Journal of Literary Aesthetics
Volume-3, Issue-2, (July to December), Year-2016
PP: 22-26 ISSN No: 2347-8705

Techno-biology: The Place of the Human in the Machinic Space

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One of the greatest preoccupations of mankind has been the development of machines or mechanized systems which can aid, and eventually substitute human effort. Even mythologies offer instances of episodes like the building of Noah's ark to assist in the preservation of the world as it is. The Roman abacus, which dates back to 2400 BC, the Antikythera mechanism, discovered in the wreckage near Greece, belonging to 150-100 BC, the astrolabe of the 1st or 2nd century BC, all point towards the earliest efforts of human beings to create machines which can complete tasks with accuracy and intelligence.

Intelligence, which was an essential feature marking distinction between animals and *homo sapiens*, has been constantly reproduced mechanically and artificially. Emulating God, human beings have constantly been involved with the task of creating intelligence. Just as man was created in the image of God, devices have been developed in the image of Man. With reference to the posthumanist (and subsequently transhumanist) ideologies, the current paper attempts to find the place of the human being within the paradigm of the internet revolution and the development of the so-perceived human-substituting computational devices.

When Charles Babbage developed his first analog computer in 1946, it was not a novel development. It was a landmark success in a long history of computational devices, neither beginning nor ending with Babbage. Since 1946, if one were to observe the development of computational systems, an inverse correlation between the size and the scope of the devices can be easily perceived. From occupying huge buildings, systems have become almost microscopic in size. Inversely, the scope of computational devices and their relevance has been constantly increasing and has come to envelop all human existence and interaction. With the arrival of the World Wide Web, the pervasion of the technological in human life has come to a point of overlap so much so, that agency has become a point of dispute between the two. In the wake of the internet and the computer revolution, all prior understanding of social structures like identity, culture, representation, and hierarchy need to be probed afresh. The question of identity, which was erstwhile placed in a matrix of space, time, and the experiential plane, now inhabits a spaceless, timeless, and pseudo-experiential matrix, nevertheless claiming a parallel and rather pronounced and legitimate existence.

The history of the development of computational devices and communication systems parallels the self-aggrandizement project of the human race. The "will to power" (Nietzsche) that informs almost all collective human effort, can be observed as a foundation upon which the entire revolution in computational systems is based. The human race has always been obsessed with enhancing its physical and mental capabilities and the development of systems to aid, complement, or even substitute human capacities has been one of the greatest and most consistent collective efforts.

Inasmuch as technology is developed to augment biological capacity and even surpass mortal limitations, I offer the term *techno-biology* to be used to refer to the technology which has been created and/or has come to affect human life and human identity. Eugene Thacker extended the use of

the term 'biotechnology' from defining technical advancements in the field of medicine like stem cells, genomic science etc., to the "intersection of bioscience and computer science or, to put it another way, an intersection between genetic and computer 'codes'" (72). However, considering the reliance on technology for enhancing biological and physiognomic capacities, one could extend the use of the term, to cover any and all interactions between the human body and the "machinic" (Dougherty 86). But I propose to use the term *techno-biology* for the study of the interaction between the technological and the biological: the machinic and the human. The predominance that the technological is acquiring in the contemporary scenario necessitates a protocol that qualifies the technological aspect of human existence. Even in being created by the human, the machine and its extended attributes are debated to be the source and the seat of power. Further, this technology is not an immutable system but can be personalized to suit individual preferences and expressions. Therefore, in essence the entity remains human and individual and can at best, only be defined as technologically-aided. The problematic division of power between the creator and the created, the position of the human and the machine as creator and created, respectively or otherwise, and the subsequent blurring of the aforementioned categories can be explained using the meme theory.

Aristotelian philosophy describes art as mimesis. The theory that art imitates reality forms the basis of understanding the relationship between the two components and validates the argument about the precedence of either. Art is observed as imitating reality just as much as reality is evidently influenced by art. In the field of genetics, a similar observation could be made. While a 'gene' is a biological marker, it does not remain a passive marker and acquires the means to replicate itself so as to create a complex DNA system and as the gene moves across bodies, it actively acquires individual traits. On similar lines, Richard Dawkins expounded his "meme theory" on the hypothesis that "all life evolves by the differential survival of replicating entities" (192). Dawkins's theory of memes suggests that all attributes of human life: social, artistic, cultural, historical, political etc., which can be replicated constitute memes. Dougherty understands a meme as "a self-replicating unit of data that materializes itself as an instruction for the human mind that gets passed on whenever one human imitates another" (88). The power within the meme to replicate itself, grants it an autonomy that cannot be claimed by the source of the replication process. Elaborating on this aspect of the theory, Susan Blackmore suggests:

> Memetics provides a new way of looking at the self. The self is a vast memeplex [a complex organization of mutually enabling memes]—perhaps the most insidious and pervasive memeplex of all. I shall call it the "selfplex." The selfplex permeates all our experience and all our thinking so that we are unable to see it clearly for what it is—a bunch of memes. It comes about because our brains provide the ideal machinery on which to construct it, and our society provides the selective environment in which it thrives. (231)

Therefore, human agency becomes invalid the moment a meme replicates itself to create a "selfplex." Reverting to the terminology of genetics, a gene is a biological marker, but in its mutation acquires new characteristics to create a complex DNA essentially differentiated form the source of the gene. On similar grounds, memetics suggests that a meme is a self-replicating unit which creates a new selfplex which is different from the source of the meme.

With this theory in the backdrop, when the world of technology is approached to find the place of the human in it, the exercise goes far from simplistic and acquires an unprecedented complexity. The virtual world is fast invading the real and becoming a foreground of human agency. With social networking, commercial exchange, and revolutionary media developing, the human is transcending the boundary of here and now into the everywhere and forever. But it is worth pausing and

questioning as to whether human agency can be located in this parallel existence in the virtual state. The parallel disembodied state is becoming the primary mode of existence rather than a self-projection.

In an enthusiastic response to the growing impact and scope of the cyberspace, Donna Haraway, in her 1991 work *Simians, Cyborgs and Women: The Reinvention of Nature*, espoused that the cyborg is the only hope for counter-canonical agency and went as far as to announce that the future will be the world of the cyborg. Inasmuch as her vision was driven by a concern for counter-canonical mechanisms toward the empowerment of the marginalized and the dethroning of the patriarchal regime, one may accord it a positive and celebratory space, but the near-complete disregard for human capacity and the almost sweeping announcement of the era of the cyborg (as a substitution of the human) becomes problematic. Not only does this account minimize the role of the human in future revolution, it also seems to dismiss any possibility of agency with it. This definition of posthumanism tends to announce the "death of the human".

However, N. Katherine Hayles, in her thesis *How We Became Posthuman* that came slightly later, offers a slightly different and defensive definition of posthumanism:

> [T]he posthuman view configures human being so that it can be seamlessly articulated with intelligent machines. In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals. (3)

Disclaiming any suggestion to the creation of the Haraway-like "cyborg" as the emphasis of the posthuman definition, she asserts:

> Although these examples foreground the cybernetic aspect of the posthuman, it is important to recognize that the construction of the posthuman does not require the subject to be a literal cyborg. Whether or not interventions have been made on the body, new models of subjectivity emerging from such fields as cognitive science and artificial life imply that even a biologically unaltered *Homo sapiens* counts as posthuman. The defining characteristics involve the construction of subjectivity, not the presence of nonbiological components. (4)

This raises the self-critical foundation of posthumanism that underscores that even a technologically governed world is a creation of the human and that posthumanism is in fact, informed with human action. It is relevant to note what Neil Badmington reiterates while challenging the posthumanist enterprise of announcing the death of the human in the technology driven universe. Arguing with the complacent and quick farewell to the human as signaled by the likes of Haraway, Badmington suggests that "posthumanism…is as much *post*humanist as it is post*humanist* (qtd. in 2003: 15; originally in 2001: 13). This counters the posthumanist tendency to become *trans*humanist, and establishes that the agency remains seated with the human in mutated forms, despite the development of seemingly human-substituting machines and the increasing dependence on non-biological or bio-identical machines in the twenty-first century.

However, it is interesting to note the celebratory vein in which the post/trans-humanist era is announced. The anxiety to claim that the human is no more in control seems to be an anti-climactic yet vastly prevalent notion. It seems odd that instead of aggrandizing the humanist project and claiming greater agency for the human in developing machines that can replicate human effort, posthuman thought seems to be veering in the direction of relegating all control and agency to a bio-identical machine and accepting a secondary, and soon fading space for oneself.

To understand this anti-climax, it is relevant to observe the politics behind the posthumanist enterprise. The most visible effects of the technological revolution and its penetration in the human space can be observed in the growing population and following of the World Wide Web. Liberating, as it is often described, the space of the net is considered an equalizing ground – in that it seems to offer the same opportunities of representation and voice to all users. Self-representation on the internet is arguably the most effective method of according an illusion of empowerment to an individual beyond factors of gender, race, geography, and economic status. The space populated by the netizens seemingly promises equality, voice, and transcendence from the boundaries that divide the embodied state. However, the hierarchies online hardly seem to alter those in the real space.

Further, the parallel existence in the embodied and the disembodied space causes a fissuring of the "self" that results in loss of any real agency that was held by the individual. Escaping into an illusion of authority, the user often fabricates "handles" and fictionalizes fantastical identities that are only designed to slyly enunciate ideas that are unrealizable in the real world. Such duplication of identity online or in similar bio-identical forms only disengages a human into an illusory space. While the agency is still with the human, the exercise of it is distanced from the body to the extent that it cannot be claimed anymore. Such an exercise of disembodying the self, results in loss of authority for the individual, but the authority lost is not transferred to the machinic, as that existence itself is an illusion.

Even in bio-identical machines or robots, the power is not transferred to it, but only dissociated with the human who has been replicated by it. The celebration of the enhanced authority of the machinic, the virtual and/ or the bio-identical then becomes the celebration of a loss of power to a non-existent distant illusion or an elusive and fantastical escape phenomena similar to that of superhero phantasm – I may not have the authority, but my web avatar or my online game character does!

Going back to the meme theory and Blackmore then, a techno-biological persona, a new "selfplex," while carrying within it the memes of the human, replicates them into a complex matrix and holds a separate space for itself. The illusion that empowering the new selfplex somehow empowers the human is not only fantastical but also illogical. Furthermore, the new selfplex, while seeming to hold authority, remains a human-controlled entity and any power held by it is in reality not held at all. The empowerment of this technobiological selfplex is like enhancing the capability of a gaming character – exhilarating, entertaining, but eventually meaningless.

The excitement of cyber-apologists to announce the posthumanist era as transhumanist is a means to revel in the glory of the virtual, while remaining oblivious or perhaps in denial of the only virtual authority that comes in it. In the space of the machinic, the human has a place that is veritably god-like. However, the glorification of the machinic to the extent of annihilating the human is a politics that only distances the human from any possible empowerment. The bio-identical is only a techno-biology at best and not the technologically advanced human substitute that it is often touted to be.

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