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*Digital Social Research: Topics and Methods*¹

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Abstract

The digital transformation of social life should be accompanied by new forms of social enquiry. In particular, the digital would make possible new forms of understanding sociality that arise from the complex interactions between digital technology, social research and social life. It invades the micro, meso and macro areas and aspects of social life (citizenship, identity, gender and sexuality, power relations, inequalities, social networks social structures and institutions, politics and economics, to name but a few) and generates new practices, socialisation processes, ties and relationships, re-distributing power among institutional actors. Apart from skepticism or enthusiasm, the paper investigates the distinctive topics of digital social research, the nature of digital data, and the place for technological objects (devices, technology, robots, AI, algorithms, etc.), the digital biases (e.g. digital social desirability, digital discriminations, etc;), the methodological challenges and opportunities deriving from acquiring records of computer-mediated social interactions being them self-report on individual's social network or digital traces left by individual's online activities and the methodological principles which are not easily dismissed by the new availability of data.

Keywords: digital sociology, digital methods, digital data, digital social research.

¹ While this paper results from a conjoined effort, in the final draft Angela Delli Paoli wrote Sects. 3, 4 and 5, Giuseppe Masullo wrote Sects. 1, 2.

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1. Introduction

This paper attempts to grasp the complex and variegated terrain of Digital Social Research by discussing its distinctive topics and methodological challenges.

The digital, in the form of technologies, scenarios, objects, processes, and relational and interactional structures, is increasingly becoming central to understanding culture, society, human experience, and the social world. It permeates our society's practices, symbols, and shared meanings; and it makes old distinctions, such as the ones between online and offline, real and virtual, and material and immaterial, obsolete. It also introduces digitally native objects of research, such as cyber-bullying and digital identities, which have a direct impact on mainstream sociological problems.

The digital is entangled in the structures of society in many different and even contradictory ways so deeply impacting social institutions, relationships, practices, symbols and shared meanings. Through incorporation of technology into our daily materiality, it is likely to entail broad societal transformations which need to find a place in sociological analysis.

The penetration of the internet into our daily lives has dramatically increased the volume and variety of both intentionally and unintentionally produced digital data (e.g., social media posts, narratives, storytelling, search engine queries, phone calls, and banking interactions). This provides new methodological resources for researching social phenomena, and it forces us to rethink traditional social research methods.

Thus, digitalization raises a number of both theoretical and methodological issues.

Obviously, the theoretical question of new social formations, phenomena and practices arising through internet access is different and separated from the question of methods to carry out social research using ICTs. However, these two themes co-occur and need to converge in the recognition of the digital not only as a topic of social research but especially as a ways of transforming social research both in terms of topics and in terms of methods.

The paper explores the concepts, topics and methods required for studying digital societies and the issues raised by digital forms of social research. It will not focus on the development of new topics and methods but on the transformation of traditional social problems and the revival and changing of traditional methods.

The paper is structured as follows. The next section analyzes the distinctive field of analysis of digital social research by focusing on some of the social transformations deriving from digitalization. Section 3 explores the nature of digital data in their commonalities and differences with traditional data. Section

4 focuses on the elements of continuity and newness in methodology of digital social research. In the last section implications for social research methods are discussed and conclusions are drawn.

2. The digital as a topic of sociological inquiry

For sociology the digital may represent both a research topic and a method for social inquiry.

As a topic of sociological inquiry, the digital may be studied in its technological dimension being interested in the technological practices adopted online or in the interpenetration between technology and society being interested in understanding how it touches aspects of social life (in its cultural, political and public dimensions) so entailing broader societal transformations. This latter perspective can be considered the distinctive terrain of digital social research and of its ambition of gaining insights into social phenomena which extend beyond online settings.

Within this latter perspective, the digital is not intended as a separate or sectorial field of study, but rather as an irreducible field of analysis, both because it invades all the micro, meso and macro areas and aspects of social life (citizenship, identity, gender and sexuality, power relations, inequalities, social networks social structures and institutions, politics and economics, to name but a few) and because it is capable of generating new ways of living, social practices (think online transactions, travel, but also decision-making), socialization processes, ties and relationships, and of re-distributing power among institutional actors.

From a micro perspective the digital has the potential of making porous the public-private boundary. It both transforms traditional intimate and private phenomena into a public-facing genre such as in the case of digital suicide and the practice of publishing the last notes on social media (Marres, 2017) or in the case of the relationship with death people and how it is maintained after death through the dead person's social media profiles.

The digital is also a tool for legitimizing minority identities (stigmatized sexualities) which use digital spaces as performative spaces for reflexivity, self-understanding and acceptance. For these non-normative identities, the digital represents a socializing institution where new types of relationships are institutionalized and new language is negotiated to suggest labels, categories and identifiers and provide identity-based vocabularies (Delli Paoli, Masullo, 2022). Often, these people form community only online and their social life is entirely online. Think for example to LGBTQ+ communities (Masullo, 2021; Masullo, Coppola, 2021).

Sometimes the digital offers also *backspaces* (Durkin, Forsyth, Quinn, 2006) for deviant practices (deviant sexuality, criminality, illegal actions, etc.) validating and exacerbating deviant desires and practices (such as pedophilia, child pornography, cyber crime, cyber bullying, etc.).

From the meso perspective, apart from representing a socializing institution for some identities, the digital is impacting the forms of social ties and the relationships between social sectors and practices, as the example of forms of distributed democracy and citizen sourcing, which significantly influence the shape and size of the citizen engagement in government, clearly demonstrates. The diffusion of citizen-driven apps, for example, opens to type of ICT-enabled co-production of information deriving from “citizen sourcing” initiatives where the information flow is directed by citizens. There are lots of international examples of such web-based service (SeeClickFix, Park Scan, Crime reports, SpotCrime, FixMyTransport, FixMyStreet, etc.) designed to allow citizens to report issues (environmental issues such as disposal, pollution, environmental degradation, etc., vandalism, broken infrastructure, road safety and disrupted streets, illegal billposting, transportation infrastructure, criminality and so on).

More in general it is transforming the forms of social support and community building, changing both the sources of social capital (strengthening existing social relationships but also activating new and latent ties) and its consequences (both positive such trust and relationships’ building and negative such as segregation, conflict, inequality and crime). The model of “community” and communitarism turns out not to be so readily applicable to the whole spectrum of online interactions. In some case, it loses its space-time anchorage in digital contexts often characterized by temporary, disperse and ephemeral interactions (Caliandro, 2018; Caliandro, Grandini, 2019). In the case of many online interactions, we can no longer refer to aggregates of people with sustained membership over time, experiencing a shared sense of belonging, shared values and interests in a defined place. The dimension of space (defined place and media) and time (lasting relationships) is rather replaced by an affective dimension. In this sense, the concept of community is replaced by that of “public”, groups of people characterized by an intense emotional union, but dispersed in space, who gather on different media around a common discourse, being it an opinion, a political issue, a media event, a brand, an interest, giving rise to a social imaginary (Caliandro, 2018; Caliandro, Grandini, 2019).

From the macro perspective, the digital can produce new organizational forms, alternative to capitalist economy such as in the case of the sharing economy, which can be defined as a new model where under-utilized tangible and intangible resources are shared within a community that is co-used providing a higher degree of utilization of a good or a service based on a peer-

to-peer model (renting unoccupied parking spaces, spare rooms or houses, etc.). Although the practice of sharing is not new what seems to be transformative is the “stranger sharing” (Schor, 2014): in the past sharing was confined to strong ties with individuals such as family, friends and neighbours. Sharing among strangers (e.g. individuals who do not know each other) is a recent practice made possible by digital platforms which allow to cross geographical distances and make stranger sharing less risky thanks to the use of ratings and reputations as a reliable source of information.

Moreover, still from a macro perspective, as the COVID-19 pandemic demonstrated, sometimes the digital exacerbates inequalities producing and reproducing social orders and stratifications, operating along axes of divisions and differentiating people’s space of opportunities, well-being and level of agency, creating new spaces of inclusion/exclusion. Such perpetration of discriminations can manifest in different forms under different conditions.

The scale is such that it leads some to define the digital as a new *total social fact* because it invades every aspect of daily life and extends to social life in its entirety (Fish et al., 2011; Lury, Marres, 2015). Rather than distinguishing the real from the virtual, the offline from the online, the material from the immaterial, the idea is of a constant inter-penetration of the digital and the physical into a single ‘augmented’ social reality composed of a multiplicity of social contexts and spaces blurred and mixed between the online and the offline (Jurgenson, 2012). The ubiquity and pervasiveness of digital technologies is such that they are now invisible, imperceptible, unobtrusive and taken for granted (Lupton, 2015).

3. Digital Data

The deep penetration of the internet into our daily lives, produces a wide variety of empirical digital information available on the web. Digital data can be considered as moving objects with a constantly changing nature as their expansion follows the evolutions in the use of digital devices and their capacity to store data (Veltri, 2019). Rogers (2015) distinguishes between different types of data: virtual data, digitised data and digital data.

Virtual data derive from the digitisation of traditional information collection techniques and the use of digital contexts such as websites, email, social media, videoconferencing or messaging platforms for administering questionnaires or conducting interviews, focus groups, etc (online surveys, online focus groups, online interviews). Virtual data allows more information to be obtained than the same information collected for example with a questionnaire administered by an interviewer or self-completed in presence. In

fact, together with the answer to the question of a questionnaire, meta-data, data about the data, and para-data (data about the processes) are produced, such as the time taken to fill in the questionnaire, the transitions from one question to another, the device used to fill in the questionnaire (smartphones, tablets, laptops, PCs, etc.), the clicks, etc. (Veltri, 2019).

Digitised data derive from the digital conversion of analogue materials generated outside the web, such as books, articles, television programmes, films, photographs, etc. The digitisation of these documents makes their study less time-consuming but does not change the method, which will consist of a documentary, textual, discourse and/or content analysis of these texts.

Both *virtual* and *digitised data* have little methodological impact as the web in these cases changes neither the nature of the information nor the way in which it will be analysed: an online survey is not substantially different from a questionnaire self-completed in the presence of the subjects just as the content analysis of a text does not substantially change whether it is available on a computer or on a physical desk.

In contrast to the first two types of data, *digital data* are natively digital resources of a different nature and constitute an empirical basis that cannot be attributed to any other type available in traditional social research. They are routinely generated as a constituent part of our daily lives, our social lives and our daily practices.

Such data generation can be voluntary as in the case of:

- Information derived from our daily use of the Internet e.g. posts, comments published on social media, communities, blogs, photos of our private life, profiles of our social accounts;
- Data derived from our online behaviour, e.g. searching for certain keywords on search engines, clicking certain links, visiting certain websites, etc.

The generation of digital data can also be unintentional, as in the case of traces left by the ubiquitous use of devices. These are transactional data because they derive from the automatic recording of operations carried out through devices connected to the Internet (smartphones, PCs, tablets, etc.) through digital identities, credit cards, purchase cards. Transactional data are also those stored as a result of the use of the Internet of Things, such as those arising from the use of sensors for health monitoring, from the use of home automation (e.g. the recording of domestic energy consumption), of assisted home automation (e.g. the monitoring of movements in the case of driving aids), etc. (Marres, 2012; Amaturò, Aragona, 2019b).

Digital data are different from information collected as a result of intentional stimuli (answers to specific questions in a questionnaire or an interview). If the latter can be defined as ‘provoked’, because they are the result

of a researcher's design, his theoretical and conceptual framework and analytical strategies, the traces voluntarily or involuntarily left online are not requested but spontaneously released by internet users (Lewis, 2015; Molteni, Airoldi, 2018) and “found” by the researcher. This information exists regardless of the research (unlike information derived from answering to questions to a questionnaire designed by a researcher) (Veltri, 2019).

Although with varying degrees of awareness on the part of subjects, automatically recorded data allow detailed behavioural information to be obtained, which is difficult to achieve with traditional collection techniques. To clarify, we can think of everyday behaviours such as playing sports. The question of a questionnaire could be able to obtain information related to the frequency of sport practice by asking the subjects to indicate the number of times a week they go to the gym, the number of hours a day they dedicate to physical exercise, etc. This can be done for a limited number of people and for a limited period for obvious reasons related to the economic and time resources implied in the collection of information. Moreover, subjects' self-declarations may be biased by the difficulty in verbalization of behaviours, thoughts and opinions and by cognitive and mnemonic limitations (difficulty in remembering past information or in calculating the frequency of daily actions in number of hours, days, etc.).

On the contrary, digital data from GPS are able to track the daily movements from one's residence to the gyms of a large number of people for long periods of time, and data recorded by fitness and health apps or wearable devices are able to provide information about the type and frequency of motor practice, sedentary lifestyle, eating habits, etc.

This gives this information a naturalistic and non-intrusive character (Cardano, 2011): individuals produce this information in their daily use of the internet and are barely aware of data collection, so they do not modify their behaviours, opinions, thoughts in response to their awareness of being observed or part of a study (artificial situation).

If, on the one hand, the non-intrusiveness of this information plays in favor of data quality, on the other hand, it opens to new forms of digital biases.

First of all, digital biases deriving from the identity strategies applied online, which can include forms of self-presentation that are not always true, but sometimes constructed to adhere to certain social standards, generating new forms of *digital social desirability*. Digital social desirability takes on different characteristics from those we are used to in mainstream research. While in typical offline research it tends to reinforce conformism, emphasising adherence to social normativity and culturally accepted standards and expectations of behavior, in the case of digital it can reinforce anti-conformism. Also thanks to anonymity, on the internet people may have the need to appear

more anti-normative than they actually are. They can emphasize their otherness, opposition, dissent from normative and social-orientated discourse, also through the use of offensive, deliberately anti-political language that defies the codes of political correctness and sometimes takes on the connotations of hate speech.

Secondly, other biases may derive from the invisibility of the research design in repurposing digital data. While the idea of repurposing of data (e.g. re-analysis of a certain set of information, collected by others, with different purposes and for answering different questions than those of the original studies) is common to secondary analysis, it presents additional problems in comparison to it. Like in digital data analysis, also in secondary analysis the information is analyzed with different research purposes than the original one, but, although at different levels and with different degrees of depth, the methodological framework, research design, choice of indicators and coding are transparent. This is not the case with digital data for which the researcher has no information about the research design and the coding of the information (Veltri, 2019).

In addition to the invisibility of the research design, the algorithmic mechanisms of information selection are also opaque, which imposes an awareness of affordances and algorithmic mediations to avoid significant biases.

This opacity can in fact produce direct and/or indirect digital discrimination in the form of inequalities based on income, education, gender, age, ethnicity, and religion because of algorithmic user selection or data mining techniques. Digital discrimination can in fact affect sampling, which is already complicated online by the over-representation of some subjects in internet use, and the interpretation of results.

Think for example of dating app algorithms that encourage people to select partners of the same race, thus perpetuating sexual racism.

Digital discrimination debunks the myth of data objectivity and algorithm neutrality, emphasizing the need for human oversight in automated processes (Criado, Such, 2019).

Moreover, the accessibility of information is challenged by Cambridge Analytica (Bruns, 2019; Perriam, Birkbak, Feeman, 2019) and, even when possible, marked by the ethical implications of using for research purposes information that originates for other purposes from individuals who are unaware that they are the object/subject of research (Molteni, Airoidi, 2018).

If all of these biases challenge the “naturalness” of digital data, their potential for sociological analysis is not questioned. However, they call for understanding the influence of technological settings on the activities (and consequently information) recorded on digital platforms challenging the idea that social behaviors can be separated by technical artifacts (Marres, 2017).

4. The digital as the method for social research

The methodological debate about the implication of technology for social research can be articulated around 2 positions: innovation and tradition (Marres 2017). On the one hand, those who emphasize the potential of innovative and natively digital methods (Rogers, 2009) which need to be medium-specific, need to take into account the specificities of affordances, infrastructures, algorithms and devices, embrace the methods built in the medium in ways that render them productive for social research. On the other hand, those who stress the continuity in methodology development discussing the digitalization of mainstream methods like ethnography, content analysis, diary, social network analysis or survey research as not changing the epistemic quality of social research but affecting research techniques, in particular data collection through automatic data capture and interactive visualization for example (Herring, 2009; Savage, 2010; Lee, Fielding, Blank, 2008; Murthy, 2008).

Those who stress continuity criticize the newness of digital methods and emphasize similarities between digital and traditional methods. Think for example to issue mapping (Marres, Rogers, 2000), a tool used to link actors' relationships about a particular social issue (e.g. climate change, pharmaceutical industry, etc.) by scraping an URL to look for links. Once scraped, it works with social network analysis showing centrality, nodes and edges of those taking part in the debate. Another example can be the analytics of the Google search engine (Google Trends) used to stress the methodological innovations for data analysis incorporated within digital infrastructures. However, as highlighted by Halford and Savage (2017) the underlying methodological principles are very old: it uses co-occurrence analysis to count the frequency of occurrence of terms associated with a keyword (Amaturo, Aragona, 2019a).

The dichotomy innovation-tradition seems to be not appropriate to understand digital methods. Instead, it seems to be the co-presence of innovation and tradition which characterize digital social research.

On the quantitative side big data together with development in computational science have allowed for the spread of explanatory models and simulations (topic modelling, machine learning, etc.) and this has been driving digital social research toward a *data-driven approach* and a *new empirism* (Kitchin, 2014, Amaturo, Aragona 2019a; Amaturo, Aragona 2019b). The idea that large masses of data can speak by themselves, and all answers are to be found by looking at the data alone without the aid of theories is known as *dataism* (Brooks, 2013) and implies the assumption that large datasets are intrinsically relevant, comprehensive in describing phenomena, valid, reliable and clean. These few years of digital social research have demonstrated that valuable insight can be gained from digital data when traditional and innovative methods are combined,

when large and small data are analyzed, when innovative methods are substantiated with more traditional approach. This because the analysis of big flows of data does not tell much about humanity (human motivations, feelings, values, norms, meanings, etc.) (Fuchs, 2019). It does tell much in some fields such as the analysis of medical data sets but not in others. Being interested not only in the online behaviors of people but also and especially in their motivations, reasons, implications, social research needs to avoid digital positivism and decontextualized analysis. Big data analysis result often in broader account of social phenomena which is useful to highlight major topics, trends and relations but fail to understand deep motivations (Fuchs, 2017).

Thus, digital methods do not make traditional methods and competencies obsolete but require them in order to avoid the pitfall of digital positivism and take their use into new directions.

Moreover, the digital is also a way for rediscovering methods which have never been mainstream such as *social network analysis* and *content analysis*.

Social network analysis (SNA) is particularly used in social media analysis not only to explore the formation of networks of relationships through retweets and shares but also as a tool to identify conversational pattern, fake news, the spread of influence, information/disinformation propagation.

With reference to content analysis the digital widens the fields of application and the potential “texts” to be analyzed but it also offers grounded categories for analyzing content. Indeed, natively digital devices such as mentions, like, retweets, tags, hashtags can be used for selecting, filtering and sampling texts, videos and images or when they become grounded categories for coding and interpreting content (Caliandro, 2018; Rogers, 2013). Natively digital data provide interactional and position or opinion-related information: likes can be representative of opinions, thought or positions, hashtags and clicks can be interpreted as proxies for interest in a given object, shares, mentions, tags and comments can be considered proxies for social ties, and so on.

The digital is also a place of narration. Narrating is an existential, identity and social practice. Narrative is a constitutive characteristic of man as such: the meaning of existence is constructed in the story through the narration of our history. Narrative is a mediation between man and the outside world, between man and other men and between man and himself (Ricoeur 1994). Narrative is thus a privileged context for the exploration of identity. The spread of spaces of online narration and storytelling, have strengthen the possibility of digital ethnography and biographic research (Delli Paoli, D’Auria, 2021; Delli Paoli, 2021; Masullo, Addeo, Delli Paoli, 2020).

As all these examples demonstrate, the digital transposition of traditional methods is not a mere adaptation.

We can say that instead of a new empirism, digital methods call for a *new interpretativism* at different levels of the research process. At the level of data collection, they impose to interpret technology and avoid the mythology of data objectivity (Boyd and Crawford 2012), refusing the idea that digital data are objective and neutral tools for overcoming human subjectivity. Indeed, algorithms are not neutral but integrated with opinions and sometimes prejudice, as shown by O'Neil (2016), who defines them as weapons of math destruction demonstrating the existence of discrimination at the basis of some algorithms in the security sector. Algorithms can be defined as black boxes as in most cases their exact formulation is unknown. Since we cannot accept *apriori* outcomes provided by algorithms the role of human interpretation becomes significant. Think for example to decisions about attributes, features and categories taken by researchers which are at the very core of the setting and design of data mining algorithms and emphasizes the importance of human interpretation in handling data. These subjective decisions are taken on the basis of the guiding research questions. Without them the collection of information is impossible or meaningless since everything would appear important (Miles, Huberman, 1984: 28). This gives a crucial importance to traditional research design avoiding limiting social research just to data analysis so reducing it to a mere analytic process, as a purely computational approach would imply. Digital research design is not a linear process and is also complicated by new opportunities and challenges. Opportunities come directly from technology and their understanding. Digital research design requires a technological proficient researcher able to use a digital language based on the affordances of online environments (the socio-technical architectures of media). In this way mentions, tags, likes, retweets, shares, hashtags may become methodological sources for selecting data, for filtering content, sampling comments, posts, texts, images, videos and other multimedia and hypertextual materials, building categories of analysis. Interpreting technological affordances is not a mere technological questions since the features of the technology structure the forms and meaning of social interaction online. They cannot be conceived as standard built-in features that automatically activates during technology deployment and social researchers need not to be exclusively interested in the technological affordance attributed by design which do not necessarily and always materialize in full, being mediated by personal interpretation of individuals who trigger different possibilities for action and interaction. The understanding of technological affordances and their potentialities is not only useful in the research design (for searching and selecting digital information) but it is also essential in making sense of the results.

Challenges come also from sampling due to sampling bias which is complicated on the web by *direct digital discriminations* (sampling biases deriving

from procedures discriminating against minorities or disadvantaged groups based on race, gender, sexual orientation, etc.) and *indirect digital discrimination* (sampling biases deriving from procedures intentionally or accidentally discriminating against a minority). Digital discrimination makes the need for human oversight and supervisions necessary (Favaretto, De Clercq, Elger, 2019).

At the level of data analysis, the role of interpretation is evident in narrative analysis. Online discourses tend to be intertextual, trans medial, multimodal and interdiscursive. The digital provides access to the explicit language of people which need to be understood in its performative and identity potential but also contextualized and situated in society.

Such interpretative role is also crucial in computational analysis, for example in identifying patterns and making sense of the correlations identified within a dataset which are not automatically meaningful or reflecting casual relationships (correlation is not causation). Big data-based correlation is not sufficient to understand social phenomena. The relationship between two phenomena may be meaningless (due for example to spurious correlations) even when the correlation coefficient is very high (e.g. the divorce rate in Maine highly correlates with the per capita consumption of margarine - r coefficient of 0.99).

5. The future of Digital Social Research: concluding remarks

The digital transformation of social life should be accompanied by new forms of social enquiry. In particular, the digital would make possible new forms of understanding sociality that arise from the complex interactions between digital technology, social research and social life, through the digitisation of traditional social research, with inevitable methodological and ethical consequences (Marres, 2017). The transformative power of digital social research lies in the role attributed to technology in social research both as an object and a research tool, and in the consideration of sociological enquiry as a socio-material-technical practice (Marres, Weltevrede, 2013) not deterministically driven by technology but by awareness of technology. From this point of view, digital social research needs to be framed for researching social phenomena and not just internet-related phenomena and practices.

For about a decade, the debate on the consequences of digital data has been developing from two opposite extremes.

On the one hand, there are those who recognize the opportunities of digital research, sometimes presenting digital data and computational approach as the new gold of the social sciences (Lazer et al., 2009; Mayer-Schönberger, Cuckier,

2013), sometimes recognizing the opportunities in the democratization of social research: the proliferation of recording, analysis and visualization capacity enabled by digital technologies would support new forms of amateur-led social research so enhancing the empirical and analytical possibilities of social research.

On the other hand, there are those who prospect a privatization of social research progressively confined in the laboratories of big IT firms, in few well-resourced research centers, equipped for the central storage and processing of big data (Savage, Burrows, 2007). This would sign the end of social research as we know it, making obsolete the entire methodological apparatus of social research (Addeo, Masullo, 2021) and legitimizing new forms of quantumphrenia (Boyd, Crawford, 2012).

It is undeniable that digital technologies are changing *research actors* redistributing methods among different agents involved in social research (Marres 2012) reconfiguring the relations between research actors, research subjects and objects, technological infrastructure, IT firms, involving different domains in the research practice (academia, marketing organizations, government, activist organizations, etc.), so opening new and different space of intervention for digital social methods.

However, it is important to avoid overstating claims to innovation. Natively digital data are undoubtedly new and so are also some analytic techniques but the methodological framework of much digital research is familiar and sometimes “outdated” such as the supposed *naturalness* of digital data and the re-invention of unobtrusive methods.

We need to recognize that the digital is making possible new ways of configuring the empirical apparatus of social inquiry. Firstly, with reference to *research design* blurring traditional boundaries between separate phases of the research cycle such as data collection and analysis.

Secondly, it opens to deeply forms of *participatory research* enabling new forms of interaction between researchers and participants which may strengthen data quality control for example by making easier to collect the views of participants on the findings.

Thirdly, it asks to find a place for technological objects understanding the technical side of digital fields and their affordances such as how identity, participation and activity is expressed in such contexts. This, on the one hand may require competencies not routinely offered to social scientists as part of their methods training imposing a technical proficiency to interpret digital data. This requires new methodological toolkits which include both traditional and innovative competencies being the latter related to digital capabilities and knowledge about the affordances of media, the ability to harness artificial intelligence, the availability of folksonomy classification and the recognition of

the role of technologies, algorithms, devices and relational ontologies in shaping human interactions online (Veltri, 2019).

On the other hand, it extends the importance of human interpretation beyond the boundaries of qualitative research where the “divide” between qualitative and quantitative approaches and the consequent trope which locates subjectivity on the qualitative side and objectivity on the quantitative one, would confine it. For the reasons highlighted in this contribution, interpretation needs to extend also to computations overcoming the myth of data objectivity and algorithmic neutrality also as an antidote for digital discriminations. From this point of view, the digital may provide a way out of the familiar opposition and divide between qualitative and quantitative approaches.

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