ISR Italian Sociological Review
University of Verona, Italy
ISSN 2239-8589 | Editor in Chief Paola Di Nicola
Managing Editor Debora Viviani

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How to cite
Serino, M. (2021). Culture and Networks in Online Social Fields. Studying the Duality of Culture and Structure in Social Media through Bourdieu's Theory and Social Network Analysis. [Italian Sociological Review, 11 (4S), 369-390]
Retrieved from [http://dx.doi.org/10.13136/isr.v11i4S.439]

[DOI: 10.13136/isr.v11i4S.439]

1. **Author information**
Marco Serino
Department of Political Sciences, Università di Napoli Federico II, Napoli, Italy

2. **Author e-mail address**
Marco Serino
E-mail: marco.serino@unina.it

3. **Article accepted for publication**
Date: January 2021

Culture and Networks in Online Social Fields. Studying the Duality of Culture and Structure in Social Media through Bourdieu's Theory and Social Network Analysis

Marco Serino*

Corresponding author:
Marco Serino
E-mail: marco.serino@unina.it

Abstract

This paper sets forth a theoretical and methodological framework to examine the interplay between networks and culture by considering how tastes and distinctive practices are conveyed via the use of social media, where online interactions occur among users and between these latter and online shared contents. Conceiving of social structure as networks of online connection among social media users, and of culture as networks of symbolic elements shared by them on these platforms, the paper contends that interactions in online fields can be analysed through both Bourdieusian theory and social network analysis (SNA). Methodological foundations of this perspective stem from a common ground lying in the so-called 'cultural matrix approach', by which the interplay between structure and culture can be formalized through conventional 'people-by-choice' data tables or through matrices representing affiliation networks, where actors are connected to each other thanks to the choices they share in terms of cultural products and practices, while these latter are connected through those actors who share them. Combining Bourdieu's field theory and network theory, this proposal will be exemplified by discussing how the processes of content sharing and tie formation are at work on Facebook and Pinterest, this latter being key to this proposal for it permits social actors to classify cultural and symbolic content and to connect to each other mainly via such content.

Keywords: Bourdieu, social network analysis, social media.

* Department of Political Sciences, Università di Napoli Federico II, Napoli, Italy.

1. Introduction

Social media are online environments where users' identities and subjectivities give rise to, and are shaped by, the content which users themselves publish, like, and share (boyd, Ellison, 2007; van Dijck, 2013; Boccia Artieri et al., 2018; Liu, 2007; Papacharissi, 2010). These means thus represent novel ways in which social and cultural stances are displayed, and the way social and cultural practices occur through them is of chief interest for sociologists – and particularly for cultural sociologists (Bail, 2014). Notably, these online practices and stances are related to how individuals engage with each other through culture and, in doing so, how they behave as agents in the domain of practice (Bourdieu, 1977; Breiger, 2000; Mohr, Duquenne, 1997). This holds true despite the role algorithms play in driving content choices and interactions, news feeds and, more generally, in organizing what people watch and share on social media[1].

This paper sets forth a theoretical proposal to frame sociological analysis of online social media in both the traditions of the sociology of culture and social network analysis (SNA), in the spirit of practice theory and the culture/structure dilemma. Actually, digital sociology (Lupton, 2014) has flourished in recent years with growing attention to the socially constructed dimension of a variety of digital devices, Internet-based services and their profound implications for social life. Hence, this paper will take this theoretical landscape into account but, at same time, it will foreground other insights that more or less established sociological traditions can offer to the study of social media – indeed, one of the different topics of digital sociology.

In fact, sociological endeavours aimed at studying digital technologies demand great theoretical effort. In particular, it is argued that 'social media research needs a stronger commitment to theory', while 'social theory needs digital methods in order to understand phenomena of contemporary digitized and mediatized societies and life-worlds' (Lindell, 2017: 1). This is notably true for cultural sociologists and for analysts looking at social media from a theoretically-informed perspective (Bail, 2014). For instance, digital sociology can benefit from the tradition of studies on cultural tastes and distinction related to Bourdieu's work (Bourdieu, 1984). The importance of Bourdieusian theory for digital sociology is now explicitly acknowledged (Ignatow, Robinson, 2017). In particular, Ignatow and Robinson (2017) argue that Bourdieu's conceptual

[1] On the power and pervasiveness of algorithms in online activities, including the so-called *dataveillance*, see Beer (2009), boyd, Crawford (2012), van Dijck (2014), Lupton (2014, 2016), among others. See also Airoldi, Beraldo, Gandini (2016) on music genres classification on YouTube by taking into account the latter's recommender algorithm.

triad – namely, *field*, *capital* and *habitus* – can fruitfully be leveraged when studying the digital. Notably, other scholars have translated traditional Bourdieusian notions into digital ones, such as *digital distinction* (Zillien, Hargittai, 2009), *information habitus* (Robinson, 2009) or *online fields* (Levina, Arriaga, 2014).

Yet, in this paper I rely upon a specific research strand that stems from Bourdieusian sociology and which, on the one hand, consists in a formal understanding of his practice theory from a structural/network perspective (Bourdieu, 1977; Breiger, 2000; Mohr, Duquenne, 1997). On the other hand, this work is chiefly concerned with the joint application of Bourdieu's field theory and SNA (De Nooy, 2003; Serino, D'Ambrosio, Ragozini, 2017; Serino, 2018). Social media are taken into account as far as they can help reveal how *online fields* (Levina, Arriaga, 2014) are structured on the basis of the characteristics of both people and contents, the latter being a manifestation of the former's cultural inclinations – a form of 'position-taking', in Bourdieu's lexicon. In fact, sharing contents concerning cultural products like movies, books, music, videos, news, and so forth can express 'taste performances' (Liu, 2007), while user-generated contents (UGC) prove useful for the study of distinction and status production in online fields from a Bourdieusian perspective (Levina, Arriaga, 2014).

The present article is organized as follows. First, in Section 2, the debate on culture and networks will be briefly introduced, along with the main lines of current studies on social media and how and why they relate to cultural practices. Then, Section 3 will present a framework by which to formalize research on culture and networks with regard to social media as fields of practice, which is the subject of Section 4. In Section 5, this proposal will be exemplified by discussing how the processes of content sharing and tie formation are at work on Facebook and Pinterest, two popular social media where users express their tastes, and classify (and are classified by) cultural and symbolic content. Finally, Section 6 concludes the article by discussing the related implications for the sociology of culture.

2. Culture, networks and practice in online platforms

If culture can be conceived of as a 'system of symbols' (Geertz, 1973), social structure can be best understood as a system of positions or social relations (Porpora, 1989). Social structure is the domain of SNA, an analytical perspective that has set itself as the main approach for structural analysis (Freeman, 2004). Interestingly, while this perspective has arisen in the 1970s 'in opposition to culture' (Pachucki, Breiger, 2010: 206), it subsequently became an ally for cultural analysis, particularly through application of formal methods

(Edelmann, Mohr, 2018), and relying upon the mutual implication of culture and structure, which results in networks of actors and meanings. The latter idea has emerged with increasing force over the last decades and informed the debate around culture, structure, and networks (Emirbayer, Goodwin, 1994; Breiger, 2000; Mohr, Duquenne, 1997; Pachucki, Breiger, 2010; Breiger, Puetz, 2015; Godart, 2018; Lizardo, 2018).

The cultural sphere is, in fact, subject to investigation as a system of relations between symbolic elements that always have a counterpart in social action; at the same time, symbolic elements are intertwined with elements of social structure. In this work, following Pachucki and Breiger (2010: 206), by structure I will refer to 'patterning of social connections among individuals, among groups and other aggregates, and between levels', focusing upon online connections by which social media users exchange or share some cultural content. In fact, one of the main advantages of data availability regarding social media (in the Big Data landscape) 'is that much of it includes detailed information about relationships between social actors. This is particularly true of social media sites such as Twitter or Facebook' (Bail, 2014: 475). Yet, information on content sharing is another key advantage, which is now provided by many different social media, witnessing a convergence between those platforms which 'primarily promote interpersonal contact, whether between individuals or groups', like Facebook or Twitter, and the ones which mainly concern user-generated contents (UGCs), like YouTube. Actually, van Dijck (2013) points out that Facebook, 'whose prime target is to promote social networking, also encourages its users to add creative products such as photos or short videos', while YouTube can also be considered a SNS 'because communities share specific postings' (van Dijck, 2013: 8-9).

Hence, social media consist in systems of organized action that enable users to share tastes and experiences, and which are, therefore, notable contexts of production and consumption (that is, *prosumption*; see Beer, Burrows, 2010; Bartoletti, Paltrinieri, 2012) of symbolic elements, beliefs, cultural orientations, artistic works, *fake news* (Spohr, 2017; Tandoc, 2019; Giglietto et al., 2019), *memes* (Julien, 2015) and, more generally, ideas whose circulation on these platforms is subject to exchange and discussion – e.g. via likes and comments. Furthermore, it is argued that social media – along with a variety of digital devices and services – now constitute an inherent aspect of social life (Lupton, 2014), and provide scholars with 'huge databases of social behaviours' (Bennato, 2015: 32). Hence, it seems reasonable to consider them through the lens of practice theory (Bourdieu, 1977, 1990; Giddens, 1984). Actually, digital data related to social media activities, like (and as a form of) Big Data, 'are "naturally occurring", unlike survey data which result from the intrusion of researchers into everyday life' (Bail, 2014: 467). Online social behaviours are,

then, 'directly observable' by the researcher, without the mediation of conventional data collection tools (such as questionnaires), and this represented one of the novelties of this kind of data for social research (Agodi, 2010). In the words of Lupton (2014: 44), '[u]nlike forms of social research that require the intervention of researchers to collect the data they want to analyse from their respondents, the vast bulk of digital data is generated unobtrusively, as part of other routine activities'.

Through social media activities, in which the relational (i.e., structural) component is preeminent, a kind of practical action is at work and the researcher can have access to it: individuals use culture to express themselves, nurture relationships, and exercise their ability to classify objects – that is, culture as a 'repertoire' or 'toolkit' (Swidler, 1986). It is equally true that social media do classify social actors: irrespective of algorithms, which certainly build classifications by targeting users and their online behaviour (Airoldi, Beraldo, Gandini, 2016), users themselves classify each other by interacting with, tagging, or liking one another. Anyway, they do so almost always by means of some content, be it a UGC or other stuff available online (van Dijck, 2009; Levina, Arriaga, 2014; Boccia Artieri et al., 2018). In this way, social media can aptly be utilized to analyse the distribution of tastes in a population or taste performances through users' profiles (Lewis et al., 2008; Lewis, Gonzalez, Kaufman, 2012; Liu, 2007). In these analyses, tastes stand for 'culture' and networks stand for 'structure' (cf. Lewis et al., 2008), and the interplay between the two lies at the core of sociological research focused on formal studies of culture (Edelmann, Mohr, 2018), with which the following section is concerned.

3. Formalizing culture: the cultural matrix

Drawing on Mohr and Duquenne's work (1997), Breiger (2000) argues that 'the "key argument" of practice theory is that the material world (the world of action) and the cultural world (the world of symbols) interpenetrate, and are built up through the immediate association of each with the other' (Breiger, 2000: 92; cf. Mohr, Duquenne, 1997: 309). This key argument is typical of Bourdieu's formalization of the associations between agents and cultural properties or practices, namely 'a matrix for casting the tools for the working practice theorist's kit' (Breiger, 2000: 92). In fact, following Bourdieu's approach, the interaction between the material (i.e., practical) dimension and the cultural dimension can be formalized in relational terms through a matrix made of social actors or agents (in rows), on the one hand, and of elements of culture (in column), on the other. Phrased as Bourdieu himself did, this is 'the

square-table of the pertinent properties of a set of agents or institutions' (Bourdieu, Wacquant, 1992: 230):

> If, for example, my task is to analyze various combat sports (wrestling, judo, aikido, boxing, etc.), or different institutions of higher learning, or different Parisian newspapers, I will enter each of these institutions on a line and I will create a new column each time I discover a property necessary to characterize one of them; this will oblige me to question all the other institutions on the presence or absence of this property. […] This very simple instrument has the virtue of forcing you to think relationally both the social units under consideration and their properties (Bourdieu, Wacquant, 1992: 230).

Of course, this tool for practice theory might seem quite simplistic if compared to the reach and complexity that characterize Big Data. In addition, such a methodological framework and related techniques – i.e., analysing a case-by-variable matrix by, for example, multiple correspondence analysis – could not be applicable to a huge amount of data. However, the question of whether traditional social research methods cannot compare with the newly formed *digital methods* (Rogers, 2013) exceeds the limits of this work and matters only relatively for its purposes. Nevertheless, the principle lying behind this framework remains heuristically useful and, first and foremost, theoretically well-grounded.

The 'cultural matrix' approach goes with the recent trend regarding the 'measurement' of culture and the use of formal models in analysing cultural phenomena (Mohr, 1998; Mohr, Ghaziani, 2014; Bail, 2014; Edelmann, Mohr, 2018). In particular, the 'cultural matrix' perspective has emerged as a kind of formalization that works well with insights into cultural analysis and with the structural/relational features of culture; it provides a way of looking at the interplay between culture and structure which is powerful exactly because of its theoretical sharpness and methodological utility:

> Albeit (still) offering only a simplified approximation of a given cultural phenomenon, this perspective enables scholars to explore and leverage consistency and heterogeneity inherent in the interdependencies of its elements. It does so not only by serving as a convenient data structure, but also by allowing scholars to draw on an arsenal of available matrix-based analytical techniques (such as those common within network research) to identify and explore cultural patterns and multiple ways in which they link to other factors (Edelmann, Mohr, 2018: 4).

This approach leads directly to applications in SNA and multidimensional data analysis (such as correspondence analysis)[2], in that a common ground for both perspectives lies in the connection between two sets of social and cultural units, namely social actors and elements of culture (rows and columns of a matrix), which can either be represented by an affiliation (two-mode) network (Wasserman, Faust, 1994) or a case-by-variable (or 'people-by-choice') matrix (see also De Nooy, 2003; D'Esposito, De Stefano, Ragozini, 2014).

An affiliation network consists of a set of *actors* involved in a set of *events* that may be activities, joint practices or even things one likes/shares with one another. A linkage exists between two individuals if they share participation in the same activities or when, for example, they like the same cultural products. One key property of such networks is their *duality*, which has been highlighted by Ronald Breiger in a seminal paper (Breiger, 1974). Duality in affiliation networks is inherent to the mutual implication of the two sets of entities and also relates to another 'theoretically important property' of affiliation networks, namely that 'actors create linkages between events and events create linkages between actors' (Faust, 1997: 163). As for social media, an affiliation network may consist of a set of users who are connected to the contents they like or share (i.e., the other set of network units). This methodological framework can be utilized within the perspective of Bourdieu's field theory thanks to the 'encounter' between the latter and SNA (Serino, D'Ambrosio, Ragozini, 2017; Serino, 2018). Online fields can then be considered as a kind of cultural fields or *fields of practice*, as I shall describe in Section 4, but they are also *networking* platforms to be analysed in the framework of SNA. The combination of both these lines of thought will be illustrated in Section 5.

4. Social media as fields of practice

Recent sociological studies on digital environments prove that Bourdieu's framework can be fruitfully utilized for studying social media. In their review essay on Bourdieu's theorisation and digital sociology, Ignatow and Robinson (2017: 961) argue that 'Bourdieusian framework has had a major impact on

[2] Relational foundations of field theory and the formal methods that translate the concept of field in empirical terms, namely correspondence analysis (CA) or multiple correspondence analysis (MCA) (see Bourdieu, 1984; Lebaron, 2009; Savage, Silva, 2013), permit to analyse the social structural and the cultural domains at the same time. In this spirit, Liu (2007) has investigated taste performances through a field-theoretic tool akin to CA and MCA, namely Principal Components Analysis (PCA), to analyse users' profiles on MySpace, while Lewis, Gonzalez, Kaufman (2012) used multidimensional scaling to map users' tastes shared on Facebook.

digital sociology and has provided valuable conceptual resources for what promises to be an increasingly important sociological subfield'. Indeed, they speak of 'Bourdieusian digital sociology' to mean the suit of Bourdieusian concepts utilized by different scholars to investigate digital environments as well as to develop 'social research methods based on data derived from the digital footprints left by individuals' activities in the online realm' (Ignatow, Robinson, 2017: 956).

The concept of capital is key to Bourdieu's approach (Bourdieu, 1986) and has been applied in digital sociology with different meanings. First of all, a specific kind of capital related to the digital world is the one labelled *digital capital*. Ignatow and Robinson (2017) remark that a crucial form of digital capital is *information capital* (Hamelink, 2000; van Dijk, 2005), which, in van Dijk's (2005) formulation, stands for 'the financial resources to pay for computers and networks, technical skills, evaluation abilities, information-seeking motivation, and the capacity for implementation' (Ignatow, Robinson, 2017: 952). Alternatively, 'a person's stock of digital capital' can be understood as 'the reach, scale, and sophistication of his or her online behavior', this approach being also 'more faithful to the Bourdieusian program' (Ignatow, Robinson, 2017: 952). In fact, this kind of digital capital can also be referred to as *symbolic capital*, 'which is the form that the various species of capital assume when they are perceived and recognized as legitimate' (Bourdieu, 1989: 17; Bourdieu, 1986). In general, digital or information capital is often considered in relation to digital inequality, one of the main topics of Bourdieusian digital sociology (Ignatow, Robinson, 2017; Robinson, 2009); further, this type of capital can be subject to conversion into other forms of capital (Ignatow, Robinson, 2017).

Social capital has been defined by Bourdieu (1986: 248) as 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group'. In this respect, scholars interested in the 'digital dimensions of social capital' (Ignatow, Robinson, 2017: 957) have analysed the role of social capital in friendship networks on Facebook (Lewis et al., 2008; Ellison, Steinfield, Lampe, 2007, 2011; see also Brooks et al., 2014). Julien (2015: 365) contends that 'online interactions affect an individual's stock of social capital' by enhancing and extending it through these interactions. Indeed, Julien also speaks of '*digital* social capital' and puts this capital form in connection with the use of Internet *memes* – i.e., those manipulated digital items (e.g., a picture) that spread among social media users especially for amusement purposes – in online interactions: 'Internet memes not only possess a unique language, but they also in themselves are tokens of a distinctive language; they are *distinctive signs*' (Julien, 2015: 366). However, it seems that the form of digital capital Julien speaks of is rather a

type of cultural or symbolic capital – or at least a conversion of cultural capital into social capital. In fact, the way users create and share *memes* does reveal something about their online behaviour as a form of skill, cognitive style or cultural capital and even as a *digital or information habitus* (Robinson, 2009; Ignatow, Robinson, 2017; Sterne, 2003) that permits them to exercise distinction practices on social media platforms – namely a *digital distinction* (Zillien, Hargittai, 2009) or a distinction produced by content sharing (Levina, Arriaga, 2014).

Actually, as Ignatow and Robinson (2017: 957) note, '[d]igital sociological studies of cultural capital are even more explicitly Bourdieusian than are studies of social capital', and this is key to the present argument. Bourdieu defines cultural capital as a resource deriving from embodied dispositions – like bodily appearance and posture – or possession of cultural goods like books, paintings, etc., or educational credentials (i.e., the *embodied*, *objectified* and *institutionalized* states of cultural capital; see Bourdieu, 1986). In online environments, cultural capital may often relate to digital skills that enable one to be competent in using these digital devices with positive educational outcomes (Paino, Renzulli, 2013, cited in Ignatow, Robinson, 2017: 957). Nonetheless, cultural capital can also act as a resource to strive for recognition in online behaviour, e.g., by posting contents related to distinguished cultural forms and genres denoting 'rarity' or sophistication – i.e., items that require what Bourdieu (1984) would call 'symbolic appropriation'. Indeed, this would lead to consider expressive online behaviour as an indicator of taste.

Hence, more interesting for the present agenda is the way cultural capital enhances online behaviour in terms of content production and evaluation. This line of inquiry is pursued by Levina and Arriaga (2014), who investigate the production of social status and patterns of distinction on UGC platforms and thus propose the notion of *online field*: 'we define *online field* (*of practice*) as a social space engaging agents in producing, evaluating, and consuming content online that is held together by a shared interest and a set of power relations among agents sharing this interest' (Levina, Arriaga, 2014: 477). Furthermore, 'online fields fundamentally have two key groups of agents – producers and consumers of content – with the key capital specific to each field being the recognition achieved within the field' (Levina, Arriaga, 2014: 478). For instance, agents in an online field may enact their 'stock' of cultural capital (knowledge, skills, etc.) to manifest their ability to share online contents that they deem valuable and attempting to gain approval from other agents.

Indeed, in Bourdieu's own formulation, an online field would consist of a space of positions, which 'is nothing other than the structure of the distribution of the capital of specific properties which governs success in the field' (Bourdieu, 1983: 312). However, it is worth noting here that – differently from

Bourdieu's own perspective (cf. Serino, 2018) – agents' positions in online fields, and on UGC platforms in particular, often relate to those interactions which occur among users through content sharing; that is, between users and contents. It follows that jointly adopting Bourdieu's theory and SNA (De Nooy, 2003; Serino, D'Ambrosio, Ragozini, 2017) can be useful in dealing with the nature of these interactions while preserving the analytical power of the notion of field. In addition, agents in online fields inevitably choose to exert certain '*position-takings*', that is, 'the structured set of the manifestations of the social agents involved in the field', which is inextricably associated with the space of positions 'defined by possession of a determinate quantity of specific capital (recognition)' (Bourdieu, 1983: 312). For Bourdieu, in cultural fields such manifestations might be concerned with 'literary or artistic works, of course, but also political acts or pronouncements, manifestoes or polemics, etc.' (Bourdieu, 1983: 312). Transposing this concern into social media environments, many of those manifestations can be given voice by online interactions and posting on these platforms.

5. Networks, tastes, and content sharing: Facebook and Pinterest

Scholars have demonstrated the extent to which Facebook turns out to be a useful tool for the analysis of tastes (Lewis et al., 2008):

> Facebook profiles contain open-ended spaces for respondents to enter their favorite music, movies, and books. While these variables require much more cleaning and coding due to the enormous number of possible responses, the availability of these data creates a number of new research opportunities – including clarifying the nature of tastes as cause or consequence of social interaction […] and comparing these findings across multiple types of tastes *and* relationships (Lewis et al., 2008: 334).

The above quotation appropriately suggests that the interplay between interactions among social media users and the cultural stances expressed through these interactions is at the heart of this kind of analyses. These assumptions could inform studies that use social media data to analyse taste performances and, through them, the ensemble of cultural styles channelled through these platforms. The 'like' or 'share' buttons are available to users to handle contents that spread through Facebook and other social media, e.g., by sharing videos via posting a link to YouTube; then, such contents are displayed on a user's *wall* – i.e., the main page or screen on a smartphone app that one can scroll to watch the different contents made available by news feed algorithms. In this way, Facebook users show their own preference towards

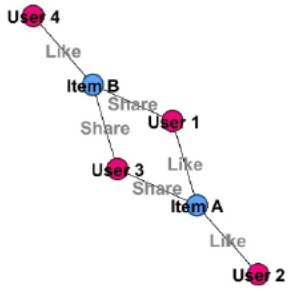
different types of contents to other users, and this can be indicative of their tastes. Moreover, the extent to which a given content is shared on Facebook is a function of the interests and tastes of the *friends* that constitute a given user's network[3].

Now, let's consider that each 'like' or 'share' represents a connection among: *i*) the user who posts a given content; *ii*) the content itself; and *iii*) the user who likes or shares this content. This can be formalized by a connection between the two users and the same content they liked or shared, this connection being subject to enter in a 'cultural matrix' (user-by-content) as well as in a matrix representing an affiliation network, where the two users are connected to the same content. For instance, on Facebook, as shown in Table 1, User 1 and User 2 are connected to each other through Item A because they both like it, whilst User 1 and User 3 both share Item B and are thus connected through it. In so doing, the researcher can build an affiliation network (Figure 1) made of all users who share at least one item, also taking into account the cultural categories and genres to which that item belongs (see below).

TABLE 1. User-item tie creation on Facebook: user-by-item matrix (fictitious example).

Users	Items	
	Item A	Item B
User 1	Like	Share
User 2	Like	-
User 3	Share	Share
User 4	-	Like

FIGURE 1. Network graph of user-item ties on Facebook (fictitious example).



In this light, such a network has a dual nature, in that Facebook users are connected via the item(s) they like or share and, vice versa, different items are connected if shared/liked by the same users. However, linkages between users can exist prior to content sharing – that is, User 1 might be a friend of User 2 and this would lead the latter to like the item the former has posted – but that item can also foster tie formation between the two users. This might be a consequence of *homophily*, i.e., the role that similarity between individuals plays in increasing the probability of their engagement in social relations (Homans,

[3] This leads to the creation of the so-called 'filter bubbles', which renders users exposed to similar contents and discourages information diversity. See, among others, Spohr (2017) and Bechmann, Nielbo (2018).

1950; McPherson, Smith-Lovin, Cook, 2001; Lewis, Gonzalez, Kaufman, 2012).

In this treatise, however, another principle is at issue, namely that of *structural equivalence*, which reads as follows: 'Two actors occupy the same position in a network when they have the same relations to and from each actor in the network. Such a pair of actors can be discussed as occupying structurally equivalent positions in the network' (Burt, 1976: 96). Interestingly, in the spirit of the 'cultural matrix', and from a culture-and-network perspective, this principle also applies to one's choices or preferences towards cultural products or practices (cf. Serino, 2018). DiMaggio (1987: 441) aptly shows how well this idea can bridge the 'cultural matrix' approach and SNA:

> If we imagine a matrix defined by persons on the vertical axis and artworks on the horizontal axis, with 1s signifying relationships (knowledge about, like for, dislike of) between persons and artworks, genres consist of those sets of works which bear similar relations to the same sets of persons. The logic behind this imagery will be familiar to students of network analysis as one of "structural equivalence" (White et al. 1976; Burt 1980). It is hypothesized that perceptions of "clustering" of works into genres follow from and, by channeling attention, reinforce the clustering of tastes.

The structural equivalence principle goes hand-in-glove with the duality of affiliation networks (Breiger, 1974), in that two Facebook users occupy the same (network) position in such an online field as far as they express preference to the same (or very similar) contents; vice versa, these contents occupy the same position – and can be clustered together (cf. Lewis, Gonzalez, Kaufman, 2012) – as far as they are chosen by the same people. Hence, for users, lying on the same 'position' means having connections to the same cultural elements and not necessarily to *possess* the same attributes – that is, standing in a relation of homophily – nor is it related to being directly connected to each other by some form of relationship, while for cultural elements this would mean exhibiting connections to the same individuals but, again, not necessarily having similar traits (i.e., those traits which could make these elements belong to definite genres). In other words, this is a purely relational point of view that contrasts with a substantialist one (Bourdieu, 1983; Emirbayer, 1997). In this light, turning back to field theory, Facebook users occupy different positions in such an online field because of their cultural choices and, thus, by reason of their position-takings in this field, namely the choices they make by clicking on the 'like' or 'share' button with regard to a given content. This also applies to UGCs to the extent that a user who decides to post a given UGC on a platform is going to display to the public a manifestation of her/his orientation towards

culture and its artifacts (like posting *memes*, as investigated by Julien [2015]), which, in turn, is a function of one's stock of cultural capital (e.g., the ability to make or select items or possession of artifacts or instruments; see Levina, Arriaga [2014]).

The case of Pinterest is rather different and potentially more interesting than that of Facebook. Pinterest, which was launched in 2010, is a type of social media where tie formation occurs predominantly among 'digital objects' than among users. Pinterest allows the user (or 'pinner') to collect a series of 'pins' – images related to a widely varied range of interests, from fashion to cars, science, music, and so on – and to organize these pins into different categories by which to compose one's own 'pinboards' (the 'repinning' activity)[4]. Because of its features, this social media site turns out to be a *social curation* and sharing platform – like Google+ or SlideShare (Lupton, 2014) – though been exclusively image-based (see Hall, Zarro [2012], Sauter [2013], and Gelley, John [2015] for an overview).

Pinterest has been subject to a number of quantitative studies (e.g., Chang et al., 2014; Gelley, John, 2015; Wei, Zhang, 2016), some of which help explain users' behaviour on this platform. Gelley and John (2015: 1752) point out that 'Pinterest relies on interest homophily to build its social graph' and that it is 'centered on content, with all activity revolving around pins'. Hence, according to the findings of Chang et al. (2014), this 'tie-formation strategy' based on interest homophily 'is a major driver of repinning: people repin from other users who share their interests'. In addition, users are 'encouraged to follow others whose content they find interesting, rather than people they know offline. In fact, the recommended follow mechanism on Pinterest is following just specific boards, rather than whole users' (Gelley, John, 2015: 1752) – even though following a user is also possible and recommended when a pinner chooses a given pin collected by another pinner. Hence, different possibilities of tie-formation are available to users, such as: a) User 1 can save a pin from User 2's board; b) User 1 follows that board; c) User 1 follows both the two boards owned by User 2; d) User 1 follows User 2 (and all of her/his boards)[5].

[4] Interestingly, pins are often 'natively digital data objects', which, according to Rogers (2013), are to be distinguished from 'digitized data objects'. As Deborah Lupton recalls, the former 'are attractive to digital social researchers because they appear to offer a truthfulness and validity that researcher generated data do not. They provide a window into social practices and identities that take place when people are not consciously aware that they are being surveyed, interviewed or otherwise canvassed for their opinion' (Lupton, 2014: 44).

[5] Note that in all these cases Pinterest works as an online field where recognition 'is achieved through evaluation that occurs simultaneously with consumption of the content' (Levina, Arriaga, 2014: 478).

Therefore, through Pinterest one can build a *multimode* network made of at least three interrelated sets of nodes: 1) pinners; 2) pins; 3) pinboards[6]. Relational patterns flow through users that like or repin certain pins, pins belonging to users' pinboards, and the connection between pinboards and the pinners who own them. It is clear that the duality of such a network is far more complex than the one made of users and contents only[7]. One example of such a network is the graph depicted in Figure 2, which constitutes a subset of a larger network built by drawing on the 'Social Curation Dataset', a suit of datasets of Pinterest activities made available to the community by a research group working at King's College, London[8]. This graph is concerned with repin activity, along with information on the repinned category – more specifically, 32 categories 'defined globally for all users by Pinterest' (Zhong, Karamshuk, Sastry, 2015: 1417). In Figure 2, coloured nodes represent pins that are repinned by users (white nodes). It is clear how ties occur only between pins and pinners and how these pins can enable social structure because of the repinning by the same users[9]. In this respect, pinners who save (repin) the same pins can be said to belong to the same network position.

By linking a field-theoretic approach and a network perspective, those pins which are jointly repinned by the same pinners represent a subset of structurally equivalent pins and the pinners that share the same pins are structurally equivalent pinners as well. That is, either pinners or pins that are similarly embedded in the network share the same network position. Indeed, the notion

[6] Other possible nodes can be those websites from which users borrow their pins.

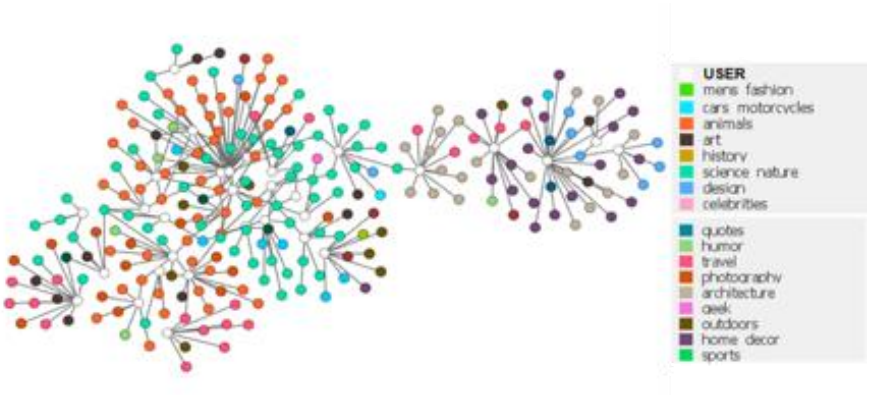
[7] Indeed, a network thus formed easily translates into a *multilevel network* (Lazega, Snijders, 2016). This is not peculiar to Pinterest, obviously. Analysing networks on Facebook and other social media can equally yield complex network structures by connecting people and different sets of digital objects.

[8] These datasets are available upon request thanks to a research project on online social curation conducted by the NetSys Group at King's College, London (https://nms.kcl.ac.uk/netsys/datasets/social-curation/social_curation.html; accessed 16/12/2020). The data used in the present work stem from the 'image dataset' comprised in the whole anonymised Pinterest dataset (Zhong, Karamshuk, Sastry, 2015). I would like to thank the NetSys Group of King's College for providing me with these data. The graph in Figure 2 has been drawn via *GePhi 0.9.2* using the *Noverlap* layout.

[9] In a culture-and-network perspective, this is also consistent with the 'cultural holes' argument (Pachucki, Breiger, 2010: 215): 'By the term cultural hole we mean contingencies of meaning, practice, and discourse that enable social structure'. What is at issue is the bridging role some cultural content has in connecting otherwise disconnected actors or subsets of actors in a network – in harmony with the well-known concept of 'structural hole' (Burt, 1992).

of structural equivalence is particularly consistent with the process of tie formation on Pinterest, in that users who occupy 'the same position need not be in direct, or even indirect, contact with one another' (Wasserman, Faust, 1994: 348). Yet, that position is also a position in an online cultural field – understood as a field of practice – because those pinners are similar as for their interests and curating activity (i.e., exerting similar position-takings). Further, and even more interesting, the user herself/himself can also apply the principle of the '*square-table of the pertinent properties of a set of agents or institutions*' described above (in Section 3; see Bourdieu, Wacquant, 1992): each time s/he finds a new pin, either taken from an external website or suggested by the feed algorithm based on the user's profiled interests, s/he decides whether to add it to an existing pinboard (category) or to create a new pinboard with a novel category and label.

FIGURE 2. Affiliation network of repin activity on Pinterest. Source: author's own elaboration based on the 'Social Curation Dataset' (Zhong, Karamshuk, Sastry, 2015; data collected in 2013).



Moreover, it is worth noting that each pinner is an agent who makes classifications, i.e., an agent active in a cultural field. This would be in line with a key principle of Bourdieu's theory of practice and the functioning of the habitus: 'It is in the relationship between the two capacities which define the habitus, the capacity to produce classifiable practices and works, and the capacity to differentiate and appreciate these practices and products (taste), that the represented social world, i.e., the space of life-styles, is constituted' (Bourdieu, 1984: 170). Further, each pinner is an agent who is herself/himself classified 'objectively' by other pinners. 'Objectively' does not mean 'unconsciously': each agent-pinner is aware of what s/he likes and repins, but Pinterest, by foregrounding contents over users' profiles, drives the latter's attention primarily to pins and pinboards and only indirectly or secondarily to

other pinners. Phrased differently, by establishing connections with pins beforehand, the different pinners engage in a symbolic struggle – which sounds more like a game, indeed – that ends up being mainly mediated by symbolic content. Pinboards are manifestations of taste but also of one's own worldview: in fact, specific position-takings occur when a given pin is repinned, i.e., classified under a given category and label (note that even choosing a label is a form of position-taking), and each pinboard acts as a taste performance of its owner, in that it shows how a pinner is able to collect attractive or interesting pins and this might function as an indication of that pinner's cultural capital.

6. Discussion and conclusions

This paper has set forth an attempt to understand online social media activity through a theoretical and methodological framework grounded not only in the recent perspective of digital sociology but first and foremost in more established sociological traditions and network-analytic approaches. Social media connect individuals whose sets of interests and tastes are potentially displayed to everyone, at least in one's own network (and depending on news feed algorithms). These online platforms consist of *boards, profiles, walls,* upon which to show one's favourite pictures, movies, songs, books, events to participate in, news (either fake or not) taken from other websites or social media. Moreover, in these online environments users can share symbolic products of their own (UGCs), like videos or pictures they took, music they played, etc., or other manipulated contents (such as quotations from well-known writers or scientists, as well as the – now very popular – *memes*), including opinions by users themselves about such contents. In fact, each content can be considered as a cultural product that relates to discrete areas of culture and knowledge and, within each area, to multiple genres.

Cultural analysis in sociology can thus exploit the great amount of information deriving from social media activity by adding an important piece to the current debate on the relationship between structure and culture. Analytically, such data can help reconstruct the complexity of the relationships between the elements of culture and social structure – understood as a system of social relations between individuals or institutions – relying upon the rich relational landscape that social media do offer to the researcher. This probably requires practising a form of reflexive sociology, with which to handle the amount and reach of such data availability. Cultural sociology can, however, provide a theoretical basis for this endeavour (Bail, 2014) and, as argued in the current paper, it can pay attention to the *practical dimension* of the daily use of

social media. This might be a useful theoretical perspective, along with social network theory and analysis.

As Levina and Arriaga (2014: 475) argue, the 'relational aspects of fields make Bourdieu's concepts fully compatible with network-based perspectives', and this is a pivotal element of the present work. Understanding social media as both networks and fields means applying a relational perspective that gives meaning to the connections between users and contents, which now constitute an inherent part of social media activity. The purpose of this paper has precisely been to account for how sociology can exploit information that can be derived from these online systems of practical action, which permit to study online fields as fields of practice, paying key attention to the ways in which individuals use culture, i.e., their own interests, knowledge and ability to appreciate cultural forms as an expression of systems of taste (Bourdieu, 1984).

Focusing on Pinterest, it is possible to consider how a user who builds her/his own boards by arranging and classifying contents (pins) is acting as an agent in a cultural field. The interesting thing about this way of using a social media platform is that it provides the researcher with information about how the user *classifies culture*. Moreover, a network of users and contents of this sort can be thought of as a *cultural network* (DiMaggio, 2011: 290), which is made of actors involved in the collective creation of cultural entities, and 'we may also think of [such] cultural entities as constituted by and constituting the actors who share them'. Adopting such conceptualization and formalization for the study of culture would mean articulating the connection between culture and social structure, characterized by a *duality* that traces back to the Simmelian concept of 'intersecting social circles' (Simmel, 1955), now witnessed by social media activity.

However, one key reflection upon the difference between Pinterest and Facebook is that the former is more 'symbolically' oriented and content-driven than the latter. Moreover, and consistently with the interplay between culture and structure, such a network-analytic and field-theoretic perspective works well with Pinterest rather than with Facebook, since tie formation on Pinterest occurs almost exclusively (and 'objectively', as Bourdieu would say) between users and collections of contents. It seems that content sharing on Pinterest is apt to connect people through culture, giving structure a certain form because of the cultural elements thus shared. In so doing, even the network itself (as it appears in the graph of Figure 2 above) turns out to be a symbolic representation of the choices made by the user regarding the symbols s/he considers appropriate to her/his tastes and of the links established by users through these choices. In this way, the network itself is shaped as an expression and manifestation of those symbolic choices.

The analytical approach presented here might prove useful for analysing and interpreting online fields in relation to market structures, particularly in cultural and creative industries (e.g., Godart, 2018). In fact, social media users can often be market firms that employ such platforms for advertising purposes – and that therefore constitute a given type of agents in these fields (Levina, Arriaga, 2014). Policy making in education might also benefit from examining these fields with regard to users' engagement in enriching their cultural capital. Nonetheless, several limitations of the present study may reside in the way it purported the application of SNA to social media, in that it focused on a rather simplified data structure and a partial, small-scale analysis of users' online behaviour, whereas current, mainstream social media research often deals with huge amounts of data and more complex analytical frameworks. Moreover, it would be useful to include in this analysis indicators of capital and prestige from both field theory and SNA (e.g., network centrality). Future research should address these theoretical and methodological issues.

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