Digital Ethnography Redux:
Interpreting Drone Cultures and Microtargeting in an era of Digital Transformation

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Abstract

This paper affirms and demonstrates the application of digital ethnography methodologies to two digitally transformative phenomena that are fundamentally enmeshed in the public sphere: personal drones and microtargeting. We review recent methodological studies on digital ethnography that can be delineated into three forms: research that is online or remote by necessity because of physical distance between researcher and participants; research that uses natively digital tools to study phenomena (Rogers 2013; Fish 2019) and research focused on digital cultures (Markham 2020). Our application of digital ethnography is further informed by qualitative ethnographic research undertaken by Pink, Horst, Postill and Hjorth (Pink, et al., 2016); and Manovich's work on the application of digital ethnography to examine automation and big data (Manovich & Arielli, 2022). Beesley (forthcoming) utilises longitudinal visual ethnography as a lens to understand consumer drone cultures and disentangle the multiple narratives surrounding these disruptive technologies. Mount (2020), utilised digital ethnography to review two decades of microtargeting activities, employed by Strategic Communication Laboratories and Cambridge Analytica, to influence electoral behaviour. This methodological research will be combined with our conceptual swarm hermeneutics framework (Mount & Beesley, 2022) to develop scenario based simulations that will further evaluate interpretive schemas and behaviours.

Keywords: *Digital ethnography; drones; microtargeting; big data; culture.*

1. Introduction

This paper affirms and demonstrates the application of digital ethnography methodologies to two digitally transformative phenomena that are fundamentally enmeshed in the public sphere: personal drones and political microtargeting (PMT). In this paper, we review and refine applicable ethnographic methodologies in these digital domains to inform our current research. Building upon our conceptual *swarm hermeneutics* framework (Mount & Beesley, 2022), we aim to combine these conceptual and methodological approaches and develop scenario based simulations that will be used to test and train interpretive schemas and behaviours.

2. What is digital ethnography?

Ethnography is the systematic study of cultural phenomena from the point of view of the subject of the study and the behaviour of participants in a given social situation. *Digital* ethnography can be delineated into three forms: (i) research that is online or remote by necessity because of physical distance between researcher and participants; (ii) research that uses natively digital tools to study phenomena (Rogers 2013; Fish 2019) and; (iii) research focused on digital cultures (Markham 2020).

Digital ethnographic methods are a powerful approach to theorising, conceptualising and practising research on cultural phenomena in digital and data rich environments. Pink et al. (2016) have proposed the following set of five principles to guide digital ethnography research:

i. **Multiplicity** – There is more than one way to engage with 'the digital'. Research is unique to the research question, as well as by the needs and interests of different research partners, stakeholders and participants.

ii. **Non-digital-centric-ness** – The digital is de-centered in digital ethnography, yet it is also inseparable from the other activities, technologies, materialities and feelings through which they are used, experienced and operate.

iii. **Openness** – Digital ethnography is an open event. It is not a research method that is bounded nor is it a unit of activity or a technique with a beginning or end. Rather, it is processual and often iterative.

iv. **Reflexivity** – Digital ethnography involves reflexive practice. Ethnographers consume and produce knowledge through encounters with other people and things. Pink et al. (2016) argue that reflexive practice is necessarily an ethical practice in that it enables researchers to acknowledge the collaborative ways in which knowledge is made.

v. **Unorthodox** – Digital ethnography embraces the complexities of contemporary social contexts by encompassing a diverse set of methods that are adaptive, allowing the ability to find the best suited tool for a given situation.

The above model provides an extended framework of digital ethnographic techniques which are required to make sense of rapidly evolving enmeshed societies and emerging digital cultures. These broad set of data collection methods are not, however, what make ethnography inherently meaningful. The methodology is enriched only when it is engaged through a particular disciplinary or interdisciplinary analytical framework and used in relation to other practices and ideas within a research process (Pink, et al., 2016).

3. Why digital ethnography for Big Data?

When applied to Big Data analytics, a term which increasingly encapsulates our digitally transfomed society, digital ethnography is a fascinating and illuminating method to study data produced through human behaviors and the resulting movement and flow of information. As a method, it is equally applicable to both small- and large-scale research, from a single case, instance, individual or small group, through to exploring patterns in aggregated large datasets, and allows for the analysis of upswells or shifts of interest in events or crisis, for example, by examining how ideas flow or emerge through various groups, platforms, or networks (Markham 2020). Research groups such as RMIT's Center for Automated Decision Making and Society [ADM+S] are increasingly using ethnographic techniques to explore notions of ethics and bias in AI. For example, Graham and Thompson (2022) have used ethnography to monitor cultures of misinformation through a study of pro-Russian Twitter bots to demonstrate how they have an exponential capability to spread harmful information across limitless networks. Media theorist Lev Manovich uses ethnographic techniques in his recent studies on generative art and large datasets (Manovich & Arielli, 2022) to elicit the underlying cultural forms. Likewise, the examples discussed below employ diverse digital ethnographic methods to interpret the cultural dynamics of consumer drones and political microtargeting in digitally transformative contexts.

4. Case studies

4.1. Case Study 1 – Drone Cultures

Drones are 'uniquely transformative technologies capable of extending and elevating human and more-than-human senses to the edges of the internet and into entanglements with other forces and species' (Fish, 2019). Beesley (forthcoming) uses digital ethnographic techniques and tools to document and chronicle the social and cultural significance of the physical and virtual communities of practice surrounding the proliferation of thousands of personal drones. The techniques used to explore these emerging communities are longitudinal digital-video ethnography, field-notes, and semi-structured interviews alongside a cultural studies "Circuit of Culture" analytical framework (Du Gay, et al., 2013). Utilising digital ethnography provides a means to illuminate and obtain a visceral understanding of the drone

cultures that are emerging as humans and increasingly smart machines interact and develop new modes of co-performance, and as means to disentangle incumbent narratives.

Consumer drones are best thought of as an assemblage comprised of a human pilot interacting with the machine elements of the drone platform itself, yet the assemblage also comprises other inter-linked socio-cultural factors such as public perception and media representation, the regulatory landscape, and models of consumption and production. By de-centering the digital and utilising an ethnographic approach to document and study the communities of practice that form around these assemblages, it has been revealed that drone cultures are segregated and differentiated by where the locus of agency resides within the assemblage, or, to what degree automation and assistive technologies play a role. FPV (first person view) pilots, for example, wear head-up displays to fly bespoke camera mounted drone assemblages with low levels of automation, and as such the skills of the human pilot are paramount.

Conversely, the communities of practice centered around using drones for recreational purposes such as photography or videography, where the data stream is of more importance than the act of flight, tend to operate drones with extremely high levels of automation, increasingly sophisticated sensor suites and embedded AI. It is these communities in particular that are increasingly allowing and trusting the hardware in the assemblage to take ownership of both agency and appropriateness. Agency in the sense that many basic operations of flight, including take-off, landing, returning to home, collision avoidance and other areas of potential human error are now handled by the drone hardware and software itself; and appropriateness in the sense that the drone through geo-location and referencing regularly updated software databases of no-fly zones and other airspace restrictions, will limit its flight operations accordingly. This is in part an acknowledgment that the hardware and software elements have greater contextual and situational awareness than the human elements of the assemblage, with the human relegated to an almost secondary role accordingly.

Longitudinal ethnographic video studies clearly highlighted how these communities of practice form, function and evolve as the drone technologies themselves mature. By engaging with both the physical communities of practice 'in the field' and through participation with the many virtual communities of practice in the digital realm via blogs and forums, one gains a unique perspective and first-hand insights into the complexities and actualities surrounding human interactions with increasingly autonomous, intelligent and data driven machines, and the practices and discourses – or cultural activity – that circulate around them. As Fish (2019) observed, to come to a more realistic notion of what the drone is, does and why it matters, one needs a synthesis of ethnographic, epistemological and ontological scholarly perspectives.

Considering the use of personal drone assemblages as a socially and culturally embedded, skilful practice, performed at a particular moment in time and situated in a specific physical

context, and by paying attention to the surrounding social and material interactions, requires an ethnography of a technology in use, or technography. Through adopting a technographic perspective one assumes that outcomes in a given situation will be emergent properties, determined by the specific context; temporal, institutional, geo-spatial and social. This means incumbent narratives about what a technology is for, or how it should be configured, need to be set aside and instead attention is paid to the discourses and practices of all the people and organisations involved in the activity as all have some degree of influence over how the technological assemblage works. Ethnographic methods reworked for hybrid digital communities support a reflexive style of conception and analysis with the researcher becoming fully engaged with the physical and digital lives of the participants and thereby achieves an understanding that is inaccessible to those who insist on remaining neutral and distant.

4.2. Case Study 2: Political Microtargeting

This case study combines conventional ethnographic methodology with an analysis of the emerging, and intensely digital, phenomenon of political microtargeting [PMT]. 'Culture' is central to the analysis because identifying, reinforcing and amplifying identity conflict (Kreiss, 2017) and racial prejudice (Shaw, 2019) have been central elements of contemporary PMT strategies.

A recent study on political microtargeting (Mount, 2000) revealed how ethnopolitics can be leveraged to achieve electoral influence. Ethnic minorities may become disenchanted with the electoral system if they experience prolonged 'invidious treatment' (Gurr, 1989) and ineffective power sharing (Horowitz, 1985). Democracy privileges the will of majority which *can* systematically marginalise political and cultural minorities. Capturing the votes of ethnic demographics ('Latino', 'Jewish', 'Afro-American', 'Afro-Carribean', 'Asian') has come to form a key strategic element of contemporary US and UK electoral campaigns. Conversely, strategies that actively target feelings of displacement and resentment against 'other' or 'foreign' communities in behalf of a besieged 'White' status quo has also emerged as a powerful electoral strategy. It was this later strategy that characterised the successful campaigns of Brexit and Trump (see Kreiss, 2017; Haynes, 2019; Shaw, 2019).

Bennet (2015) has identified four Big Data trends in contemporary democratic politics that have accelerated the process of digitising the electoral process. (i) Voter databases have become integrated into interactive voter management platforms; (ii) Election campaigns have also shifted from mass-messaging to tailored micro-targeting employing profiled data from commercial data brokerage firms; (iii) Enhanced social media analytics allow for messaging to respond to trends in real timeand; (iv) Data analysis become decentralised and mobile allowing campaigns to adopt hyper local electoral strategies.

The International Institute for Democracy and Electoral Assistance (IDEA) produced a useful report on how Big Data has significantly transformed not only the amount and type of data that is gathered, but also how it is utilised.

Table 1. How big data has changed traditional targeting into microtargeting (IDEA, 2018)

Traditional targeting	Digital microtargeting
Collecting data	Increased availability of big datasets: collected by parties themselves, government agencies, polling agencies, voter files, as well as consumer data purchased from commercial market research firms
	Data can be collected more easily: citizens' personal information can be reached more readily online, as can their digital footprint
	Data can be stored more easily through larger servers. For example, US President Donald Trump's election campaign had 'more than 300 terabytes of data' (Halpern 2017)
Dividing voters into segments based on characteristics such as personality traits, interests, background, or previous voting behaviour	'Predictive analytics': patterns can be recognized more easily with the use of complex algorithms
	'Psychological targeting': squaring voter data collected by political parties with consumer data purchased from commercial market research firms; this helps to build a more detailed profile: what people buy, eat or watch in some cases can help to predict how they vote. The impact of psychological targeting is being debated.
Designing personalized political content for each segment	'A/B testing': sending out hundreds of thousands of slightly different versions of the same message to different population segments to test patterns in their responses, such as how quickly they click, how long they stay on a page, what font and colour layout they like
Using communication channels to reach the targeted voter segment with tailor-made messages	Pairing voter profiles with social media user data to reach the right people with the right message

Political microtargeting was effectively used in both of Obama's Presidential campaigns and had a decisive impact on the UK Brexit Referendum and US Trump Presidential victory in 2016. Notoriously, Cambridge Analytica was heavily involved in both campaigns and it was later revealed that they had improperly harvested over tens of millions of Facebook accounts to build and target voter profiles (Confessore, 2018). In their website, Cambridge Analytica promised depth of experience with a new "pyschographic" methodology of voter profiling:

> We bring together 25 years' experience in behavioral change, pioneering data science, and cutting-edge technology to offer unparalleled audience insight and engagement services and products (Cambridge Analytica , 2016).

A number of recent studies are now tentatively concluding that PMT may be less influential in changing voter behaviour (Dobber, 2017; Zarouali, 2020). The reasons for this are not

clear. It could be that the demos has become inoculated from these tactics; or that the techniques are only effective among certain subsets of the electorate such as "angry", "fearful" or "swinging" voters.

Applying Pink's et.al. (2016) five criteria of digital ethnography could help to understand and interpret these discrepancies by analysing the complex evolving and adaptive influence of political microtargeting in contemporary democracies. Microtargeting needs to be understood through a *multiplicity* of disciplinary lenses and from different points of view. Big data and the analytic tools utilised on them has given micro-targeting a distinctive character; but it was used as a 'trigger' to agitate cultural bias, fears, suspicions, resentment and broader sociopolitical anxiety for the purpose of enhancing reactionary, popularist, and nativist political ideologies. Microtargeting is certainly an *open* problem. Microtargeting is *reflexive* because monitoring of electoral beliefs, defines the scope and scale of public discourse and thereby actively transforms the electoral landscape.

The study of political microtargeting in a cultural cointext requires new interdisciplinary theories and methodologies. Sociological concepts will need to be adapted in unorthodox ways to explore a new 'logic of accumulation' in big data ecosystems. Shoshana Zuboff's notion of the "Big Other" requires analysis of 'often illegible mechanisms of extraction, commodification, and control that effectively exile persons from their own behavior' (2015: 75). Strategies designed to manipulate and distort need to be carefully scrutinised with these innovative and advanced methodologies.

5. Conclusion

By adapting well established ethnographic techniques to these examples, it is apparant that the enmeshment of subject-observer-participant becomes even further entwined by commonality of the increasingly digital technologies and methods that are shared by both researchers and informants alike. In effect, it is the digital transformation and application of ethnographic techniques that further dissolves boundaries between researcher and subject. By necessity, ethnographic methods must continually adapt in order to interrogate our digitally transfomed and transforming society to the extent – to paraphrase Fish – that our digital methods become entangled with the technologies, landscapes, research subjects, data and practices being studied and analysed.

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