthumanistic discourse aims to open up spaces to examine what it means to be human and critically question the concept of “the human” in light of current cultural and historical contexts. Even as one seeks to extend knowledge by deconstructing perceived boundaries, it is these same boundaries that make knowledge acquisition possible. The use of technology in a contemporary society is thought to complicate this relationship. In the face of the posthuman (with its technological, economic and ecological threats) the discourse on the contemporary ‘reconstruction of the human’ in literature, criticism and theory becomes relevant. It can also be interpreted as a symptom of a desire that seeks to detach itself from postmodern antihumanism (the critique of the unified self) precisely at the time when this critique has in fact become the ‘new reality’. The insistence on existential or ontological plurality, the fragmentation of identity and a breaking up of aesthetic norms and the breaking up of narrative continuity in postmodern texts can be considered more ‘posthumanist’.

Post-humanism, with its relevant implications today and for the future, is a broad and complex ideology that challenges to redefine social structures without inherently humanly or even biological origins. The social and psychological systems where consciousness and communication could potentially exist as unique disembodied entities served as fertile ground for post humanism with questions subsequently emerging with respect to the current use and the future of technology in shaping human existence.

Post humanities can be assumed as redefining the humanity’s place in the world by both the technological and the biological continuum. Donna Haraway, the author of *When Species Meet* defines: What is post humanism? and it is an original thoroughly argued, fundamental redefinition and refocusing of post humanism. The discourse leads to the unending scope posed by the post humanistic studies and its articulation in various literary modes. To simply assimilate the theoretical notions will lead to a perspective of an emergent leap from some present status of being human, to a future characterisation as after humanity. Scientists were caught up in the question regarding the number of neurons in the human brain. It was in 2005, Dr Suzana Herculano-Houzel discovered that although 100 billion neurons were referred to in the science text books and journals, there was less information to prove it true. None of her colleagues knew where that figure came from so she set upon discovering the true figure. After liquefying human brains she then counted the neurons using a formula. It is from this process that the term ‘Liquefying Human Brains’ used in the title has evolved. This

article attempts to view the perspective of post humanism and the emerging philosophical stances mainly as a response inculcated by such prospects. Most of the studies in this area are confined to science fiction, futurology, art and philosophy and gradually extending itself to the studies of film having the same plot. Sometimes a redefinition of post humanism would extend to 'What is not human' or something beyond the concept.

This research article focusses on how the increased use of the human brain capacity could influence a human's position in the world. *Lucy*, the filmic representation of post humanistic elements portrays the technological integration into the body and dissipation into omnipresence. *Lucy* is a 2014 French American science fiction film about a woman who unlocks the human mind so that she could explore the knowledge that was all the time in her, but was unknown. The character takes transhumanism to its fullest extent than her transformation into a post-human being. The purpose of this study pertains to how *Lucy* exemplifies post humanistic concept by stressing the fact that with all the advantages offered by this situation, the very existence of being human is questioned and identity crisis which is part of the post modernism materializes into this study. Biological body and its irrelevance stressed by the post humanism too surfaces as an important theme in this film also forms part of this study.

Robert Pepperell's *The Posthuman Manifesto* (2003) differentiates humanistic and post humanistic condition in following words: "Humanists saw themselves as distinct beings, in an antagonistic relationship with their surroundings. Posthumans, on the other hand, regard their own being as embodied in an extended technological world" (187). Books such as *How We Became Posthuman* (Hayles 1999) have attempted to negotiate the synthesis of science fiction, cybernetics and artificial intelligence from within the tradition of literary criticism. Others like *Our Posthuman Future* (Fukuyama 2002), attend to increasing uncertainty about human nature in the age of genetic manipulation and pharmaceutical engineering, and give consideration to the political and ethical implications of these technologies. The intellectual landscape since the mid-1990s is characterized by significant changes in the growth of interest in consciousness studies, and particularly the consolidation of multi-disciplinary approaches to the question of human existence, drawing on areas such as philosophy, neurology, quantum physics, art theory and spiritual traditions.

First part of this study explicates the varied definitions assigned to the term 'post human'. Essentially it is devoted to three main ideas of the term-primarily it is used to mark the end of that period of social development known as humanism, and so in this sense it means 'after humanism'. Second, it refers to the fact that our traditional view of what constitutes a human being is now undergoing a profound transformation. It is argued that we can no longer think about being human in the same way we used to. Third, the term refers to the general convergence of biology and technology to the point where they are increasingly becoming indistinguishable. Posthuman appears to be a better option to the expression 'post-biological' as the decaying category of 'human' can be seen merely a subset of an increasingly virulent 'techno-biology' which can be called a transient phase. The post human can be defined as that condition in which humans and intelligent technology are becoming increasingly intertwined. More specifically, the post human is a projected state of humanity in which unlocking of the information patterns by which the focus will be on function rather than form. Humanness will be defined by how a species operates, like whether it processes information like a human, is sentient, empathic, intelligent, and such rather than how it looks.

In short, the concept of humanism has undergone great changes in the wake of the 19<sup>th</sup> and 20<sup>th</sup> centuries. "Our expectations of our bodies, their functional capacity and their term of service, are profoundly different from those people that lived in the mid-19th century and, in the great scheme of things, that is a mere blink of an eye." (Braidotti 2017)

The post human condition envisages a future wherein technologies like robotics, prosthetics, machine intelligence, nanotechnology, and genetic manipulation may have a dramatic and long-standing impact than the developments that are currently visible. It is difficult to distinguish between the mind and body as well as the body and the environment. An integrated continuum exists throughout consciousness, body and environment such that any distinction in that continuum, for example between the skin and the scent it emits,

or between an object perceived and the object itself, is necessarily contingent and arbitrary. The general implication is that we can never determine the absolute boundary of the human, either physically or mentally. In this sense, nothing can be external to a human because the extent of a human can't be fixed. The consequences as far as the posthuman condition is concerned are profound. It means that human beings do not exist in the sense in which we ordinarily think of them, that is as separate entities in perpetual antagonism with a nature that is external to them.

Coming to the critical perspectives of the wave of post-humanism in films the inevitable name would be that of Katherine Hayles. In *My Mother Was a Computer: Digital Subjects and Literary Texts* (2005), Hayles confesses to a 'reluctant fascination' with the work of Australian novelist Greg Egan (Hayles 2005, 214). Her particular interest is in a trilogy of novels, *Quarantine* (1992), *Permutation City* (1994) and *Distress* (1995), in which Egan speculatively explores the relationship between human beings, computers and their unity within an overarching conception of a 'Computational Universe.' 'I would like,' Hayles declares, 'not to like the Greg Egan's fiction.' Hayles explains this intriguing moment of self-conscious ambivalence in two ways. First, Egan appears to 'espouse' in the novels an extreme version of what Hayles, in her earlier work *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (1999), had described as 'the story of how information lost its body,' and which she had condemned in that work as a misguided and undesirable posthuman future: namely, the possibility that human consciousness might be uploaded into a computer, and that humans might thenceforth be able to opt either to retain the material substrate of the body or to become fully post biological, incorporeal. Second, Hayles notes 'literary deficiencies' in the novels: Egan is or was an inexperienced writer, and 'many of his works lack rich character development,' a quality which she sees as 'sacrificed' for the sake of the ideas he wishes to explore. Nevertheless, Hayles admires and is attracted to the novels, 'almost in spite of myself'.

Posthumanist discourse aims to expose spaces to examine what it means to be human and critically question the concept of "the human" in light of current cultural and historical contexts. Consistent with Hayles' view of posthuman, often referred to as technological post-humanism, visual perception and digital representations thus paradoxically become ever more salient. Post-humanism is here defined as a critique, both of an essentializing conception of human nature, and of human *exceptionalism*, and is generally characterized by discourses of the dissolution or blurring of the boundaries of the human, whether conceptual and philosophical (as in the 'decentring' of the human in 20th-century structuralist and poststructuralist thought) or scientific and technological. Woven into the detailed three-wave history of cybernetics and the information age in post-war America in the landmark work *How We Became Posthuman* is an analysis of science-fictional texts – Bernard Wolfe's cult novel *Limbo* (1952), Philip Dick's 'android' novels of the 1960s, William S. Burroughs' fictions, especially *The Ticket That Exploded* (1967), and more contemporary novels such as Greg Bear's *Blood Music* (1985), Neal Stephenson's *Snow Crash* (1992), Cole Perriman's *Terminal Games* (1994) and Richard Powers' *Galatea 2.2* (1995). An overt shift toward the changing role of the literary in a new posthuman cultural imaginary may be seen to be precipitated by *Writing Machines* (2001). A whole lot of science fiction came up which had at the axis the concept of post-humanism and transhumanism, but with the growing technology and visual representation techniques, the theme had its impact on cinematic world as well. Four films with its posthuman themes found expressions through the female heroines- *Under the Skin*, *Her*, *Lucy*, and *Ghost in the Machine*—work in tandem as a subversive, reactionary form of phallogentrism both disguised as and in repudiation of a posthuman ontology that heralds the obsolescence of man. These films, far from being feminist manifestos, are, upon closer examination, a male reaction to the perceived existential threat posed by post-humanism to masculinity, itself.

Central to what Rosi Braidotti refers to as the "posthuman predicament" in these films as a rhetorical cultural construct. Characters in these films personify man's anxiety about the extinction of his humanist self. These films portrayed female representatives as the embodiments of the cultural construct of post-humanism. One such film is *Lucy* which is analysed as part of this study to unravel the post humanistic elements.

*Lucy* released on July 25, 2014 is a French science fiction action film starring Scarlett Johansson, Morgan Freeman, Choi Min-sik, and Amr Waked. Written and directed by Luc Besson and produced by Virginie

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Besson Silla for the company Europa Corp, the movie is about a woman who gains psychokinetic abilities when a nootropic drug is absorbed into her bloodstream. 25-year-old American Lucy is studying in Taipei, Taiwan and is tricked into working as a drug mule by her new boyfriend Richard for a Korean mob boss and drug lord. Lucy delivers a briefcase to Mr. Jang supposedly containing paperwork, but it actually contains four packets of CPH4, a highly valuable synthetic drug.

After seeing Richard shot and killed, she is captured and a bag of the drug is forcibly sewn into her abdomen to transport the drug for sale in Europe. While Lucy is in captivity, one of her captors kicks her in the stomach, breaking the bag and releasing a large quantity of the drug into her system. As a result, she acquires increasingly enhanced physical and mental capabilities, such as telepathy, telekinesis, mental time travel, and the ability not to feel pain. Using her new abilities, she kills her captors and escapes.

Lucy travels to the nearby Tri-Service General Hospital to get the bag of drugs removed from her abdomen. Lucy is told by the operating doctor that natural CPH4 is produced in minute quantities by pregnant women during their sixth week of pregnancy to provide fetuses with the energy to develop. Sensing her growing physical and mental abilities, Lucy returns to Mr. Jang's hotel, kills his bodyguards, assaults Mr. Jang, and telepathically extracts the locations of the three remaining drug mules from his brain. Lucy begins researching her condition and contacts scientist Samuel Norman, whose research may be the key to saving her. After Lucy speaks with Norman and provides proof of her developed abilities, she flies to Paris and contacts a local police captain, Pierre Del Rio, to help her find the remaining three packets of the drug. During the plane ride, she starts to disintegrate as her cells destabilize from consuming a sip of champagne. To stave off her disintegration, Lucy consumes more of the drug. With the help of Del Rio, Lucy recovers the rest of the drugs. Meeting Norman and his colleagues, she agrees to share everything she now knows as the main point of life is to pass on knowledge, something for which she now possesses an infinite capability.

In the professor's lab, Lucy discusses the nature of time and life and how people's humanity distorts their perceptions. At her urging, she is intravenously injected with the contents of all three remaining bags of CPH4. Her body changes into a black substance which begins spreading over computers and other electronic objects in the lab, transforming them into an unconventionally shaped, next-generation supercomputer. She mentally begins a spacetime journey into the past, eventually reaching the oldest discovered ancestor of mankind, implied to be Lucy. She touches fingertips with her, then goes all the way to the beginning of time and witnesses the Big Bang. Meanwhile, Jang enters the lab and points a gun at Lucy's head. He shoots, but by then Lucy has disappeared, moving into the space time continuum. Only her clothes and the black supercomputer are left behind.

Del Rio enters and fatally shoots Jang. Norman takes a black flash drive offered by the supercomputer, after which it disintegrates. Del Rio asks Norman where Lucy is, immediately after which Del Rio's cell phone sounds and he sees a text message: "I am everywhere." Lucy's voice is then heard stating "Life was given to us a billion years ago. Now you know what to do with it." (Besson, *Lucy*)

A woman (titular character) who unlocks the human brain so that she could explore the knowledge that was all the time in her, but was unknown stands as the central theme of this film. The filmic representation of post humanistic elements portrays the technological integration into the body and dissipation into omnipresence. The character takes trans humanism to its fullest extent than her own transformation into a post human being.

The mystery evolves with the lecture delivered by Professor Norman (Morgan Freeman) in a seminar regarding the simplistic way to deal with the ideas of how increased use of the human brain capacity could influence a human's position in relation to the world around them. Unlocking the potential to use more than 10% of her brain, the protagonist learns to control herself to the point of being able to order her metabolism to spontaneously grow and change the colour of her hair to escape detection; then control the world around her seeing the signals of mobile phones and manipulate gravity; and finally she cracks the one constant that defines existence: time.

One of the major flaws of the film is the issue of emotion. Once Lucy gains control of her body's responses she is driven by a need to pass on knowledge, to survive and follow through her evolution to its full conclusion but she loses her emotional responses. Lucy is unable to feel any kind of pain or emotions though she wishes to experience. The aeroplane scene depicts this reality where Lucy loses control over her body and the complete control of her metabolism is under the chemical that is present in her body. Her body starts to disintegrate as her cells destabilise from consuming a glass of champagne. Later in Prof.Samuel Norman's lab, she is injected with the CPH4 drug and her body changes into a next generation super computer. The technology integration into the body and dissipation into omnipresence is represented in this scene.

The climax of the film poses the question of identity crisis and existentialism. Lucy gains super powers offered by the technological world, growing in each step acquiring new and new powers but finally her identity becomes an unresolved question to herself. This ignites a thought provoking issue of what does a human gain ultimately by possessing these powers. Again being devoid of all emotional responses and transforming oneself into a machine-like usage, what does Lucy gain? The main intention of human life would be finding identity and happiness earned by enhancing it, if that be true there is no doubt that Lucy finally emerges powerful as a machine imparting its knowledge to the world but at the loss of all human characteristics. The film *Lucy* serves as a superb illustration of how subtly the control of our body, emotions and intellect slips away from man to technology and how human beings are left as bare spectators to that technological control. The lack of realisation possessed by mankind regarding the post humanist world they are already in, inexorably draws them to wish and believe that they are capable of controlling everything. It also pertains to the problematic situation of defining what is human, which will be a necessity to explain post humanism. Concluding, it can be ascertained that in trying to explore the unending and dangerous possibilities of advancing technology, the very feeling which defines what is human gets evaded away.

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