Cyber Anthropology and the Construction of Online Identities and Memories: A Theoretical Framework

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Abstract: *Social media and social networks have been consistently gaining momentum due to the sweeping velocity of the new technologies. People, groups and individuals communicate, socialize, interact and 'live together' on cyberspace which provides a new realm of communication shaped by digital culture. People are now using social media to build up communities and social groups that transcend the conventional concepts of time, space, body, memory and community, generating a new lexicon that pertains to the digital world, namely, cyberspace, cyber culture, cyber anthropology, virtual communities and online identities. All these digital-based concepts were born on the internet and enhance the culture of the Internet which is to be conceived as a shaping force. People are, indeed, shaped by the digital tools they have themselves invented! Human intelligence, memory and senses have been projected onto our digital devices, embodying, therefore, the human-machine metaphor (Wiener, 1948) which was seminal to the rise of digital technologies. In this paper, I intend to provide a theoretical framework of the concepts of cyber anthropology, cybernetics, cyberspace, online identities on the one hand, and the construction of memory on cyberspace, on the other hand. My hypothesis is that digital identities and memories are shifting, elusive and amorphous which leads us to reflect on the viability of digital cultures and their modes of transmission in the post-organic societies or what Umberto Eco calls "Cyberia", the electronic social groups.*

Keywords: Cyber Anthropology, Ethnography, Cyberspace, Virtual Communities, Online Identities, Online Memories

1. Introduction

The works of cyber anthropology seek to analyse the relationship between humans and the "computer-generated world" (Libin and Libin, 2005). Cyber anthropology considers internet's users digital agents immersed in the virtual world which they have themselves created, a world that is mediated by their imagination. It is within this imagined "non-space" (Gibson, 1989) of the mind where memories, cultures and identities are constructed by individuals and groups through texts, narratives, signs, symbols and graphics, embodying both individual and collective memories. Given the fluid and transformative dimension of cyberspace, I argue that these digitally constructed memories and identities are not fixed or static; they are constantly shifting and changing, entangled in a process of construction and reconstruction, remembering and forgetting. Therefore, I believe that cultural anthropology is relentlessly shifting online, bringing forth new methods of documentation, new tools, new data analysis, and new ways of interpretations of a world mediated by digital technologies.

With the increasingly massive use of digital tools and platforms, and with the normalization of cyber culture, traditional anthropology can by no means dovetail with the new shape of the world where most of our old concepts and values have been voraciously subsumed by cyberspace. It is in this context where cyber anthropology becomes certainly instrumental in the process of experiencing, examining, analysing and theorizing on the new society, or more accurately, electronic society to which most of our offline activities have been transferred. Cyber Anthropologists are not armchair theorists, as in traditional anthropology; they belong to cyberspace; they practice cyber culture and they implement immersive participant observation in online communities. They are engaged in conceptualizing the world of the internet with its immense complexity and

multifarious platforms in order to propound new theories and concepts that have contributed to making cyber anthropology a burgeoning academic field of research, known as "netnography" or "cyber-ethnography" (Kuntsman, 2004). This is exactly the perspective from which this paper attempts to explore the construction and reconstruction of online identities and memories.

Cyber Anthropology

Cyber anthropology is a sub-set of cultural anthropology; it is still an emerging field born on digital networks or online communities. Anthropologists have shifted their ethnographic/netnographic (Kozinet, 2020) research to the 'post-organic' societies or electronic social groups. The concept 'community' is undergoing profound and radical transformations as a sequel to the expanding velocity of digital culture. The organic and physical components of societies are losing ground for new concepts and definitions. The terms cyberspace, cyber culture, virtual communities and online identities are now fully established as defining characteristics of the new society, what Umberto Eco calls "Cyberia" (Eco, 1985).

In this regard, I consider Libin's and Libin's definition of cyber anthropology worth noting:

> Cyber anthropology for the first time is defined as a concept and new field of study aimed at the analysis of human reciprocal relations with the computer-generated (CG) world which have evolved as a result of technological progress. … As theoretical construct, Cyber-anthropology is concerned with the merger of natural and artificial worlds mediated by human imagination, as well as the compatibility between people and the virtual and the embodied forms of digital life they have created. As an empirical study, Cyber-anthropology deals with … semantic and

semiotics of human engagement with computer-generated reality viewed as a Complex Interactive System. (Libin and Libin, 2005, p.146)

Cyber anthropology has evolved as a result of people's growing engagement in the virtual worlds of cyberspace. The technological progress the human race is experiencing has become a transformative force that is shaping the ways we interact and socialise. We have been transformed to 'digital agents' mediated by the computer-generated world which is a semiotic signifier of "techno-culture" (Kellner, 1993, p. 2).

Cyber anthropologists are concerned with these virtual worlds that emanate from the internet and constitute a new reality, a meta-reality. They indeed examine the various manifestations, narratives and representations that the VR (Virtual Reality) has propounded. Through cyber immersion, anthropologists study the extent to which cyberspace, the 'non-space of the mind' is shaping people's identities and breeding new modes of life, new cultures, new values and new ways of socialization.

Digital anthropologists implement the same tools and methods that pertain to cultural anthropology. Through immersion and participant observation that constitutes the core of ethnography, they seek to conceptualize and theorize on the digital community. Immersion is practiced virtually; online community participants are not organic agents as we find in traditional communities. They are rather ethereal and electronic groups; they live, interact and collaborate on the screen, ''leaving their bodies behind" (Rheingold, 1993). Cyber anthropologists do participant observation by being networked and living together with online community members. They observe, participate, cooperate, chat, engage in group discussions and share emotions on virtual communities (Rheingold, 1993).

We have seen that the prime aim of cultural anthropology is ethnography, so is the aim of cyber anthropology. It is to write about, describe and study the ways electronic community members behave, communicate and socialize. Through netnography or qualitative research, cyber anthropologists attempt to unravel and decode the multiple practices embedded in the virtual world, that is how people are massively shifting online and creating new cultures, the digital cultures.

In fact, cyber ethnographers explore the multiple layers of cyberspace so as to fully seize its immense complexity. Cyberspace is a dialogic, malleable, immersive and borderless space. It is a mentally conceptual environment where multiple voices, races, cultures, stories and languages interact, where a variety of cultural contexts is potentially integrated, which constitute the very core aspect of digital ethnography. In this context, digital ethnography "is a method for representing real-life cultures through combining the characteristic features of digital media with the elements of story… Through interactivity and immersion, we believe, digital media can enable anthropologists… to tell innovative cultural stories and re-create aspects of ethnographic methodology for a diverse audience" (Underberg & Zorn, 2013, p. 10).

The computer does not only generate virtual contexts and stories for documentation; it also empowers the anthropologists to do fieldwork and interpret their findings. Digital technology provides both tools for ethnographic research and spaces for cultural immersion. It allows anthropologist to engage in online communities, at the same time to use digital tools in order to document and analyse their findings. Hence, we have to fully consider the valuable function of the new technologies, both as tools and as cultures.

CYBERNETICS

These forms of "techno-culture" (Kellner, 1995) have been generated on cyberspace. To adequately grasp this concept, it is primordial to evoke cybernetics which played a seminal role in the rise of cyberspace. Cybernetics was coined by the American Engineer and Mathematician Norbert Wiener in 1948. In theory, cybernetics is the science that studies the interaction/fusion between man and machine, based on robotics or automation. Wiener was concerned with the human mind and the way it interacts with the machine. He also explored the underlying mental processes that are projected onto the machine; how human beings 'transcend themselves' to become minds, 'electronic brains' or 'digital bodies. '

Wiener has, then, laid down the concept of "artificial intelligence" which is the outcome of the fusion between human biology and electronic systems. Cybernetics promotes the theory that both man and machine have the capacity to produce complex interactive systems that can create mental and virtual worlds/spaces. The architecture of the human mind is digitally integrated in the computer system allowing a smooth merging between the human and the electronic, at the same time creating mediated interactions. To seal off this technological process, Wiener attributed to machines human psychological and cognitive features, such as 'living machines', 'learning machines' and 'computing machines'. He even made a sound prediction to the current digital interaction between man and digital tools. "In the burgeoning age of artificial intelligence, the line between human and machine is becoming increasingly blurred. Cyberbetics was far ahead of its time in anticipating how fruitful those parallels could be" (Forward to *Cybernetics,* p. xvi).

Wiener's theory of cybernetics was, indeed, a breakthrough that paved the way to digital technology. It is a science that came to study 'immaterial elements' coded in virtual worlds and generated by human-machine interaction. This dynamic and dialogic relationship offers a method to explore human behaviours and mental processes *vis-à-vis* the machine.

What is the role of cybernetics in cyber anthropology? Cybernetics set up the context of cyber anthropology. It fostered virtual and metaphorical spaces that are crucial for the empirical practice of cyber anthropology. It also blurred the binary line between the real and the virtual, giving, therefore, a fluid dimension to the notion of space, hence cyberspace.

Cyberspace

The term cyberspace was coined by William Gibson in 1984 in his science-fiction novel *The Neuromancer*. Cyberspace refers the virtual reality generated by computer-mediated communication. Space in the "electronic frontier" (Rheingold, 1993) is conceptual, imagined and artificial; it is a "non-space" in Gibson's words. It is an immaterial and insubstantial environment which is fraught with human experiences and practices. Cyberspace is also used as a metaphor to both describe the digital cultures that proliferate on virtual communities and to define people's use of or interaction with the 'ICT networks. '

This is William Gibson's seminal definition of cyberspace:

> Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts… A graphic representation of data abstracted from banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data. Like city lights, receding. (Gibson, 1989, p. 128)

Gibson employs the term 'hallucination' metaphorically to highlight the mental and immaterial scope of cyberspace. The adjective 'consensual' reflects the sweeping and irresistible appeal of cyberspace to billions of 'operators. ' People have willingly decided to immigrate to the 'non-space of the mind', so as to immerse in the virtual and dynamic experiences of online communities.

Recently, cyberspace has, however, transcended Gibson's theory. It is much more than science-fiction narratives or mental hallucinations. The astounding widespread of digital technology has massively trespassed the limitations of Gibson's vision. Now cyberspace is deeply rooted in people's life and accommodated to their real-time activities.

In theory, cyberspace has transformed our sense of time, space, and geography. Human biological time has been seriously depleted from its core meaning. Time is no more measured by the clock, but by the electronic space which is fluid, shifting and diachronic. The same applies to electronic space, the 'new frontier', the borderless environment which allows the continuous flow of cultures, values, identities, ideologies and languages. Thanks to the malleable nature of cyberspace, our mainstream concept of geography has been seriously altered, leading to a metaphorically elastic notion of space or society.

The new society or community lives, therefore, in cyberspace. Human real-world activities have shifted to digital "aggregations" (Rheingold, 1993), the habitat of the electronic agents or brains. People have developed an extraordinary adaptability to their new amorphous environment by transcending their bodies and immersing in their digital tools. Offline practices and tangible artefacts have massively permeated the virtual space. In this context, we take the example of social relations which have been transferred to online communities. These electronic 'tribes' have radically changed the way we communicate and socialise. They have normalized a new technological paradigm that enhances the spirit of the virtual community.

This is how cyber anthropology imposes itself as a new branch which investigates digital communities. Given the speed with which the new electronic societies are growing, cyber anthropology is becoming a vital instrument that contributes to understanding the multiple behaviours that are overflowing within these electronic groups. The ways online generated cultures, systems and modes of interaction shape users are of pivotal interest for cyber ethnographers.

Cyber anthropology does also address philosophical and epistemological issues related to the virtual environment, the human body and citizens. Cyber anthropologists discuss the challenges the new virtual societies are facing due to their constant exposure to the internet. They also reflect on the ever-expanding dominance of cyberspace and whether online community members are aware of its transformative potential:

> Cyber Anthropology thus targets the questions of how the human being understands itself and others, how it structures its life world when embedded in virtual environments, in face of the challenges posed by the internet as the dominating medium. Is the internet a new virtual reality or just the representation of old norms and habits? Can we speak of 'cyber citizen' changed in the light of the internet as primary form of communication and source of knowledge? How do interest groups form, if one considers the fact that the internet transcends, local, regional, national, ethnical and social boundaries? How do new boundaries and normative orders emerge? (Sondrell et al., 2011, p. 2)

Such pertinent questions raised by cyber anthropologists target the very core meaning of virtual reality. They debate whether the internet breeds a new reality or simply represents/simulates offline reality. Do online users experience the same offline norms and habits or do they engage in new virtual practices? I believe this philosophical and rhetorical debate stems from the complexity of cyberspace which is an infinite 'constellation' of human and digital systems.

The internet has not only transcended social, cultural and national borders. It has also forged a new concept of citizen, 'cyber citizen. ' Cyber anthropology tries to grasp how users/cyber citizens conceive and understand virtual environments; how they interact with digital beings and whether they have cognizance of the internet as a new reality. If cultural anthropology is largely concerned with native/indigenous races and cultures in remote communities, cyber anthropology is engaged with digital natives/citizens who live in online communities.

Online Communities

In the last decades, there has been a frenetic rush to online/virtual communities which have infiltrated the real world and become integrated in people's daily activities. The culture of virtual communities is now widely accepted as a normative practice and a 'semiotic signifier' of the digitalization of human life. People are massively shifting online, immersing on electronic or "computer-mediated social groups" to which they may develop an "emotional attachment" (Rheingold, 1993). Howard Rheingold's work

on virtual communities is a milestone in the rise of digital anthropology. Through his substantial ethnographic research and participant observation, he drew anthropology to an unconventional trajectory, inviting researchers to examine the ways people live together and socialise online. All along his engagement with online social groups, he documented how cyberspace or what he called the "electronic frontier" (Rheingold, 1993) has become part and parcel of the new concept of community and a defining marker of the digital world. In these electronic aggregations, people build up social bonds, forge multiple identities, construct, erase and reconstruct memories through the act of digital navigation. In fact, a whole ecosystem of cultures and subcultures develops on online communities to which people are incessantly migrating, doing almost the same activities as they do in the real world:

> People in virtual communities use words on screens to exchange pleasantries and argue, engage in intellectual discourse, conduct commerce, exchange knowledge, share emotional support, make plans, brainstorm, gossip, feud, fall in love, find friends and lose them, play games, flirt, create a little high art and a lot of idle talk. People in virtual communities do just about everything people do in real life, but we leave our bodies behind… a lot can happen within these boundaries. To the millions who have been drawn into it, the richness and vitality of computer-linked cultures is attractive, even addictive (Rheingold, 1993, p.5).

Online communities are indeed teeming with all actions and activities undertaken in the real world, but we "leave our bodies behind" the screen which makes the computer-mediated world a mere simulacrum, an artificial reality generated by the human-machine interaction.

In this context, virtual communities can be conceived as adequate niche for conducting ethnographic study that transcends the temporal and physical parameters of traditional anthropology. Online social groups are "imagined communities (Anderson, 1983), existing in the virtual world that emanates from cyberspace and blurs the binary line between offline and online reality. Despite their virtual characteristic, online communities are culturally, socially and politically loaded. These online groups share a variety of topics ranging from political agenda, power relations, gender and ethnic issues that may be well suited for digital anthropology. Doing anthropological investigation is indispensable for theorizing on the cultural and the social implications embedded in online communities. In fact, most issues targeting new media revolve around these communities which are universally ubiquitous, marking a paradigm or an epistemological shift in the concept of social group or community. The prime concern of anthropology has always been centred on the group-related issues of the so-called indigenous people. For example, E. B. Tylor, Bronislaw Malinowski, Margaret Mead and Clifford Geertz, the founders of cultural anthropology, investigated and theorized on overseas people living in tribes as social groups, unified by a set of values, traditions, norms and beliefs. They used to mix up with these people who represented social or tribal aggregations where the notion or

the concept of individual identity dissolved within the culture of group spirit.

The analogy between offline and online communities does not exclude their inherent differences related to the tangible existence of offline communities, and the insubstantial and the virtual realm of online communities. One of the challenges facing digital ethnography is, indeed, this virtual and elusive aspect of online communities which could to some extent thwart the work of digital ethnographer in his endeavour to collect adequate data and to come up with viable theories. Online communities are not real; they cannot be materialized: they are abstract and amorphous social groups living in the borderless space of the computer-generated environment. They cannot be approached or gauged as real social groups sustained by face-to-face communication and interaction that are intrinsic to human nature. They are in constant flux and mobility as users keep changing groups, creating new ones, swinging between multiple profiles and identities. Howard Rheingold did experience this recognizable aspect of online communities when he said that "Norms were established, challenged, changed, re-established, re-challenged, in a kind of speeded up evolution" (Rheingold, 1993). The norms, the cultures and the sub-cultures of online communities are continuously driven to a process of construction and reconstruction, making the world of social media profoundly unpredictable. However, the virtualization of human social groups does by no means undermine the value of digital anthropology as an emerging discipline. In this sense, online communities must not erroneously be conceived as mere illusions or inchoate mental projections. Pierre Levy, for example, believed that "Virtuality and actuality are two different modes of reality" (Teixeira et al., 2017). Boellstorff (2021) warns against continuing to "confound sharp boundaries between off-line and online contexts" (Boellstorff, 2021). The ubiquity of the new technologies has altered the concept of reality manifested in this double consciousness or mutability users experience while shifting online. Images, sounds, texts, memories and thoughts practiced in reality, permeate the electronic space and, hence, obliterate the dichotomy between the real and the virtual. Once we are liberated from this tedious debate about the real and the virtual, we can safely consider online communities as logical extensions of reality, rather than incoherent and "consensual hallucinations" of the human mind.

Digital anthropology is also concerned with what does it mean to be human in the post-organic society and its relation with artificial intelligence? How humans transcend their body and project themselves on the screen to experience a second life. The core principle of anthropology is, indeed, the investigation of humans within their social and cultural contexts, which is what digital anthropology has undertaken to explore, that is the act of investigating humans' online identities as digital agents or avatars embedded in digital environment.

Online/ Liquid Identities

Approaching online identity within the scope of digital technology entails a serious reflection on the immense vastness and fluidity of cyberspace for the users to construct and reconstruct multiple identities. Rethinking the concept

of identity is sine qua none to gain an insightful understanding of people's engagement with online identities which provide new forms of digital representations, metaphors and narratives. Online identities trespass the mainstream defining signifiers of identity-who we are in the real world. Transposing our accumulated offline background knowledge of identity on online identity would be inappropriate. The components of identity are related to gender, race, ethnicity, age and nationality besides the psychological and behavioural characteristics that are unique to each individual. Do online identities fit in these defining parameters? The answer is no!

Online identities are complex, elusive and multi-layered, representing the user's digital self or persona. They reflect a part or parts of the self that some wish either to hide in reality or to challenge physical and psychological vulnerabilities. Given the malleable and flexible character of online communities, users have the capacity to construct multiple personas and avatars that emanate from the same offline self, for the sake of building up communal ties, integrating online social groups, playing games or reinventing a self-image that would meet the users' physical and psychological wish-fulfilment and dreams.

In this context, the American reputed scholar of Social Sciences and Technology Sherry Turkle conducted substantial and empirical research on online identities and their psychological impacts on the users. In her book *Life on The Screen: Identity in The Age of the Internet*, Turkle argues that some people value their online identities more than their normal selves. She skeptically claims that "we are shaped by our tools", we are living "a second life behind the screen." Digital tools are much more than mere mediums of communication; they are virtual ramifications of the users' inmost selves; hence, digital media according to Turkle,

> Represent itself as the architect of our intimacies. These days, it suggests substitutions that put the real on the run. The advertising for a second life, a virtual world where you get to build an avatar, a house, a family, and a social life…Finally a place to love your body, love your friends, and love your life. On Second Life, a lot of people…represented by their avatars…Technology is seductive when it meets our human vulnerabilities. And we are all vulnerable indeed. Digital connections and the sociable robot may offer the illusion of companionship…Our networked life allows us to hide from each other. (Turkle, 2011, p. 1)

In cyberspace, social media in particular, people build avatars either to conceal their social reality, to reshape their body or to virtually revel in the illusion of being together. This is how digital technology has transformed the ways we live; machines (computers, laptops, mobiles) have become companions to people which means that "humanity is nearing a robotic moment" (Turkle, 2011), sitting alone, but together with the machine in front of us.

The issue of online identity has definitely transformed our conception of who we are. Users of virtual communities can change their age, gender and appearances; they can even choose to be anonymous by wearing masks. In this sense, online identity challenges the immutable part of human beings; "it implies continuity in the sense of the self, a constancy behind the ever-changing mask of appearance" (Coyne & Wiszniewski, 2009). This fluidity of online identity or self-construction allows users to keep juggling between and playing with multiple selves which presents a problem for digital ethnographer whose task is to come up with viable theories about online identity. Online masks do not reveal the true identity of the users who most of the time prefers to remain anonymous, secure and private in the vast arena of social media. People are not obliged to reveal their true identity in the virtual communities; they choose to disconnect from the real world in order to experience a "second self" (Turkle, 2005), free from social norms and pressures.

This transitory and kaleidoscopic feature of online identity is associated with the concept of "liquid identities" which can be attributed to the liquid characteristic of modern society propounded by Bauman's theory of "liquid modernity" (Bauman, 2000). Bauman uses this metaphor "to describe the condition of constant mobility and change he sees in relationships, identities, and global economics within contemporary society" (Mattiazi & Petrof, 2021, p.1), as a result of digital technology which is a defining aspect of human life. Technology facilitates communication, increases the speed of social relations and provides an unlimited amount of information. But it does also raise philosophical and ontological questions concerning the so-called liquid and fluid aspect of identity within the virtual world. Identities are becoming indistinguishable, shapeless and separate from the users' offline characteristics (Adrian, 2008). Real world concepts such as fixity, geography, temporality dissolve within cyberspace which is a liquid space where cultures, communities and identities are in constant flux. Cyberspace is, therefore, the locus of liquid identity which can be conceived as the context of electronic or liquid society. Liquid identity is like a "hypertext" in a continuous process of formation, a seamless picture behind which users hide their true selves and swing between multiple personas that could match their social and psychological needs.

Flexibility is, thus, required while rethinking identities in the contexts of virtual social groups. People, especially youth, develop a tendency to go beyond the scope of "unitary" or rather "monolithic" self (Turkle, 2005) that characterizes the real world in order to transform their looks and behaviours, as suggested by Giddens when he says that what is changing is not the 'self' which remains unitary, but the effortlessness with which the 'self' can manipulate its appearances in multiple spaces. This process exists in a state of continuous construction and reconstruction. We no longer have a stable identity, as we are constantly reflecting on "who am I?" trying to build up a narrative of the self on cyberspace (Thompson, 2016). The liquid aspect of cyberspace allows users to transform their appearances effortlessly which alters the experience of the self and enables further construction of online identity. Through this digitally immersive experience, users can also perceive the self from multiple prisms and lenses that offline unitary identity does not provide. Going beyond the confines of social identity remains a unique

characteristic of digital space which is a borderless environment where users seize the opportunity to unleash their social, psychological and even physiological needs. In a world saturated with digital technologies, it is highly imperative to look at online identity as a normative practice and a full-fledged constituent of liquid modernity.

Online Memories

It has been stated earlier that Norbert Wiener experimented with the human-machine interaction to reflect on the way human mental processes are projected onto the computer with its immense and infinite capacity to provide and store information that has become an automatic action on digital platforms. The way people receive, retain, share and store information has been profoundly altered by digital technology; "memory takes place in the dynamic transaction between an active individual and his or her changing environment" (Wang, 2016, p. 297). In a digitally mediated and ever-changing environment, the search for information and the amount of knowledge people can access and share have been largely extended; the internet "facilitates knowledge acquisition and learning", we are having information "at our fingertips" (Sparrow et al., 2011). In the same vein, Sparrow sheds light on how the search for information on the internet has become almost effortless:

> The advent of the Internet, with sophisticated algorithmic search engines, has made accessing information as easy as lifting a finger. No longer do we have to make costly efforts to find the things we want. We can 'Google' the old classmate, find articles online, or look up the actor who was on the tip of our tongue… when faced with difficult questions, people are primed to think about computers… (Sparrow et al., 2011, p. 776)

The effortless search for information is, in fact, a valuable characteristic of the internet, on the one hand, and an evident sign of people's dependency on technology, on the other hand. Search engines are the most solicited and the most ubiquitous worldwide for the extraordinary flow of information they provide to their users. This is why people are constantly anchored to their digital tools, navigating in their own virtual spaces to search for information, to collect and store knowledge.

In this sense, people's dependency on the internet makes online navigation more than a technical procedure; it is a culture: the culture of navigation. Seeing online action as a cultural process could help us understand why people have developed a strong attachment to and trust of digital technology in their search for and storage of information. Online users depend on the capacity of digital devices to store their online activities for the sake of remembering so as to trespass the limited nature of human memory. This unique property of online information access has to a large extent affected the way we process memories and our internal knowledge, leading, thus, to profound changes in human cognition (Firth et al., 2019). There is less need to retain memories within the structures of the human brain; online users rely more on their technological tools to remember the stored information and to avoid the possibility of forgetting, which relates to human biological memory.

The reliance on external resources, the internet in particular, to expand memories and to enhance human cognition has recently gained momentum in academic research. Researchers are trying to understand the effects of the internet on human memory and whether it could be considered a model for remembering. The extent to which the Internet has changed the functioning of memory has raised substantial debate concerning its potential nocuous consequences on human cognition that is the way people think and remember (Storm and Soares, 2021).

Whatever the consequences, we must acknowledge that digital technology has seriously transformed the human brain and trespassed the limitations of human memory. People do no longer need to remember alone which could lead to forgetfulness; they rely on the internet to remember stored information. Memory is, therefore, extended outside the head; in this case "information does not necessarily need to be stored within the neutral structures of human brain to be considered available in, or part of, that person's overall memory system (Storm and Soares 2021). The person's overall memory system is clearly enhanced by the unlimited range of online memory.

The ability to access external storage and retrieval of digital information is defined by memory theorists as "transactive memory" (Wegner, 1986). This concept was first coined to describe group behaviour that is the way individuals encode, store and retrieve information in the process of communication within a group (Wegner, 1986). The focus was on the spirit of collaboration between members of the same group in the distribution of information and how individual memories are connected within the group.

Digital technology theorists have shifted the concept of transactive memory system to the Internet. Ward, for example, clearly notes that research conducted "on transactive memory indicates that incoming information is distributed between both internal and external storage devices…-most recently-the Internet" (Ward, 2013, p. 341). The Internet is indeed a memory partner, an external artefact onto which people offload their memories to make them continuously at their demands and easily retrievable.

Thanks to the expansive and unlimited storage capacity of the Internet, people can offload all kinds of memories onto their digital tools (pictures, texts, messages, books, articles, videos, emotions, etc.), all that links to their cognitive and affective experiences. While online, people do not only have the ability to store information, but also the flexibility to change and remove what they have already stored on their digital devices. Online memories are as fluid and malleable as the defining characteristics of cyberspace; they are constantly streaming, in a state of remembering and forgetting, construction and reconstruction. They are ramifications of meta-memory which reflects both individual and collective narratives.

The distinction between individual and collective memories has been the subject of much debate among memory studies theorists. Early social thinkers, such as Ibn Khaldun, Rousseau, Durkheim and Marx examined individuals' experiences within the scope of their environment. They

mostly explored the dynamic interaction between an individual and his ever changing multilayered environment in terms of social, cultural and historical components (Wang, 2016). Contrary to psychologists who are rather concerned with individual experiences, sociological theorists focus on the cultural and social structures of shared memories. They privilege collective memory which represents itself in collective memory "which sustains a community's very identity and makes possible the continuity of its social life and cultural cohesion" (Bosch, 2016, p. 4). Sturken refers to memories as "part of a larger process of cultural negotiation." She also defines memories as narratives, as fluid and mediated cultural and personal traces of the past" (Sturken, 2008). In his turn, Wegner refers to human groups "as though they were computer networks." Computers are linked together in the same way as humans (Wegner, 1995). Memory is a dynamic process that engages both individual and collective experiences.

The issue of mediation is, therefore, very central to the construction of memories. Digital technology has definitely transformed the production of memories or what Sturken calls "the technologies of memories". She argues that films, photographs and documentaries, for example, incorporate our personal memory which becomes part of mass culture or ''prosthetic memory, ''outside our personal biological memory and our limited capacity to remember (Struken, 2008).

Hence, technologically mediated personal and autobiographical memories must be interpreted within the larger purview of collective memory. Personal memories are encoded within electronic social groups where individual experiences dissolve within the complex web of collective information and memory processing. Given the fluid and group-bound aspect of social media, speaking of individual memory per se would be reductionist. Once people immerse on the screen, they are automatically engaged in collective and interactive procedure, individual mind starts receding in favour of group mind.

Remembering and forgetting are eventually defining markers of transactive online memories. People store information on their computers for the sake of retrieval or remembering. Online memories are not fixed like print and history books. They are transitory and fleeting traces of the human mind, entangled in the process of construction and reconstruction, remembering and forgetting. People use cyberspace to document their personal experiences and facilitate memory or autobiographical retention (Wang, 2022), to compensate for the fallibility of human memory. I, however, believe that online memories are as fallible as biological memories; their documentation and retention can be subverted by the amorphous aspect of the Internet. As a consequence, online memories are not history, not only because of their possible fragmentation and inaccuracies, but above all because of their online offloading which challenges the systematic work of historiography. Online memories are shifting and elusive narratives of the human brain, the same as the virtual worlds of cyberspace.

2. Conclusion

The present paper has attempted to discuss how the sweeping prevalence of digital technologies has altogether metamorphosed the traditional views, concepts and convictions we used to hold *vis-à-vis* anthropology, social communities and cultural identity and memory. The rapidly changing dynamics of today's globalized societies can only be approached and examined within the scope of new technologies. This is why the trajectory of academic research in media studies is mostly focalized on online cultures and electronic social groups which have become the new hub of anthropology. It is, indeed, very interesting to put this phenomenon under scrutiny to discover how people communicate, interact, socialise, adopt multiple identities, remember and forget, through their digital tools. We have seen the extent to which the concept of cultural identity has been fragmented into multiple identities which people can adopt on their digital platforms. Online identities are conceived as liquid and fluid entities that could reflect different personas of the same self. Remembering and forgetting have also been transferred online to supposedly enhance human biological memory. In this case, transactive/ offloading memories are produced and mediated by new technologies. Our dependency on new technologies for self-identity construction and memory retention confirms Marshall's McLuhan's prophetic statement that the media are the "extensions of man" (McLuhan, 1964).

References

[1] Anderson, B. (1983). Imagined Communities: Reflections on the Origins and Spread of Nationalism. London: Verso.
[2] Adrian, A.(2008). No One Knows You Are a Dog: Identity and Reputation in Virtual Worlds. Science Direct. Vol. 24, Issue 4.
[3] Bauman, Z. (2000). Liquid Modernity. Cambridge: Polity Press.
[4] Boellstorff, T. (2021). Rethinking Digital Anthropology. University of California: Routledge.
[5] Bosch, T.E.(2016). Memory Studies: A Brief Concept Paper. University of Leeds: White Rose.
[6] Eco, U. (1985). Travels in Hyperreality. Harcourt Brace Jovanovich, Publisher.
[7] Firth, J. et al. (2019). The Online Brain: How the Internet may be Changing our Cognition. National Library of Medicine. Vol. 18, No. 2.
[8] Geertz, C. (1973). Thick description: Towards an Interpretive theory of Culture.
[9] Gibson, W. (1989). Neuromancer. New York : Berkley Publishing Group.
[10] Kellner, D. (1995). MediaCulture. London: Routledge, Taylor & Francis Goup.
[11] Kozinet, R. V. (2020). Netnography: The Essential Guide to Qualitative Social Media Research. Los Angeles: Sage Publications.
[12] Kuntsman, A. (2004). Cyberethnography as a home-work. Anthropology Matters. Vol. 6,N°. 2.
[13] Libin, A. &Libin, E. (2005). Cyber-Anthropology: A New Study on Human and Technological Co-Evolution. Amsterdam: IOS Press.

[14] Mattiazzi, A.& Villa-Petroff, M. (2021). Is Bauman's "liquid modernity" influencing the way we are doing science? Journal of General Physiology. Vol 135, Nº. 5.

[15] McLuhan, M. (1964). Understanding Media: The Extensions of Man. Retrieved fromhttps://designopendata.files.wordpress.com/2014/05/understanding-media-mcluhan.pdf.

[16] Qi, W. (2016). Remembering the Self in Cultural Contexts: A Cultural Dynamic Theory of Autobiographical Memory. Memory Studies. Vol. 9, No 3. Sage Publications.

[17] Rheingold, H. (1993). The Virtual Community: Homesteading OnThe Electronic Frontier. Addison-Wesley Publishing Company.

[18] Sondrell, J. T. et al. (2011). Cyber Anthropology-Being Human on the Internet. Retrieved fromhttps://www.hiig.de/wp-content/uploads/2012/04/CyberAnthropology-Paper.pdf.

[19] Sparrow, B. et al. (2011). Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips. Science.Vol. 333.

[20] Storm, B. C. & Soares, J. S.(2021). Memory In The Digital Age. Researchgate. Retrieved fromhttps://www.researchgate.net/publication/355038642_Memory_in_the_Digital_Age.

[21] Sturken, M. (2008). Memory, Consumerism and Media: Reflections on the Emergence of the Field. Memory Studies.Vol. 1. Sage Publications.

[22] Teixeira, A. C. et al., (2017). Complexities Of Cyberculture in Pierre Levy And Developments in Education. Scientific Research Publishing. Vol. 8.

[23] Thompson, K. (2016). Giddens' Modernity and Self-Identity-In 14 Bullet Points. Retrieved fromhttps://revisesociology.com/2016/04/22/giddens-modernity-self-identity-summary/.

[24] Turkle, S. (2005). The Second Self: Computers and the Human Spirit. Cambridge. The MIT Press.

[25] Turkle, S. (2011). Alone Together: Why we Expect More from Technology and less from Each Other. New York: Basic Books.

[26] Underberg, N. M. & Zorn E. (2013). Digital Ethnography: Anthropology, Narrativeand New Media. Austin: University of Texas Press.

[27] Wang, Q. (2016). Remembering the Self in Cultural Contexts: A Cultural Dynamic Theory of Autobiographical Memory. Memory Studies. Vol. 9, No 3. Sage Publications.

[28] Ward, A. (2013). Supernormal: How The Internet is Changing our Memories and our Minds.Psychological Inquiry. 24 (4). London: Routledge.

[29] Wegner, D. M. (1986). Transactive Memory: A Contemporary Analysis of the Group Mind. SanAntonio: Trinity University. Retrieved fromhttps://dtg.sites.fas.harvard.edu/DANWEGNER/pub/Wegner%20Transactive%20Memory.pdf.

[30] Wegner, D. M. (1995). A Computer Network Model of Human Interactive Memory.Social Cognition. Vol. 13, No. 3.

[31] Wiener, N. (1948).CybernetisortheControlandCommunicationintheAnimalandtheMachine.Cambridge: The M.I.T Press.

[32] Wiszniewski, D. & Coyne, R. (2009). Mask and Identity: The Hermeneutics of Self-Construction in the Information Age. Cambridge University Press.