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TSOGHIK GRIGORYAN

Simon Fraser University, Canada

ANNA HAKOBYAN

British Columbia Institute of Technology, Canada

BECOMING AN ETHNOGRAPHER IN A DIGITAL WORLD: ASSEMBLAGES, ETHICS & RHIZOMATIC PRACTICES

Abstract:

As digital technologies and algorithmic systems reshape everyday life, ethnographic methods must adapt to new, fluid terrains. This paper explores the ethical and methodological challenges of conducting ethnography in digitally mediated environments, where boundaries between the real and virtual, human and non-human, are increasingly blurred. Drawing on Deleuze and Guattari's concepts of rhizome, becoming, and assemblage, the paper proposes a reconceptualization of ethnographic practice as non-linear, relational, and responsive to complexity. These ideas offer a framework for engaging with the shifting identities, structures, and ethical concerns of the digital age. By embracing rhizomatic thinking, this work invites ethnographers to reimagine the field as a dynamic assemblage of connections. It offers new pathways for reflexive, ethical, and theoretically grounded inquiry in networked spaces.

Keywords:

Algorithms, Assemblage theory, Becoming, Deleuze and Guattari, Digital ethnography, Ethics, Methodology, Rhizome, Sociomateriality, Virtual environments

Introduction

The field of ethnography has undergone significant transformation with the rise of digital technologies. As digital spaces have become increasingly important in people's lives, ethnographers have had to adapt their methods to investigate online interactions, virtual communities and digitally mediated practices. Several scholars have explored the implications of this shift, questioning how traditional ethnographic methods translate to digital environments and whether the core principles of ethnography, such as immersion, participant observation and thick description can be maintained in these contexts.

The algorithmization and ethnography intersect in complex ways because algorithms shape social practices and cultures nowadays. Ethnographers must not only observe human behavior but also critically engage with the virtual "non-human actors" (Bucher, 2018, p. 55) that mediate and influence the digital environments they study. This requires new methodological approaches and ethical considerations to ensure that the impact of algorithms is adequately addressed in ethnographic research (Beer et al., 2023). Many authors, like Cellard (2022) and Beer et al. (2023), believe that the study of algorithms and digital ethnography remains an open and challenging field for ethnographers (Amoore, 2020; Gillespie, 2014; Gillespie et al., 2014; Zhang & Orlikowski, 2022). They encounter rigid understanding of algorithms and advocate for new ethnographic approaches to explore how algorithms are embedded in cultural, social, and political dynamics and how they must be used in ethnographic research as ethnography increasingly turns its focus toward the digital environments.

Algorithms are no longer confined to purely digital realms. They actively mediate interactions, shape online content and impact offline behaviors (Beer, 2017; Burns & Wark, 2020; Zhang & Orlikowski, 2022). Social media feeds, search results and educational platforms are increasingly governed by these algorithmic systems (Bucher, 2018). This pervasive role of algorithms illustrates the interconnectedness of the online and offline worlds. Consequently, the distinction between what is "digital" and what is "conventional" has become porous, leading to blurring lines between the physical and virtual worlds.

The field of ethnography is undergoing a profound transformation as digital technologies increasingly intersect with traditional research methods. The challenges posed by algorithmization, the blurring of digital and physical spaces urge scholars to rethink ethnographic approaches. As researchers grapple with these changes, the ongoing dialogue about adapting ethnographic methods while maintaining their core principles following *ethical considerations* is crucial.

Unlike traditional ethnography, which typically occurs in physical spaces, digital ethnography involves interactions within complex virtual landscapes, where issues of privacy, consent, misrepresentation, use of digital tools, cultural sensitivity and data security take on new dimensions.

One of the primary ethical concerns in digital ethnography is ensuring privacy and obtaining informed consent. In her book “Privacy in Context: Technology, Policy, and the Integrity of Social Life”, Nissenbaum (2010) discusses the ethical challenges of digital research and the importance of contextual integrity. Nissenbaum argues that privacy norms must be adapted to account for the specific contexts in which digital data is shared. Informed consent in digital research requires that participants are fully aware of how their data is used, which can be challenging in online spaces where data is easily shared, reposted, hidden or repurposed. This tackles the issue of data vulnerability to hacking and other security threats.

Field Beer (2016) underscores the need for robust data protection measures in his book entitled “Metric Power”. Although securely stored data is essential for safeguarding participant confidentiality, it is also important to recognize that digital environments can introduce distortions in how interactions and experiences are perceived. This interplay between data security and perception must be carefully managed in order to maintain both the integrity of the data and the accuracy of the findings. Conklin et al. (2022) discusses these challenges further and points out that the mediated nature of digital spaces can lead to misunderstandings or biased interpretations. Therefore, ethnographers must carefully consider how they present digital data and avoid distorting participants’ realities.

The field of ethnography is experiencing a profound shift as digital technologies reshape how ethnographers engage with their subjects. The rise of algorithmization and the blending of online and offline spaces challenge ethnographic methods of participant observations, immersions, data collection and ethical considerations. Even though there has been extensive research on adapting ethnographic methods to the digital age, there is a need to address the pivotal question: *What ethical challenges arise in conducting ethnography on digital platforms and how do ethnographers navigate these challenges?*

By exploring the blending boundaries between the real and virtual realms in current published research, it is necessary to provide a nuanced understanding of how these experiences intersect and influence each other. Deleuze and Guattari’s concepts, particularly rhizome, becoming and assemblage, offer a generative framework for navigating the ontological and methodological complexities of digital ethnography. Their emphasis on non-linearity, multiplicity and flux mirrors the dynamic, networked and constantly shifting nature of digital spaces and communities. So, by bringing Deleuze and Guattari into digital ethnographic inquiry, researchers will be invited to embrace complexity, instability and heterogeneity. These would be not as problems to be solved, but as features of the field. Their

philosophy supports methodological experimentation and conceptual flexibility. This makes it particularly suited to studying networked, fluid and algorithmically mediated environments.

Deleuze & Guattari's Theory of Rhizome & Becoming

Deleuze and Guattari's (2007) *assemblage theory* aims to explain traditional boundaries between the real and virtual. It challenges the dualism that dominates conventional thought and emphasizes the interconnectedness of entities within a system.

Deleuze & Guattari challenge hierarchical and linear modes of thinking through their book “A Thousand Plateaus: Capitalism & Schizophrenia” (2007). The *becoming* expands the concept of agency by including nonhumans and the material world. In Deleuze & Guattari's work, machines, objects and even abstract concepts can have agency within *assemblages*, *becomings* and always be in flux. They never fully arrive at a final endpoint because it is always a process rather than a product. The framework opens up new ways of thinking about identity, literacy, agencies and ethics in this constantly changing world. It makes them particularly useful in digital ethnography, where boundaries between the digital and conventional, human and nonhuman get increasingly blurred.

Deleuze & Guattari's onto-epistemology represents a fusion that challenges traditional philosophical boundaries. They reject the idea of a fixed identity and emphasize multiplicity, suggesting that entities exist in a state of becoming rather than being. This means that knowledge is not static but is dynamic and contingent upon relationships and contexts. Their onto-epistemology has ethical implications, as it encourages a recognition of the interconnectedness of beings and the relational nature of knowledge. This perspective advocates for a more inclusive approach to understanding and representing different experiences and realities. Deleuze & Guattari's onto-epistemology invites to embrace complexity, fluidity and interconnectedness in opening ways for new methodologies of understanding social, cultural and digital phenomena.

Figure 1 offers a visual breakdown of Deleuze & Guattari's central concepts. It includes *becoming*, *rhizome*, *deterritorialization*, *machines*, *body without organs* and *assemblages* as presented in “A Thousand Plateaus” (Deleuze et al., 2007). The figure incorporates direct quotes from the authors to explain the concepts clearly. These concepts are paired with examples to demonstrate how they can be applied to digital ethnography.

Title: Key concepts & implications of the Theory of Rhizome & Becoming

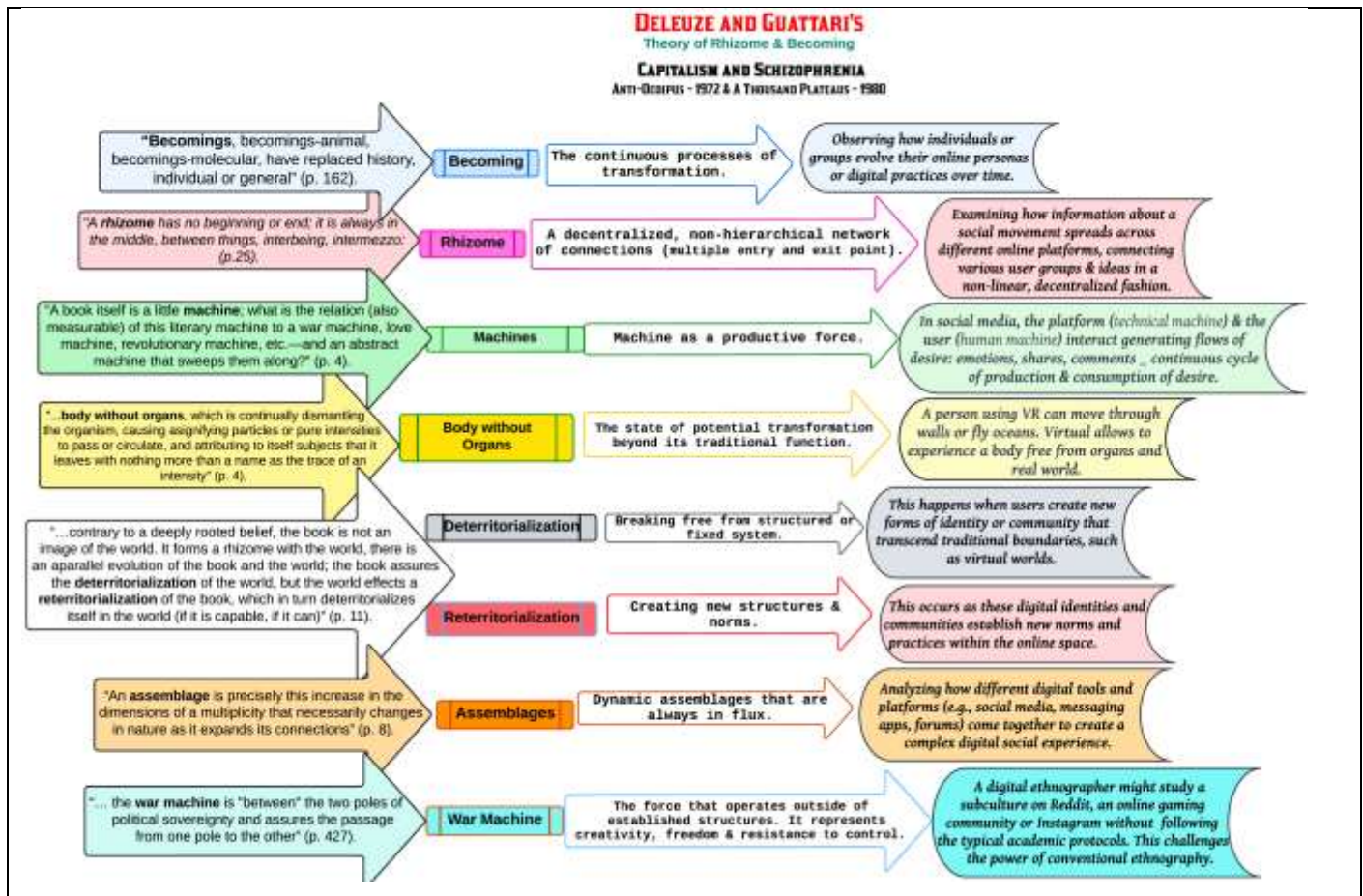


Figure 1: The concept map of Deleuze & Guattari's Theory of Rhizome & Becoming

Relevance of Theories of Rhizome & Becoming to the Digitalization of Ethnography

Deleuze & Guattari (2007) wrote their book as a rhizome and started the introduction with it: Introduction: Rhizome. "The two of us wrote *Anti-Oedipus* together. Since each of us was several, there was already quite a crowd. Here we have made use of everything that came within range, what was closest as well as farthest away" (p. 3). Their quote encapsulates their philosophy of collaboration and thought. It emphasizes the multiplicity inherent in every individual or phenomenon and rejects the idea of being unified. Their process of co-writing *Anti-Oedipus* was not just a linear collaboration. It was a collective process that involved many voices, ideas and influences, just like a rhizome, and therefore, there was "quite a crowd."

The concept of the *rhizome* is a powerful metaphor for understanding the changing landscape of ethnography in the digital age (Figure 1). "A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb "to be," but the fabric of the rhizome is the conjunction,

"and... and. . . and..." This conjunction carries enough force to shake and uproot the verb "to be." (p. 25). In digital ethnography, unlike its conventional counterpart, where the researcher typically enters a well-defined physical community, there is no start and end point to a digital community. Digital spaces are like rhizomes. They constantly evolve with multiple entry and exit points and have many *plateaus*. "We call a "plateau" any multiplicity connected to other multiplicities by superficial underground stems in such a way as to form or extend a rhizome" (p. 22). This is true for online forums, social media platforms, which do not have boundaries that define when or where a community begins or ends. Ethnographers can dive into these spaces whenever and from wherever they want to follow various connections, threads, networks without a predetermined route or time.

Figure 2 is my rhizomatic reflection of the fluid and interconnected nature of various elements in digital spaces. It draws on the idea of the *rhizome*, where connections are non-hierarchical, non-linear and always shifting. The content explores multiple themes relevant to digital ethnography, such as digital spaces and tools, limitations and methods, power and control, ethical considerations, digital literacies, fluid boundaries and more. Its chaotic and interconnected style reflects the *rhizomatic* nature of digital ethnography, where research does not follow a single path. Instead, it explores the multiple, overlapping and intersecting factors that shape digital environments. This map is an effort to capture the complexity of digital ethnography in a visual, multi-dimensional mode with its *plateaus*, *assemblages*, *re and deterritorializations*, *machines*, *body without organs* & *becomings* (Figure 1 & 2).

Title: The rhizome of digital ethnography

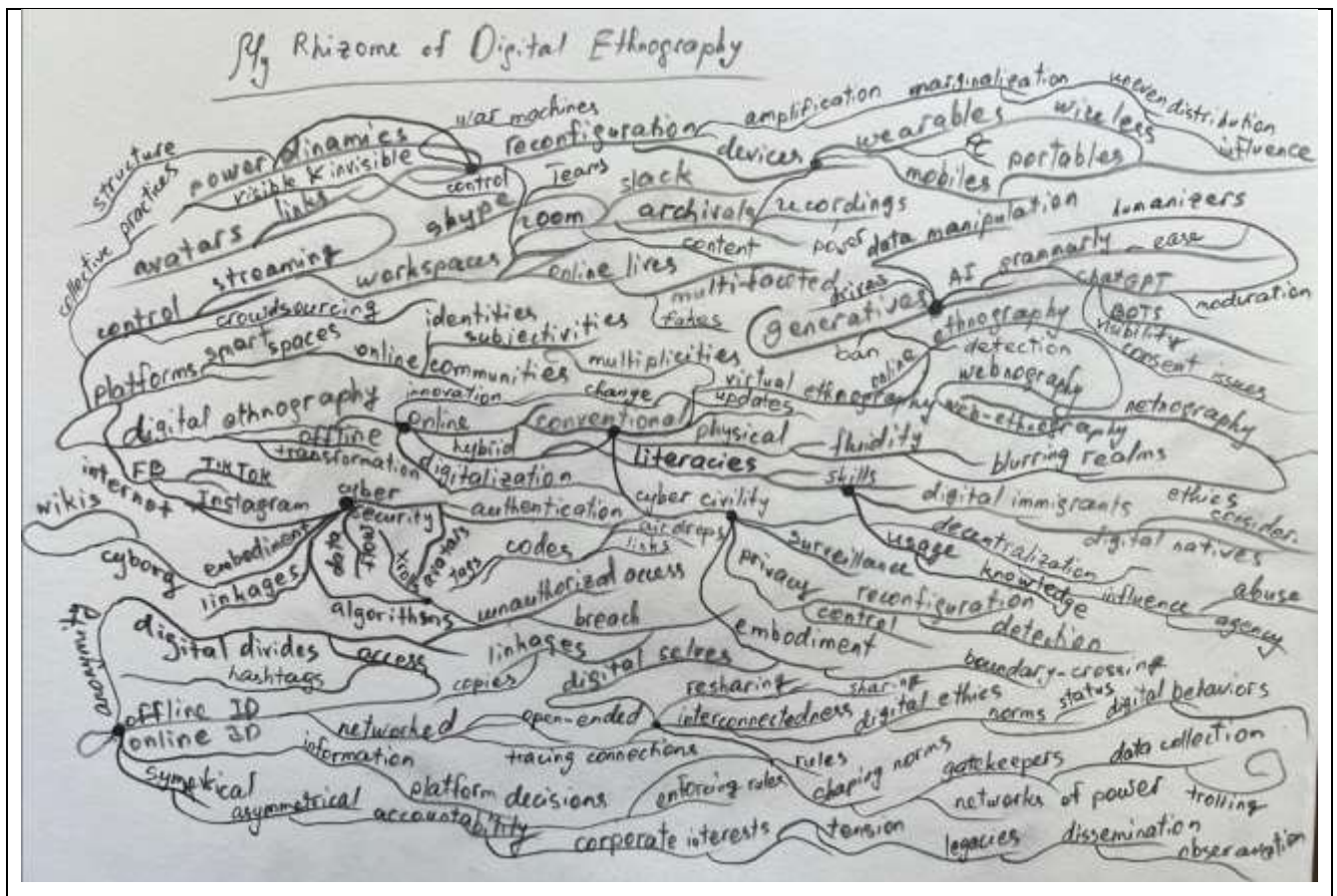


Figure 2: Rhizomatic mapping of digital ethnography with concepts & practices

“Rather, an *assemblage* establishes connections between certain multiplicities drawn from each of these orders, so that a book has no sequel nor the world as its object nor one or several authors as its subject” (p. 23). These assemblages consist of platforms, users, algorithms, data, interfaces, devices that users employ to access platforms. Together, these elements create a complex rhizome of relationships that shape digital interactions and behaviors (Figure 1 & 2). The ways in which digital platforms shape these behaviors are *territorializations* that might refer to interfaces, algorithms and content curation. *Deterritorializations*, on the other hand, are the processes by which established systems or identities are destabilized. They represent the movements away from fixed boundaries and norms (Figure 1). An example of this would be a deterritorializing force of the internet that allows individuals to appear in multiple online communities simultaneously by destabilizing fixed ideas about cultural identity, time and systems. Furthermore, those online spaces resist traditional boundaries whether in terms of identity or organization, and often function like *body without organs*, allowing for fluidity, multiplicity and continuous transformation. The way how social, digital, or cultural systems operate is referred to as a *machine*: social machines, desiring machines, war machines. Seeing digital

platforms as machines, for example, helps to understand how users' desires, technologies, literacies or social norms interconnect to form dynamic systems of the digital (Figure 1).

Deleuze & Guattari explain six characteristics of the rhizome: *connection, heterogeneity, multiplicity, asignifying rupture, cartography and delcalcomania*.

“1 and 2. *Principles of connection and heterogeneity*: any point of a rhizome can be connected to anything other, and must be” (p. 7). The digital realm allows for diverse, spontaneous connections that can move through geographical and social boundaries. Therefore, ethnographers can easily explore online communities and networks, which may not adhere to conventional forms of social organization. Similarly, digital platforms host a variety of identities, cultures, languages, behaviors, voices and perspectives, making them inherently heterogeneous. Deleuze & Guattari would support this, explaining, “A rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles” (p. 7). They would explain further by comparing the rhizome with the tree, “A method of rhizome type, on the contrary, can analyze language only by decentering it onto other dimensions and other registers” (p. 8). Further to this quote, the language of the digital landscape and its communication involves non-human actors, like algorithms or bots; visuals, like memes or emojis; the auditory, like podcasts or music; the interactive, like games or virtual reality.

“3. *Principle of multiplicity*: it is only when the multiple is effectively treated as a substantive, “multiplicity,” that it ceases to have any relation to the One as subject or object, natural or spiritual reality, image and world. Multiplicities are rhizomatic, and expose arborescent pseudomultiplicities for what they are. There is no unity to serve as a pivot in the object, or to divide in the subject” (p. 8). The exploration of various experiences simultaneously and the act of recognizing that individuals may engage with technology and communities in vastly different ways will form the principle of multiplicity. This helps to acknowledge that there is no singular experience in digital spaces. As the authors explain, the nature and connections of multiplicities are defined by external factors such as the lines of flight. As visualized in Figure 3, each line of flight signifies potential transformation, whether through human or non-human agency, community dynamics or technological advancements. This aspect aligns with the idea that digital ethnography can be a site of change.

“4. *Principle of asignifying rupture*: against the oversignifying breaks separating structures or cutting across a single structure. A rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines... Every rhizome contains lines of segmentarity according to which it is stratified, territorialized, organized, signified, attributed, etc., as well as lines of deterritorialization down which it constantly flees” (p. 8). The idea of asignifying ruptures represents

disruptions in digital communities that lead to new forms of engagement and connection (Figure 1 & 2). These are opportunities for transformation rather than endpoints. This principle is important for studying the fluid dynamics of online cultures and literacies. As the authors elaborate, “These lines always tie back to one another. That is why one can never posit a dualism or a dichotomy, even in the rudimentary form of the good and the bad” (p. 9). This means that though the binary of digital vs. traditional ethnography suggests a difference, these forms are not mutually exclusive. Instead, they are part of a broader continuum of ethnographic practices where methodologies can inform and enrich each other. In today’s context, digital interactions influence traditional practices and vice versa. Digital ethnography might reveal how online interactions shape cultural identities, while traditional ethnography can provide insights into the offline contexts that influence those online behaviors. So, by recognizing *asignifying ruptures*, the researchers can avoid oversimplified conclusions derived from addressing these approaches in isolation.

“5 and 6. *Principle of cartography and decalcomania*: a rhizome is not amenable to any structural or generative model. It is a stranger to any idea of genetic axis or deep structure” (p. 12). Mapping the connections and interactions within digital ethnography will allow researchers to visualize how identities and communities form and evolve through a rhizomatic approach, emphasizing the fluidity of online interactions (Figure 3). Similarly, decalcomania will reflect how digital cultures and practices replicate and adapt across contexts. This will allow studying how ideas, trends or practices spread through networks, often transforming into new forms in the process. These principles highlight the importance of understanding everchanging cultures and their adaptation in a digital landscape.

Deleuze & Guattari discuss the concept of *becoming* when emphasizing the idea that identity and existence are not static but dynamic and continually evolving. “A becoming is not a correspondence between relations. But neither is it a resemblance, an imitation, or, at the limit, an identification. To become is not to progress or regress along a series. Above all, becoming does not occur in the imagination, even when the imagination reaches the highest cosmic or dynamic level ...” (p. 239). So, becoming embraces multiplicity that allows for multiple identities and experiences to coexist. It acknowledges that individuals can embody various roles, characteristics and identities over time and in different contexts. For instance, people might present themselves differently on educational or business platforms as compared to social forums or game rooms. This multiplicity reflects the concept of becoming, where identity is not fixed but is fluid and is changed and shaped by the context and in a specific environment. The *becoming* encourages researchers to explore the multiplicity of identities, fluidity of experiences and dynamic nature of interactions that are characteristics of online environments. By embracing this perspective, digital ethnographers can better capture the nuanced

realities of individuals and their becomings, as “Becoming is certainly not imitating, or identifying with something; neither is it regressing-progressing; neither is it corresponding, establishing corresponding relations; neither is it producing, producing a filiation or producing through filiation. Becoming is a verb with a consistency all its own; it does not reduce to, or lead back to, "appearing," "being," "equaling," or "producing.”” (p. 239).

To summarize, the concepts of *rhizome* and *becoming* provide valuable frameworks for understanding the complexities of culture, literacy, identity, and social interactions in digital and traditional ethnographies. They encourage a focus on interconnectedness, fluidity and the processes of change by offering a lens through which to study the everchanging multiplicities of present-day life.

Discussion

This paper has explored the transformation of ethnographic inquiry in light of digital technologies and algorithmic systems that mediate human experience. Deleuze and Guattari’s concepts of rhizome, becoming and assemblages offer a productive lens for rethinking how ethnography can respond to this complexity. They have emphasized the fluidity, multiplicity and non-linearity that align with the current nature of digital environments. These concepts challenge ethnographers to move beyond linear research paths toward embeddedness in a digital assemblage of technologies.

This paper contributes to a growing body of work that reimagines ethnographic practice for the digital age. It calls on ethnographers working in digitally mediated contexts to rethink the epistemological and methodological foundations of their practices. Researchers are encouraged to engage with theoretical tools offered by Deleuze and Guattari that reflect the fluidity, complexity and multiplicity of contemporary digital life. Rhizomatic thinking can open new pathways for ethical, relational and reflexive approaches to ethnography in the digital age.

Limitations of the *Rhizome & Becoming*

The decentralized nature of the rhizome may challenge traditional research methodologies and lead to confusion about how to organize or interpret the data. Reflexive practices, flexible and adaptive approaches that align with the principles of rhizomatic thinking will be a possible solution. Analyzing data within rhizomatic framework can be challenging to identify clear themes or patterns. It may be difficult to operationalize this concept within the specific parameters of the study. It will be hard to draw concrete conclusions.

Conclusion

Digital technologies increasingly shape the conditions of everyday life. Therefore, ethnographic research must evolve in both theory and method. This paper has argued that Deleuze and Guattari's concepts of rhizome, becoming and assemblage provide a powerful framework for understanding the complexities of digital ethnography. The ideas discussed help illuminate how identities, spaces and practices are continuously shifting and are shaped by human and non-human actors.

Embracing this theoretical lens, ethnographers can better navigate the ethical, methodological and ontological challenges posed by digitally mediated environments. In doing so, they are called to adopt more fluid, relational and reflexive approaches to studying culture in a world where the digital and the real are increasingly entangled.

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