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More than Just Pixels: Analysing the Novel Effects of CGI Entities on Human Identity and Social Structures within the Ambit of Fashion Industry

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ABSTRACT:The rapid and fervent transition of society and its ever-burgeoning acceptance of everything that comes under the purview of 'online' and 'internet culture' has put the limelight on the arena of Computer Science. This paper posits the cascade of changes, within and without, engendered by the CGI renditions called *Shuduand Lil Miquela*, as well as analyse the myriad of inconspicuous ways in which incipient and incumbent technologies like Computer - Generated Imagery both affect and help evolve the concepts of Human Identity and Social Structures. This paper also aims to explore the sundry ways in which such technologies, particularly CGI, help challenge and efface social blights like systemic racism and sexism in the fashion circles and the 'glamour podium' of the world, and furthermore, combat the egregious pain of Body Dysmorphia. For this investigation, the theories of Post-Humanism and Trans - Humanism, both in the fields of Sociology and Computer Science, have been employed, and the eventual concomitant effects have been investigated under the garb of the concept of Gayatri Chakravorty Spivak's "Planetarity".

KEYWORDS:Post-Humanism, Trans-Humanism, Computer-Generated Imagery, Fashion.

I. INTRODUCTION

The concept of faces, the visage of a person, the first "look" - not merely in a first-impression idea of sorts, but a chiseled jaw and a high-cheekbone structure - are all considered to be of paramount and insuperable importance in the glamorous, never-resting world of fashion and all its concomitant connotations. Be it the Vogue magazine cover-pages with their carefully- crafted headshots or the mugshots of purportedly shame-faced celebrities, the face, undeniably, is a fashion influencer's best - foot forward. There have been humongous strides forward to remove the traditional belief in and regulations surrounding the concept beauty and help models and fashion enthusiasts, alike, in combating Body Dysmorphia.

Welcomingly, and not necessarily surprisingly, the ever-evolving world of Computer Science has presented us with an answer. Clever enough to leave bewildered and beguiled even the best in fashion, this solution was, when taken at face-value, resolved a myriad of problems faced by the fashion industry. But when it was taken even beyond what it could offer at the surface, this recourse redressed many of the systemically entrenched blights and faults that the society has tried, and failed, to occasion a difference or a change in.

When seen in the garb of Post-Humanism and Trans-Humanism, this nouvelle solution, this brilliant stratagem of the human mind, not only helps challenge the concept of human identity and how human perceive not only themselves but the entire world round them, but also provides succour to the stanchion that is the concept of Anthro-Centrism. More than that, it also enables individuals in particular, and society in general to use it as a veritable segue towards the new dawn of human society and help ease the transition for notonly the shift in tolerance and acceptance, but also more fully adapt the new trials and tribulations of the possibility of a society that is no longer human-centered and a society that rejects Anthropological Universals⁵. Instead, this incipient society, now, treats all entities, be it human or non-human, on the same pedestal.

Such is the power of this solution introduced by the world of Computer Science - Computer-Generated Imagery. While the concept itself of Computer-Generated imagery has been around the Information Technology circles for a while now, it is the application of these CGI concepts as well as the enormous changes and improvements facilitated by ubiquitously - improving technology and its concomitant effects that have helped raise the bar and help occasion such rapid changes. CGI, ordinarily and in most parts and facets, mostly helps in the background scenes and landscape settings of Box - Office blockbuster films and sometimes, even more so nowadays, entire music video shoots and even static images have their backgrounds CGI - enabled. But what is even more surprising is that entire videos and images,



not to mention even some films and episodic series, are fully and utterly composed of and contrived by CGI. But why is this surprising? What is so fundamentally astonishing and flabbergasting about CGI? Individuals make use of the concept of CGI even inside the four walls of their homes, with absolutely no studio-level infrastructure and no prior professional experience or professional help. People employ CGI-enabled mobile applications. So, what is so absolutely, completely amazing and evolutionary about Computer - Generated Imagery?

The answer is a simple one.

II. CGI AND CGI REALISM

“Cartoon” is a noun, but it is so in more than one way. A “Cartoon” not only means or refers to the images generated by employing computer infrastructure and technology, but it also means funny, ticklish, laughable, and, most importantly, a “Cartoon” means non – human; something, or someone, that does not come under or cannot be considered to be under the aegis of Humanity and human - related conditions. A “Cartoon” is, pertaining to all meanings of the term ‘non-real’. It is, simply, not real. And that is precisely where the incumbent ability of Computer-Generated Imagery and its tools hit the bullseye right on the mark - Realism.

The concatenation from basic pastel - shaded images with thick black borders to colour co-ordination, from mere backgrounds to human shapes and faces, and finally to complete human bodies and realistic skin tones, CGI has come a long way to creating the perfect salve for the enormous financial costs and harmful affects on the environment. From helping usher in all video and image related machinations under one roof to providing an alternative to environmentally - debilitating processes and procedures, CGI has taken massive strides in lowering the carbon footprint as well. Yet, the question remains that this is not enough validation to warrant the high stature that Computer - Generated Imagery has been accorded here. What is it that has enabled CGI to shift the very foundation of society? Why is it that CGI is opined to be a veritable, albeit ostensible, panacea to all social faults and foibles?

The answer, yet again, is Realism, but a very curious and often - overlooked facet of Realism. A facet that, head-scratchingly and bewilderingly, appertains to skin, or, more particularly, the concept of realistic skin colours and images. CGI has transgressed norms considered ahead of their time and in vogue a few years back, and has consistently progressed from Photo Realism⁶ to Physical Realism⁷, before finally transmogrifying into Functional Realism⁸. The ability obtained by and encapsulated in by Computer - Generated Imagery via the concept of Functional Realism provides it unparalleled skin - tone abilities and the facilities and tools to not only imitate human skin tones and lineaments in a graphic image, but even in territory of human - like movements and shapes, the curves of the skin, the folds in the patches of skin to ape a particular movement – in a nutshell, Computer - Generated Imagery has transformed enough to not only imitate but resemble humans so much that even the very notion of humanity can be put to question.

Improved and facilitated modelling of skin using the idea of a 6 - dimensional Bidirectional Texture Function (BTF), and rendering its planar texture coordinates to use to view and illuminate spherical angles. Even more so is the step of a 7 - dimensional BTF, which is essentially a Bi - directional Scattering Distribution Function (BSDF) over the surfaces of various images, objects or targets. Over time, these concepts have been evolved to include and posit Bi - Directional Scattering - Surface Reflectance Distribution Function (BSSRDF), Bi - Directional Transmittance Distribution Function (BTDF) as well as Spatial BRDF (SBRDF). These tools are put into use to beget photo - realistic rendering of real-world objects and humans, as well as featuring histograms or 3 - D textures, usually in a bidirectional sense, to not only create skin texture but also recognize and reproduce at will. These tools, more often than not, employ Lambertian Diffusion and other components like a modified specular Phong component with a Fresnel type to produce the desired effect.

The chain of events, mostly pertinent to real - world graphics, follow the order as: Data Pipeline is used to create a segue of a flow which then helps develop a mass of Visualisation Data which then develops into Visualisation Representation, eventually snowballing into a Renderable Representation which, finally, transforms into a Displayable Image. In the postulation of static images, a need for real-time immediacy and efficiency in computational programs is a key component that is taken into consideration while choosing CGI.

The incumbent faults of CGI, most notably the Uncanny Valley effect, will and are easily effaced by categorically using Motion Capture, and by using certain imitation techniques in detail and in a particular context. Other tools,



namely Cel Shading, Parallel Rendering, Ray Tracing - most efficiently in the case of static graphics - and Shader, are conspicuously and congruously used to create the true - to - life human effect.

This, however, and finally, encompasses and almost completes the technological aspect of Computer - Generated Imagery pertaining to the territory of Computer Science. But what about the aftermath of this nouvelle technology on society and human identity, as claimed? What of the changes in and the transformations of the drawbacks of society and the concept imputing to human identity?

Quite adequately, the answer was achieved and realised in the CGI forms of Shudu and Lil Miquela.

Shudu, Miquela Sousa (popularly known as Lil Miquela) and the like, the upcoming “ virtual influencers ”, are taking the world by storm. CGI has contributed heavily and successfully towards their making, essentially rendering their likeness, mostly in graphic format, to be virtually indistinguishable from that of a human. The skin texture, the lighting, the wrinkles in and the folds of the skin are exactly those of a human; the gait, the shape of the overall body, the expressions - especially the softness of the expressions and the sway of the hands and the limbs while Shudu and Lil Miquela are “walking” – leave ordinary people and onlookers stumped when they are told of their CGI genesis, and that they are, in fact, not images and videos captured of actual humans.

Shudu was created by photographer Cameron James Wilson and revealed to the world in 2017. Cameron Wilson has, since then, moved on to create six more of these virtual “humans”, one of them even being, what can quite possibly be called, a virtual alien named Galaxia. What is astounding, though quite frankly not wholly unexpected, is that Shudu, or at least the creators of Shudu, have collaborated with industry giants like Cosmopolitan, Vogue, Balmain, Smart Car etc., all the while considering and portraying Shudu with all the financial perks afforded to an actual human model. A CGI rendition of a human model, working as a human model, is earning its keep just like a human model!

Cameron has even taken more such steps by forming an organization called The Diigitals. The Diigitals is, essentially, a model agency, first of its kind, for virtual models like Shudu and the like; a model agency whose entire clientele comprises of that which, in incumbent terms could, quite simply be categorized under the ambit of non-living.

Though the concept of virtual influencers isn't particularly nouvelle, however, the concept of virtual influencers passing off as human is. Miquela Sousa, though widely known as Lil Miquela, would be a case in point. Recognising and identifying herself as “19 - year - old Robot living in LA ... still figuring out the rest one post at a time” (Miquela, Instagram bio), she has become one of the most successful virtual CGI influencers, cashing in lavishly exorbitant deals with high - end multi - national companies and conglomerates. Keeping identity, pronoun and social questions aside, CGI renditions like Lil Miquela and Shudu are emerging as one of the highest - grossing industries in the current epoch.

Considered to the brain-child of Brud, a company based in Los Angeles, United States of America with a specialization in robotics and artificial intelligence, Miquela Sousa was launched in 2016. Widely hailed and fawned over, this CGI - begotten "girl" and her Instagram profile have attracted, as of the time of writing this essay, over 3 million followers, and has signed deals and collaborated with industry giants like Dior and fashion industry influencers like Kim Kardashian and Bella Hadid. Not to mention the sheer financial advantage she has, not merely in terms of her non-existent health demands, time schedule demands, and a virtually - incessant stream of accessories and items that she, or rather her creators, can think of.

Shudu, Lil Miquela and their kind have also become symbols of social change. Lil Miquela has been hailed as one of the proponents promulgating and disseminating information about the Black Lives Matter movement, and Shudu has quite blatantly challenged the innate racism and sexism widespread in the fashion industry. These virtual humans are not merely a tool to better human society, but are eventually turning out as quite human - like themselves.

The simple enormity of this turn of events, this twist in the fabric of fate, quite simply posits a simple question - What does this mean? What does this all mean? What happens in the aftermath? What are the social implications, the fundamental changes that we have to deal with?



III. SOCIALLY CHALLENGED OR CHALLENGING SOCIETY

Within the adumbrations of the internet, no one is human. This statement might simply be the embodiment of 'stir - crazy' in itself. It is relatively easy to define the concept and the existence of humans in the physical realm, but within the ambit of the internet - an entity that is essentially and inherently virtual - is deceptively and remarkably difficult to define the concept of humanity and what all construes to being a human, or even being considered as a human. Lil Miquela, with her projected salary running into literally millions of pounds, and Shudu, with her slew of media and conglomerate collaborations, score higher on the human spectrum than the tens of thousands that humans who retweet memes, or religiously follow the Instagram feeds and posts of these very Lil Miquela and Shudu.

One loophole, however, revealed in this ebullition of apprehension and paroxysm of utter disbelief and indignation is that these virtual influencers are just that - they are completely and fully constrained to the virtual world, or the virtual reality, as it were. Needless to say that a similar counter point, on those same lines, could be simply that apart from the few humans that an individual is regularly in contact with, especially during the epoch of this Corona Virus pandemic, practically every one else is a virtual human, a mere virtual entity. If those humans are to be considered real and human, people of whom we know nothing and their reality, as it were, is unvalidated by us, then what is stopping us from bestowing the label of 'human' on these virtual influencers, on Shudu and Lil Miquela and their kind? Shudu and Lil Miquela having not a corporeal form is not unbeknownst to people; their un - realness, in a way, is more real to us than that of our slew of Facebook friends, their numbers running into hundreds and even, in some cases, thousands.

All this, quite simply delineating the parameters of Post-Humanism, not only undermine but also invoke and provoke the thought pertaining to the need of Anthropological Universals - the need and use of human - centered universal concepts when, in fact, the very definition of being considered a human is in a state of constant flux. It quite simply portrays the quandary of placing human needs and human existence at the very center of civilization and society and calls into question the validity and utility of the now clearly - trite and moot concept of Anthropocentrism. Even more than that, withal it also sports the concept of a holistic, incipient planet - wide consciousness along the lines of Gayatri Chakravorty Spivak's concept of Planetarity. Such a thought contends the idea of centering all aspects of organic and inorganic forms and entities around humans, but it does not contend the right of humans to be placed on the self - same pedestal as that of other entities.

IV. CONCLUSION

Looking at such CGI entities, or to use a better word, CGI organisms, the realization is achieved of the decentering of human in multiple discourses - evolutionary, ecological, technological - and introduce the affiliation of humanity into the virtual world by humanizing the virtual sphere. This posits the essential question. Is Visual Perception and Digital Representation all that construes the idea of being human? If that is the case, are CGI renditions more human than their creators? Can human existence be delimited to mere physical form, or can it expand and evolve to include the humdrum world of disembodied entities?.

REFERENCES

- [1] Bartell, F. O.; Dereniak, E. L.; Wolfe, W. L. (1980). "The theory and measurement of bidirectional reflectance distribution function (BRDF) and bidirectional transmittance distribution function (BTDF)". *Radiation Scattering in Optical Systems*. 0257. Proceedings of SPIE Vol. 257 Radiation Scattering in Optical Systems. doi:10.1117/12.959611
- [2] Cheetham, M.; Suter, P.; Jäncke, L. (2011). "The human likeness dimension of the "uncanny valley hypothesis": behavioral and functional MRI findings". *Frontiers in Human Neuroscience*. 5: 126. doi:10.3389/fnhum.2011.00126
- [3] Ferrando, Francesca (2019-06-27). *Philosophical Posthumanism*. Bloomsbury Reference Online. ISBN 9781350059498
- [4] Grey, W (1993). "Anthropocentrism and Deep Ecology". *Australasian Journal of Philosophy*. 71 (4): 463–475. doi:10.1080/00048409312345442
- [5] Instagram profile, Miquela <https://www.instagram.com/lilmiquela/?hl=en>



- [7] Klein, Matt. "The Problematic Fakery Of Lil Miquela Explained—An Exploration Of Virtual Influencers And Realness". Forbes, 2021, <https://www.forbes.com/sites/mattklein/2020/11/17/the-problematic-fakery-of-lil-miquela-explained-an-exploration-of-virtual-influencers-and-realness/?sh=1b7e2c91b8df>. Accessed 7 Oct 2021.
- [8] MacFarlane, James Michael (2020), "The Techno-Centred Imagination", Transhumanism as a New Social Movement, Cham: Springer International Publishing, pp. 205–233, doi:10.1007/978-3-030-40090-3_8, ISBN 978-3-030-40089-7
- [9] Misselhorn, C (2009). "Empathy with inanimate objects and the uncanny valley". Minds and Machines
- [10] Nicodemus, F. E.; Richmond, J. C.; Hsia, J. J.; Ginsberg, I. W.; Limperis, T. (1977). "Geometrical Considerations and Nomenclature for Reflectance" (PDF). Technical Report NBS MN-160, National Bureau of Standards
- [11] Palomäki, Jussi; Kunnari, Anton; Drosinou, Marianna; Koverola, Mika; Lehtonen, Noora; Halonen, Juho; Repo, Marko; Laakasuo, Michael (2018-11-01). "Evaluating the replicability of the uncanny valley effect"
- [12] "RACISM IN THE FASHION INDUSTRY - Mission Magazine". Mission Magazine, 2020, <https://missionmag.org/racism-in-the-fashion-industry/>. Accessed 7 Oct 2021.
- [13] Thediigitals.Com, 2021, <https://www.thediigitals.com/models>. Accessed 7 Oct 2021.
- [14] "Virtual Influencers 101: A Guide For Small And Medium Business Owners". NCR, 2021, <https://www.ncr.com/blogs/virtual-influencer>. Accessed 7 Oct 2021



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