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Translation of Real from Reality to Digital: Towards the Aesthetics of Augmented Reality

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Abstract: Technology has already pervaded human reality and has touched the boundaries of perception and cognition. With the advent of Virtual Reality, 3D modelling, VFX and other computing miracles, virtuality has become a cognitive phenomenon. Augmented Reality, a technological interface, transcends the reality by emulation and further addition. It acts with the principal objective of providing supplements to the real world as perceived by the user's eye. A taxonomical structure has already been given to the virtuality-reality phenomenon and attempts are made on scientific progression to make the AR experience richer. AR aims to translate the real world according to the user's need and provide additional information through an interface such as mobile phone or goggles. As the Augmented Reality has already broken its confinement of computer lab and entered the human sphere through mobile phones, it becomes a prerequisite to formulate adequate tools to analyze the effects of technological synthesis with perception. The article will aim to move through the existing episteme towards a realization of aesthetics of Augmented Reality. Grounded in postmodern theories regarding films and human perception the article will try to establish a philosophy for Augmented Reality taking into account recent theoretical developments.

Keywords: *augmented reality, worldizing, cognition*

In today's world technology has pervaded media to extreme limits where suspension of disbelief is a matter of compulsion rather than willingness. Different forms of presentation, such as films and news clips, employ realistic manipulation of characters into otherwise impossible acts, through animation, VFX, 3D modelling and other virtual faculties of media technology. The mediator between the concept of the artist and the spectator's realisation of the same is the computer and deft computer designing. Through its use of specialised software developed for the purpose, computers can create realistic and even hyperrealistic representation of a non-concrete object finely simulated to the viewer's perspective. Visual effects or VFX creates and manipulates computer generated images embedded in the natural

world framed by the camera. In case of 3D modelling, objects both commonplace and imaginative, are given shape and a virtual life and then are brought into video games, educative purposes, films and so on. An advanced state of virtual field, employing all sorts of computing prowess create Virtual and Augmented realities which can negate, contradict and supplement human perception and senses. The human perception in the world of tomorrow will not yield only through five senses but the sixth sense of technology. Cognition of a human is largely influenced by the technological apparatus which enters the human observation through varied media exposures in a mediacentric world. The extent to which it operates and toys with human reality needs a separate philosophical analysis as media today have transcended its older limitations and consumed much of time available to the waking human consciousness. The latest developments feature Augmented Reality which aims to add elements in the user's field of view, that either eases his/her work or intensifies video gaming experience. This technology is used in mobile phone apps to create interesting modifications of reality caught by phone camera. AR is used in games such as PokemonGo or Instagram filters where pokemons could be found resting upon cushions or the human face could be changed to that of a rabbit with long ears; everything entirely in virtual form. An advanced usage of this technology is prevalent in specific work areas such medical treatment and engineering through specialised gadgets such as Microsoft's HoloLens.

Virtual objects work as a supplement to the reality to which the human eye is exposed to. Traditional view held that the qualitative characters of the objects found in human reality, exist independently of its observers. This as a corollary brings the notion of images as purely mental phenomena. When virtual field is intertwined with the real world, images do not exist independently but are created specifically for the viewer, and may change from viewer to viewer. Secondly, virtual images lack any form of inherent quality but that does not limit its acceptability. External sound images are played simultaneously with the visual images and in this course the technological enterprise aims towards building up a concrete image. For example when the phone camera is directed towards the floor a virtual ball bounces on the floor and the sound of the ball bouncing comes through the phone speaker. In reality it is just an empty floor. The foothold of subjective philosophers has long been shaken when computer graphics provided realistic images of imaginative and fancy objects. To get the image of a bar of chocolate, one does not have to photograph a bar, instead he or she can make a cube on the computer screen and proliferate it to as much amount as desired. The virtue of 3D modelling

gives realistic images that can fulfil our desires to apprehend otherwise solely imaginative images.

Deleuze, while discussing about cinema in his two famous volumes, *Cinema 1* and *Cinema 2*, talks about images which constitute human reality. As Colman describes, Deleuze talks about images produced in cinema that alters perception; organization of things in the world, the politics of thought; which he calls ‘worldizing’, “a movement of world which supplements the faltering movement of the character.” (Deleuze 59) He brings the example of animated movies where the character is still but the world around it has felt the excitement inside the character and the world starts running. This notion of supplement is prevalent in Augmented Realities, but in different degrees. Originally defined for films, the ‘worldizing’ element has crept in other media as well. A user with his gadget stays at the same instant of time while his consciousness finds his reality expanded. Had he been transported to a different setting, as it happens in video games using Virtual Reality, he would have always been conscious of his false temporary video game world, and he would have always remained aware of his own living world where he had to return after he puts down the VR set from his head when the game is over. In Augmented Reality, which uses the real world of the user, makes the user conscious of the original world with no burden of two different worlds. This autonomy makes the experience more wholesome and real. The user with his or her mobile phone or any other gadget examines his/her real world and finds digital supplements to the world. For example, the pokemon is caught on phone resting on the table using the phone camera. The real world might be too morbid to react according to human wishes, but AR makes it run or stop. The world as perceived is made to react when the character does not move and this is Deleuze’s ‘worldizing’, not in cinema but in real world and hence different. However, in this way Augmented reality is always aiming to provide what is missing in the real world. On a deeper note, it is always providing digital elements in the analogous real world and what we have is a mixed perception. Thus, it is always filling the absence; Virtual Reality provides the required supplement to the real world which aims at human satisfaction. This enterprise functions solely through human cognition. The more it is finely embedded in reality the more is its success.

The older form of Augmented Reality, known as the Virtual Reality, is different in many forms. To avail a Virtual Reality experience, one has to enter into a completely manipulative surrounding accompanied through gadgets. Thomas K. Metzinger considers VR

as the technological metaphor for conscious experience, philosophers have often considered at length on the shortcomings of technology as a metaphor acting in human cognition. But finding faults will only provide room for technological development and lead astray the philosophical functionalism or the function it is performing. Alan Turing opines that the computer will be considered as intelligent as a human if it is able to function like a human or excels in simulation of intelligent behavior (Philosophical Explorations). The workings behind technological simulation falls under computing realm but its effect on perception can be probed better not with an ontological but a semiotic analysis.

“When we view the world ... the world becomes filled with signs and symbols” (MacDonald 146). Our reality is constituted by signs; this constitution is demystified by the workings of signifier and signifieds along with cognitive science that involves brain function and physical activity. In case of Augmented Reality experiences users are exposed to various elements that have no existence in reality. In the augmented fancy world, images get flooded with no signifieds behind them in Saussurean sense of the term. The moment the gadget (mobile phone or goggle) is removed, it is lost. These images act as empty signifiers which lead to nowhere but to itself. With the chain of significations, it may continue in the imagination and cognition but its signification is entitled into the closed sphere of virtual paradigm. These empty signifiers, for example, the pokemon standing beside the real statue in the middle of the street in the game Pokemon Go, has its existence and viability and meaning inside the mobile phone only. Half constituted signs, giving the illusion of doubled reality, have its acceptance to human reasoning. Inside the mobile screen, it carries its full-fledged meaning but that is only illusive when put against real world. It will be wrong to say that AR works through willing suspension of disbelief. Instead, it will be more correct to say that AR works through willing addition to cognitive acceptance. It is an addition to essence; not an alibi to compensate an absence; a pure addition.

Henry Bergson contributed significantly on the issue of perception in his book *Matter and Memory*. He propounded the idea that images of objects in the world before humans are a part of the object itself, which exist externally and not internally in the brain. With his theory of ‘pure perception’ he aims to prove that “beyond both realism and idealism – our knowledge of things, in its pure state, takes place within the thing it represents” (Stanford) With the shifting of the image from brain to the object, it rejects the notion of objects having intrinsic power of itself, able to create representations in brain. The alienation of objects from

a direct involvement with cognition helps Giles Deleuze formulate his concepts on cinema. Bergson further continues that the representation involves some reductions when transforming from image to pure perception. In Bergsonian terms the image goes through a sort of 'slicing up' or a 'selection' (38). This idea leads to a wider observation that the body filters the world of images that the individual is subjected to and selects only those facets of images relevant to it (Zabel). This notion of selective intake of perception is borrowed by Deleuze to support his own concept of cinematographic framing which acts in a similar fashion of selecting the required image and subtracting the other. Augmented Reality operates on this principle of exclusive and selective framing while centering digital elements and real world. Behind the production of an AR experience, the specific target area on which to augment, is a technological desideratum. Augmented Reality cannot act openly on a wide area of flooding symbols and signs. The specific target sign or image or map area is previously loaded into the application. On recognizing the matched real image, the virtual image appears on screen and performs as programmed. It is this framing and recognition that AR applications perform, selecting and augmenting only the desired signs.

The interface plays a crucial part in accessing the Augmented Reality by the individual. In most of the cases, user's mobile phones are the devices that stage the AR. As Drucker and Hookway points out, the interface is a site of confining and opening up, of excluding and including (Verhoeff et al.). In this case of 'framing' discussed above, the interface also plays a part along with the programmed AR. Interface or the device is the site of contact between the user and the augmented world that lies outside. Once the device is removed the fancy is gone and the material world is back in place. The interfaces exert power because it decides what to capture for digital augmentation and what not. In order to define interface it becomes prerequisite to consider that in the age of Augmented and Virtual Reality interfaces are no longer static interaction between human and technology through a programming language. Karen Barad's idea of 'intra-action' best exemplifies the AR realization in the present day where he observes agencies or things in constant contact with each other working inseparably. He moves away from 'interaction' as dialogue between two entities and moves away to a state where the individuality of the entities is lost in the dynamism of action. (Stark, 2016) AR is on its way to achieve this sort of diffused relation with human perception where technology and human reasoning is hard to differentiate.

Paul Milgran's taxonomy of the different facets of Augmented Reality provides the idea of Reality-Virtuality Continuum. He rejects the antithetical relationship of reality and virtuality; instead places the two as the two ends of a straight line. As one moves from reality, he will be gaining more and more of virtuality until he reaches the end, and everything becomes entirely virtual. Milgran's simplistic and all-inclusive design is like the knob of virtuality from zero to ten, and in between the two extremes posit Augmented Reality and Augmented Virtuality. His design however has enabled him to reach to the concept of 'Mixed Reality' which consists of both the real and virtual in the viewer's perspective. This concept of 'Mixed Reality' solves the problem of duality in perception; the dual consciousness arising out of virtual and real. The nuances of observation, either through a monitor or head mounted gear, is now settled down to an extent. The supplemented metaphor or alibi or sign is drilled down as a part of perception and not anything exterior to it. The combined perception is now the new reality at which the human observation is exposed to. But at its core, it is still an illusion; an artificial mimesis. The amount of virtuality present in the perspective is fully man made and controlled. It is not a self-made entity like the 'reality' and nothing but a simulation, still having great powers like 'reality'. If the virtuality present in the field of view is divided into small units then these units are not arbitrary but linked in a twofold way. Firstly, the units are linked to itself that constitutes the virtual element together as a whole. Secondly, these units are linked to the real world which makes the augmentation possible. The real world is static, but the virtual elements are proliferating entities, constantly changing and adapting to the real world. The dynamic virtuality makes the 'reality-virtuality continuum' possible.

The virtuality which enters the human observation after 'slicing up' or 'framing' or selection is always on a constant turmoil and is always repeating the same process in order to live and pass on. If it is static, it is not embedded in reality anymore, and it breaks the mixed reality. Augmented Reality therefore is a technological signifier/metaphor (both terms overlapping each other) embedded in the real world which is posing new challenge to the mechanisms of cognition. AR has its own mechanism and has a philosophic oeuvre.

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