CAN INTERFACES AND SOCIAL PROFILES 'SPEAK WITHOUT WORDS'?
Social Platforms as Ideological Tools to Shape Identities and Discourses

SANDRA PETRONI
UNIVERSITY DI ROMA "TOR VERGATA"

Abstract – User agency has been profoundly transformed since all the new digital practices and communicative exchanges are mediated, filtered and re-modelled through digital technologies thanks to the presence of the two potentialities of interactivity and connectivity. Most of the discursive practices represented in social media platforms are focused on processes of self-profiling. Additionally, pre-packaged identities and meanings are produced by multimodal discursive patterns that are generated by social network technologies. The co-deployment of different semiotic resources is regulated by the platform design, which combines multimodal artefacts uploaded by users with those pre-imposed by the interface architecture. So far, digital profiles have been almost exclusively investigated as new multimodal and multimedia digital texts. Our focus, instead, is on technology meant as a further and complex semiotic resource, and its meaning potential gives rise to hidden signs (metadata and algorithms) which are regulated by normative codes. What we are proposing in this theoretical contribution is a tentative framework that is grounded in an integrated view of textuality. Digital meaning is conveyed through texts but also via computational actions that, in turn, are triggered not only by users but also by platform technologies embodied by the interfaces. If we apply a further level of analysis, as suggested by the framework proposed, we realise that users are partially responsible for their identity construction. *De facto*, algorithmic relations mostly shape their agency, and this implies a new approach to the study of meaning-making processes in digital settings.

Keywords: algorithms; multimodal discourse; self-profiling; social network platform; user agency

1. Introduction

In digital environments, user agency has been profoundly transformed thanks to the evolution of the two potentialities of interaction and interactivity (Adami 2015; McMillan 2009; Shyam Sundar 2012; Yun 2007) and of connectedness and connectivity (Hsu, Lin 2016; van Dijck 2013a, 2013b). Moving from real contexts to digital ones implies the presence of mediating technologies, embodied by interfaces, which in turn re-model the nature of user agency in terms of agentic value, identity, and behaviours. All the new digital practices and communicative exchanges are mediated and filtered

through the new digital technologies.

Additionally, most of the discursive practices represented in social media and network environments give rise to processes of self-presentation and self-profiling, in particular in those social networks where personal profiles have become the main text type (Petroni 2019). However, face construction (Goffman 1959), meant as a person's public image or online profile, is affected by digitality and mediated – or rather negotiated – by the platform's affordances (Gibson 1977). Social network profiles are, in fact, partially generated by users and partially moulded according to almost fixed templates provided by the networking platforms.

The co-deployment of different semiotic resources, in fact, is regulated by the interface design which combines multimodal resources present in the artefacts uploaded by users with those pre-imposed by the interface architecture. The 'game' of visual design along with technologies allows platform owners to encourage users to create profiles and share their identities. They become visible thanks to the potentiality to establish connections, create affiliation, and gain appreciation. In doing so, users consent to give away their personal data by filling in programmed profiles that will be simultaneously processed into metadata to be sold as assets and marketized. Often users are completely unaware of this mechanism. Pre-packaged identities and meanings are therefore produced by discursive patterns created partly by users but markedly by social network technologies and platforms, where multimodal templates play a crucial role.

This theoretical study will focus on the role that interface design plays within social network profiles and try to unveil how meanings are not necessarily conveyed through multimodal resources – in particular, the verbal mode. The technological potential equally, if not substantially, contributes to producing meaning. All the issues so far raised will be investigated according to a holistic critical perspective founded on social semiotics (van Leeuwen 2005), critical Internet studies and new media studies approach (Beer 2009; Mager 2012; Moschini 2018, 2022; Moschini, Sindoni 2021; van Dijck 2009, 2013a, 2013b; van Dijck, Poell 2013, van Dijck *et al.* 2018; Thrift 2005) within the multimodal framework (LeVine, Scollon 2004; Kress, van Leeuwen 2001, 2006; van Leeuwen 2009).

The aim is to present how social platforms and their interface design allow users to construct online identities through their technological functionalities within different layers of meanings. So far, digital profiles have been almost exclusively investigated as new multimodal and multimedia digital texts (Zappavigna 2012) created by users thanks to the co-deployment of different modes (verbal, visual, sound, etc.) and media. However, we claim that also technology should be considered as another pivotal semiotic resource whose meaning potential gives rise to 'hidden' signs (metadata)

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

45

regulated by normative codes (van Dijck 2009). For this reason, a holistic view is necessary for research in digital discourse. In our view, we can no longer investigate digital meaning-making processes produced by users without including and reflecting on the meaning produced by the computational and algorithmic act(ion)s the platform technologies perform.

2. Digital and social scenarios

In the beginning, there was the Internet. Web 1.0 was the *locus* where Computer-Mediated Communication (CMC) (Danet 1998; Herring 1996; Thurlow *et al.* 2005) took place and where users could interact. Its primary property was being hypertextual. Landow (1992, p. 3) defined hypertext as "[t]ext composed of blocks of words (or images) linked electronically by multiple paths, chains or trails in an open-ended, perpetually unfinished textuality described by the terms link, node, network, web, and path" and in his definition many peculiarities emerge. In fact, we can identify multilinearity, nonsequentiality, granularity, reticularity, connectivity, and interactivity: all these features are qualities of hypertexts (Bettetini *et al.* 1999, Bolter 2001), and what allows them to be actualised is the presence of links.

The concepts of connectivity and interactivity were in their infancy. In fact, during the '90s, connectivity, or "secondary sequentiality", refers to how diverse portions of content are connected in a hypertext during individual navigations. This aspect involves both web designers and users. On the part of the designer, we have the hypertext project that determines the nature and function of links. These play a metatextual role inasmuch as they reveal the project itself (Harrison, Hammerich 2002; Petroni 2011). On the part of the user, we have the path/s chosen by him/her according to his/her personal way of decoding, interpreting, and encoding the hypertext.

According to Bettetini *et al.*, interactivity is *de facto* the prerequisite for connectivity since interactivity allows connectivity to be realized. Without any possibility of interaction between hypertext nodes and users, hypertext cannot exist – or only partially like, for example, in closed hypermedia – because it works as a potential hypertext or simply as a text composed of one or more pre-established paths that are those developed by its designer.

With the passage from the Web 1.0 to the Web 2.0, from CMC to Social Network Communication (Jenkins 2006; Kaplan, Haenlein 2010; Papacharissi 2011; van Dijk 2009), interactivity and connectivity have been evolving towards multifaceted processes that have substantially affected not only how we encode and decode meaning, but also how we perceive user agency and online sociality. For this reason, a clearer distinction between interaction and interactivity on the one hand, and connectedness and

Lingue e Linguaggi

connectivity on the other, becomes necessary to better understand the cultural, social, and economic facets of this new digital space. With the advent of Web 2.0, Henry Jenkins claims that: "[a]udiences, empowered by these new technologies, occupying a space at the intersection between old and new media, are demanding the right to participate within the culture" (2006, p. 24). He foresees a new scenario of democracy and participatory culture in contrast to the traditional scenario where the technologies were the prerogative of corporations.

The necessity to resolve the ambiguity between the terms interaction and interactivity is urgent. In CMC, following Goffman's studies (1959), interpersonal communication is conceived as the *interaction* among users via the mediation of technology, the so-called human-to-human interaction (Adami 2015; McMillan 2009; Shyam Sundar 2012; Yun 2007;) and that is at the basis of the main processes of meaning production and human exchanges in digital contexts. When communication takes place in terms of "human-to-system" interaction (Adami 2015; McMillan 2009), we should talk of *interactivity* and identify it with the affordance of the medium. This shapes, on the one hand, how its intended receivers can relate to it and to any other subject involved in the process and, on the other hand, their agency in terms of agentic value, identity and social positioning.

This distinction poses some issues about the 'real' democracy and freedom with which users can control their activities and act upon media content as 'produsers' (Bruns 2008), as creators who are also users and distributors. Both interaction and interactivity are carried out through interfaces that mediate the relationship users establish with the medium and its interactive tools, i.e. links. The interface then is a semiotic space in which all forms of interaction and interactivity are mediated by technologies. These are not only instruments for the actualisation of exchanges or text production, but also actors and mediators among participants (Petroni 2011). But we will discuss the role of interfaces later on.

Turning to the second crucial distinction to make, we refer to the evolution of connectivity (van Dijk 2013a, 2013b). With shareability and participatory potential, which derive from interactivity, being the two main facets of social network platforms, connectivity represents both the possibility to establish connections among users, endorse community building and affiliation as new forms of sociality, and the technological affordance that has made these connections possible. The distinction then is between the social value of *connectedness* (or collectivity) and the valuable resource of *connectivity* (van Dijck 2013b, p. 4), with this last being able to codify information into algorithms and, in turn, provide patterns of online automated sociality. For this reason, terms such as 'social', 'friends', 'followers', 'trend' 'liked', 'collaboration', etc., that is labels of a

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

47

participatory culture that finds its roots within the idea of human connectedness, have been modified into online practices such as 'friending', 'following', 'trending', 'liking' etc., that are enacted and regulated computationally through the connectivity functionality.

Similarly to interactivity, connectivity automatically inscribes forms of algorithmic sociality into permanent codes. The social media utopia hailed by Jenkins as a new participatory, democratic, self-regulating culture is actually a "culture of connectivity" where " [...] commoditizing relationships – turning connectedness into connectivity by means of coding technologies – is exactly what corporate platforms, particularly Google and Facebook, discovered as the golden egg their geese produced. [...] Under the guise of connectedness, they produce a precious resource: connectivity." (van Dijck 2013b, p. 16), i.e. a shift from the accumulation of social capital[1] (Bourdieu 1986; Bourdieu and Wacquant 1992) to economic capital through the exploitation of data deriving from profiled – or rather pre-packaged – identities and behaviours.

3. Online sociality and user agency

Digital identities translated and moulded into social profiles are the fuel of social networking sites (SNSs). Users can access social media and networks only if they create and inhabit their own profile. Most of meaning making processes on SNSs take place within one's profile since this is connected with a group/community. The digital scenario so far described has shown how digital affordances have shaped the way we interact online and establish relationships. But they can also affect the socio-cultural and economic scenarios.

When networking is applied to forms of social organization, any area of human activity and society is affected and re-designed accordingly (Poell *et al.* 2019; van Dijck 2013a, 2013b; van Dijck and Poell 2013; van Dijck *et al.* 2018). In doing so, interactivity and connectivity technologies play a crucial role in community building. For many years, in CMC environments, we have talked of virtual communities as places characterised by stability, coherence, embeddedness and belonging, and inhabited by users joined by

---

[1] Bourdieu describes social capital as "[t]he 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 or recognition" (Bourdieu 1986, p. 248). In Bourdieu and Wacquant, social capital is defined as ''the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'' (1992, p. 14).

friendship, common interests, beliefs, value (Baym 1995; Dubé *et al.* 2005; Herring 2008; Preece, Maloney-Krichmar 2003; Rehingold 1993).

Instead, today the power of connectivity, or rather the potential residing behind the connectivity algorithm has re-shaped the concept of 'community sociality' (Smelser, Baltes 2001) into a 'network sociality' (Wittel 2001),[2] like for example in Facebook, LinkedIN or Twitter. If networks are "appropriate instruments for a culture of endless deconstruction and reconstruction" (Castells 1996, p. 470), it is evident that community sociality is transformed into a sense of disembedded intersubjectivity, integration and disintegration. Network sociality implies social relations that are based on quickly assembling, collecting and recontextualising information and data.

For this reason, social relations are 'informational' and sociality is strongly embedded in technology and embodied in connectivity potential. Network sociality is not rooted in a shared history but it is characterized by a multitude of experiences and biographies which, in turn, are instantiated by the user profiles. In social media networks, people are removed from their original place to be recontextualised in largely disembedded social relations and connections on a global scale that are endlessly under construction. Bridging the concepts of social capital and sociality together, it is necessary to distinguish between bonding and bridging social capital (Putnam 2000) that correspond to community sociality and network sociality, respectively. Bonding social capital is positively accumulated when individuals are tightly connected and in an emotionally close relationship. Bridging social capital, on the contrary, regards weak ties, which are not tight connections between individuals whose information may be useful for third parties (platform's owner) not emotionally involved.

In this view, online sociality has increasingly evolved into a coproduction between users and technologies, where humans interpret social platforms as *loci* of self-expression, self-presentation and community building while platform's architectures are developed to design and control users' real identity, preferences and behaviours, i.e. their agency. In constructing their identity, users become both 'content providers' and 'data providers' (Poell *et al.* 2019; van Dijck 2009; van Dijck *et al.* 2018). When uploading content, they offer personal information and metadata through their profile to the SNS owners, very often without being aware of doing so. Metadata are composed of information regarding name, email address and sometimes gender, age, and nationality that is aggregated by algorithms to be

---

[2] Sociality is the degree to which individuals tend to associate in social groups and form collaborative societies with a sense of "strong and long-lasting ties, proximity and common history or a narrative of the collective" (Wittel 2001, p. 51).

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

49

re-used for targeted advertising or interface optimization. Once users sign the site's service agreements (Terms of Use), and users are obliged to do this if they want to register and access any social media or network platform, they no longer have control over data unless they know how to modify their profile default settings.

If, on the one hand, user agency can entail the new role of 'produser' and 'co-creator', on the other hand, what interests most is their role of data providers. As van Dijck (2009, p. 49) states, "[u]ser agency thus comprises content production, consuming behaviour and data generation; any theory highlighting only the first of these functions effectively downplays the tremendous influence of new media companies in directing users' agency."

4. Platform technology and its discursive 'double'

Creating profiles and accounts and taking part in social networks such as Facebook or LinkedIn mean, on the one hand, connecting with friends and professionals and sharing portions of one's personal and/or professional life; on the other, these actions definitely re-contextualize users' identities in these new contexts. Features such as photos, videos, gadgets, music, friends' lists, and links to others' social networking profiles are identity markers which replace actual interplay. According to Jenkins, these features are "perhaps, among the most elaborate examples of impression management that one can imagine" (2010, p. 264).

SNSs are the *loci* of self-expression and self-presentation but thanks to the 'logic' of social networking technology (van Dijck, Poell, 2013) these discursive practices are often transformed into self-branding (Petroni 2019): the more you are hyperconnected, i.e. having many friends, many likes, many connections, the more your profile is successful. But successful for whom? Apparently, for the profile's owner, *de facto* for the platform's owner. This is the reason why any identity becomes goods to be offered according to a marketing ideology (Poell *et al.* 2019; Thurlow 2013; van Dijck *et al.* 2018).

Van Dijck *et al.* (2013, 2018) identify four technical mechanisms which represent the foundations of social network platforms, and they are programmability, popularity, connectivity and datafication. *Programmability* is "the ability of a social media platform to trigger and steer users' creative or communicative contributions, while users, through their interaction with [...] coded environments, may in turn influence the flow of communication and information activated by such a platform" (2013, p. 5). The first part of the definition refers to the interrelated systems that are at the basis of programmability: computer code, (meta)data, algorithms, protocols, defaults and the platform architecture that are entangled in programming.

Programming is strictly related to interface design but what we see derives from the cooperation of the different facets of programming.

Following Galloway (2004, p. 165), code "draws a line between what is material and what is active, in essence saying that writing (hardware) cannot do anything, but must be transformed into code (software) to be effective". Programming language codifies meaning into action, and computer code (meant as mode in social semiotic terms) executes its commands which will be reified, for example, into call-to-action buttons within the interface. Code also mirrors the platform's computational architecture but also inscribes social and cultural practices into machine language, as LinkedIn does when coding connections between users/professionals.

Data are any kind of 'raw' information (texts/signs) provided by users and processed by software – verbal text, image, sound, but also personal information such as name, gender, dates etc. Metadata are structured, pre-planned records that classify and catalogue data. Therefore, metadata describe, explain and locate data so that they can be easily managed, retrieved and re-used or re-contextualised (e.g. retweets). The technology reproduces the ability the human brain has to classify and categorize one's experiences, feelings and perception of reality. Users, too, can provide metadata when they tag something or when they accept cookies.

As van Dijck explains (2013b, p. 30), an algorithm, "in computer science, is a finite list of well defined instructions [speech acts] for calculating a function, a step-by-step directive for processing automatic reasoning that orders the machine to produce a certain output from given input". The Facebook 'You may know' notification, whose effect is to trigger user's friending practice, and hence to help/persuade him/her to increase the number of friends to gain further information, is an algorithm able to translate, or rather resemiotize (Lemke 2002; Iedema 2003), the acquired data into a discursive social practice thanks to computational data analysis. By adopting a social semiotic framework (van Leewuen 2005), we can state that algorithms are processes of transduction since they remake meanings across modes, e.g. from writing (user data and metadata) into action.

Protocols are technical sets of rules which users are obliged to respect "if they want to partake in the mediated flow of interaction" (van Dijck 2013b, p. 31).

Defaults are "settings automatically assigned to a software application to channel user behaviour in a certain way. Defaults are not just technical but also ideological maneuverings" (van Dijck 2013b, p. 32). Protocols and defaults can be considered as parameters for creating genre (Jones 2015), 'institutionalized template for social interactions' (Orlikowski, Yates 1998) since they constitute the language programming scripts that are composed of

Lingue e Linguaggi

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools to shape identities and discourses

51

sets of instructions aimed at carrying out an action. They channel users into other discursive practices such as filling in a registration form or updating a profile. Privacy policy settings are an example of how defaults build our relations, interactions, participation and text production on SNSs and configure practices and actions of inclusion or exclusion.

Programmability is the hidden dimension of technology, the "technological unconscious" (Beer 2009), the information apparatus that only partially is made visible by interfaces. The other three mechanisms are grounded in programmability.

Popularity, in fact, depends both on algorithmic and socioeconomic components. The logic of online popularity resides, for example, in links for 'Most viewed' profile on LinkedIn, or friend stats on Facebook. "Platform metrics are increasingly accepted as legitimate standards to measure and rank people and ideas; these rankings are then amplified through mass media and in turn reinforced by users through social buttons such as following and liking" (van Dijck, Poell, 2013, p. 7).

Each platform has its distinct algorithm for boosting the popularity of people, things, or ideas, which is mostly quantitative rather than qualitative. The Like-button aims to brand a social experience or event but the underlying technology immediately adds it to an automated 'Like-economy' (Petroni 2019). Algorithms can resemiotize meaning since they are able to infer, interpret those meanings (data such as preferences, values, and beliefs) previously expressed by users and then assembled into metadata in order to re-produce new texts to consume and/or actions to carry out.

As for *connectivity,* van Dijck and Poell refer to it as the socio-technical affordance of networked platforms to connect content to user activities. Connectivity always mediates user agency and establishes how to construct connections. It also depends on mathematical algorithms apt to construct identity by aggregating sorting, calculating data and embedding "rules of conduct" to "direct how citizens [users] act" (Thrift 2005, pp. 172-173). Paraphrasing Foucault (1988), these affordances are the new "technologies of the self" which establish rules of conduct, work at a distance, and shape users' thoughts, actions and values. The result is a "new algorithmic identity" (Cheney-Lippold 2011, p. 165) that is built on other categories of identity inferred by known or unknown beings.

Datafication refers to "the ability of networked platforms to render into data many aspects of the world that have never been quantified before: not just demographic or profiling data yielded by customers in (online) surveys, but automatically derived metadata from smartphones such as timestamps and GPS-inferred locations" (van Dijck, Poell 2013, p. 9). Every user interaction – rating, paying, watching, dating, searching, but also friending, following, liking, posting, commenting and retweeting – can be "captured [as

data], algorithmically processed, and added to that user's data profile" (van Dijck *et al.* 2018, p. 34). In doing so, platform owners can appeal to users' basic emotions and interactions and, at the same time, can profile their demographic, behavioural, and relational characteristics.

Datafication is strongly related to the other three mechanisms so far described – programmability, popularity, and connectivity. Datafication processes remain invisible and this poses questions about the real link between data and users and about how monitoring and steering can be manipulated (Mejias, Couldry 2019). Users are only sometimes aware of these mechanisms, and what they intend to show of themselves online cannot correspond to what is inferred by other users when personal data are re-contextualised via algorithms.

As a consequence, the overall logic of social platforms affects social agency and the shaping of social relations accordingly. Although users are constantly and seemingly encouraged to manage their online reputation and to "tend their Doppelgängers" (Lanier 2010, p. 71), their real 'double' is, instead, represented by the pre-packaged identity configured through discursive phenomena generated by fixed templates and fuelled by databases and algorithms.

5. Social network interface design: a "holistic and non-logocentric" framework[3]

What is the role of interface design in these processes today? As stated above, interactivity implies planning and developing interactive systems that are usable, dependable, intuitive, and that support and facilitate human activities: the well-known user-friendly interfaces. An interface is not pertinent to the information universe only. It can be found in "any instrument that helps us interact with the world around us in ways that are most fitting to our physical and sensory makeup – thus enacting a mediation function between us and the world." (Ciotti, Roncaglia 2007, p. 181; my translation).[4] In the case of graphical interfaces, however, this mediation is instantiated by multimodal artefacts.

In any socio-cultural communication, multimodal resources never produce neutral signs since they act upon connotative meanings being affected by the ideologies embodied in them (Jones, Hafner 2012). Even

---

[3] Cf. Zhao *et al.* (2014, p. 370).

[4] Note that even a fork and a knife are interfaces, but with a very clearly defined social and cultural connotation, which can be localized only in Western countries and not found, for example, in China.

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

53

when interfaces play their operational role, allowing users to connect to someone or something, but also to save a file, change a font, delete a message, etc., they follow normative discourses resemiotized by institutionalised protocols which reflect social power relations and the interests and values both of their designers and users (Arola 2010; Fuller 2008).

The way through which multimodal contents and actions are presented on social network sites and how users perceive and become affected by them depends both on the deep technological configuration and on the surface multimodal textual composition[5] (Iadema 2003; Jewitt *et al.* 2016; Kress, van Leeuwen 2001, 2006; Machin 2007). The first one is defined here the 'deep layer',[6] that is the interface software architecture described in the above section, while the second is named the 'surface layer', that is instantiated by the interface as an artefact. The two layers mirror professional design conventions, as well as the designers' knowledge of the social practices which the interface is designed to support (Djonov, van Leeuwen 2012, 2013, 2018; O'Halloran *et al.* 2010; Moschini 2018, 2022; Zhao *et al.* 2014).

What we are going to propose here is a framework that is grounded in a holistic and integrated view of textuality. Meaning is conveyed through texts but also via actions which, in turn, in digital settings are triggered not only by users but also by networking technologies embodied by the interfaces. These are governed by a hidden discursive technological apparatus that involves other descriptors that are different from those commonly used in the social semiotic and multimodal approach. Therefore, we have looked at media studies and critical Internet studies but also semiotic technology (Djonov, van Leeuwen 2012, 2013, 2018; Poulsen *et al.* 2018; Zhao *et al.* 2014), in the attempt to draw a tentative framework (Table 1) which is able to detect the complexity of meaning-making productions in digital settings.

The table shows how the two layers work simultaneously and, given the artefact, what the resources involved for making meaning at each layer are, in combination with the agency and practices involved accordingly. By identifying these processes, the effects that derive from them unveil the ideological potential the interface design has within the two layers.

---

[5] According to multimodality, *composition* refers to the textual/organizational metafunction, the visual syntax, which focuses on spatial relations amongst the elements on a page/screen and on the three interrelated systems which govern the spatial organization: *salience*, how certain elements foreground to catch viewer's attention; *information value*, how elements relate to each other and to the viewer (centre/margin, right/left, top/down); *framing*, how framing devices connect/divide elements.

[6] Consider also the concepts of "visible and invisible interface" presented by van Dijck (2013b, p. 31).

From the social semiotic perspective, design refers "to the situated process in which a sign maker chooses semiotic resources and possible arrangements for semiotic entities to be produced to meet particular social functions or purposes. Design is seen as based on a rhetorical (a rhetor's) assessment of the requirements of such an entity; that serves as the starting point for the meaning-making process of design" (Jewitt *et al.* 2016, p. 73).

LAYERS	ARTEFACT	SEMIOTIC RESOURCES	AGENCY AND PRACTICES	IDEOLOGICAL POTENTIAL
Deep layer ('Hidden')	Social Network platform, e.g.: Facebook LinkedIn Others	Programmability: Code Protocol Default Algorithm Metadata	Algorithmic agency: Transduction/ Resemiotisation >> out of user's control	Datafication
Surface layer	Profile template	Design: Layout Font Colour Image Writing	Human agency: Uploading Posting Hyperlinking Friending Following, etc. >> under user's control	Popularity: Interactivity Connectivity

Table 1
Framework for the analysis of social network profiles.

In SNSs we have two different sign-makers with different requirements: the platform designer and the user. The former establishes standardizing expectations for the latter about how profiles have to be designed. In software interfaces, users are given the possibility to choose and work with the traditional resources of composition – i.e. layout, font, writing, image and colour – that are visually available on the layout template and also through its spatio-temporal, or syntagmatic, organization (e.g. PowerPoint interface; Zhao *et al.* 2014, p. 361).

Conversely, social networking software deters users from exploiting the meaning potential of these resources. In fact, social media profiles are actually pre-programmed templates generally composed of 'boxes', frames, unchangeable forms where users can decide what content to embed, generally photos, videos, short narratives (posts), or hyperlinks, and how or if to interact with other users (making connections with friends in Facebook or with professionals in LinkedIn, for example). Layouts, colours, and fonts are not included in the user's prerogatives.

Users can build their identity only through pictures and posts that can be added only in pre-determined places of the interface (see Facebook profile template in Figure 1/A). Thus, from a multimodal perspective, if information value and framing are totally under the control of platform designers, salience

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools to shape identities and discourses

55

is 'shared' between designers and users. Looking at the figure, in fact, it is evident that by default only at the top of the page users can upload their photos and add pre-established personal information. This obviously means that the designers want users to foreground their photos, along with the background image. However, users can freely choose what catchy representation of their public self to show. The bigger central zone is always represented by a timeline format (Figure 1/B) where users interact by posting and uploading verbal and/or visual texts and/or hyperlinks, pieces of their life, only in vertical chronological order, with the most recent posts always foregrounded. The notification section (Figure 1/C), derived from users' interactivity, connectivity and popularity, is also organized in a timeline format. In doing so, verticality becomes the pre-imposed spatio-temporal representation of meaning making and, above all, of the self.
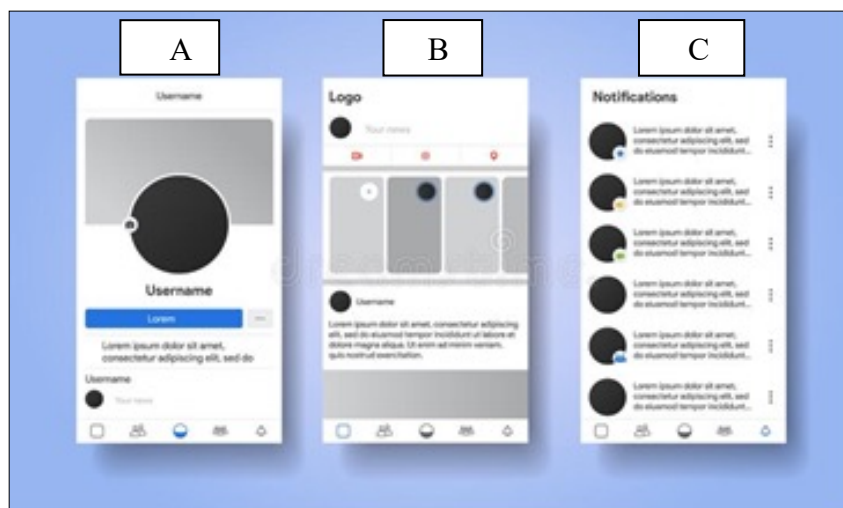

Figure1
Facebook profile (source: Facebook official stock images).[7]

Another example of verticality that is automatically inhabited by the connections users create with their friends is the 'Most viewed' section on LinkedIn (Figure 2). All these frames contribute to personal storytelling and narrative self-presentation.

The evolution of social network interface design corresponds to the shift from the database-structured platform to narrative-structured platform (Manovich 2001). With the advent of the Web 2.0, the first interactive architectures of digital media were non-linear, multi-sequential and database-shaped. They had, in fact, to instantiate the 'hidden' database management system that allowed the platform designer to organize collections of data (verbal, audiovisual and numerical texts) deriving from the interactivity

---

[7] https://www.freepik.com/free-photos-vectors/facebook-profile (5.2.2022).

affordance. Therefore, the first social network interfaces did not tell stories in chronological order, but showed a spatial visual ordering of information.

The new timeline configuration has reversed this perspective and enabled (or constrained) users to narrate their lives, their stories, and their selves in a spatio-temporal ordering. Telling one's Self is more engaging – both for the profile owner and the viewer – than presenting the Self in a multi-sequential way. The timeline format requires continuous updating actions which, in turn, implement the quantity of data managed by the platform that are immediately resemiotised, or rather transducted, thanks to the algorithmic connections residing in the deep layer (datafication). Programmability, along with its tools, shapes the resources of the surface layer and sets up patterns of interactivity reified into action, such as posting and uploading. In addition, standardized presentation formats facilitate the work of algorithms: the more data are homogeneously patterned, the more algorithms detect models of behaviour and control them.
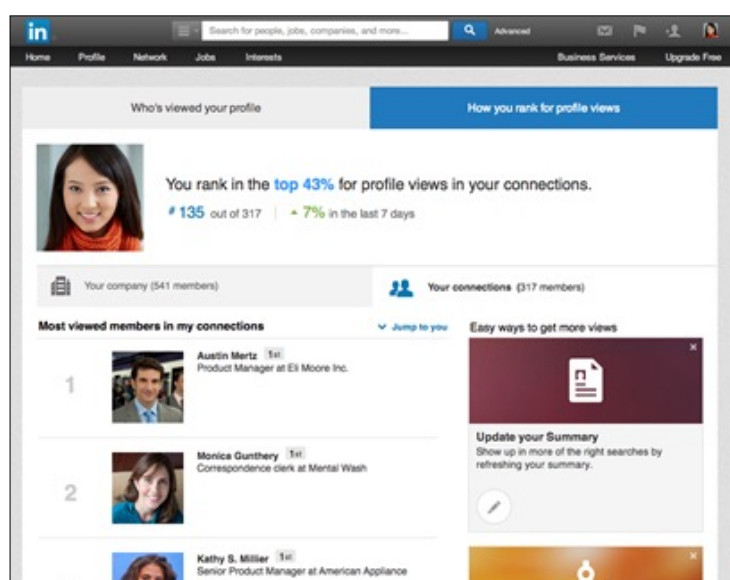

Figure 2
Most viewed section on LinkedIn profile (source: Official LinkedIn Blog).[8]

If, on the one hand, the templates can seem static, on the other hand, what makes them more lively and dynamic is interactivity and connectivity: the interface encourages users to act with their friends and these, in turn, contribute to inhabiting the users' profile: one's identity becomes part of the other's. As Arola argues, users are what they post and what others post about them (2010, p. 9), but above all, they are what the template allows them to

---

[8] https://blog.linkedin.com/2014/05/21/make-the-most-of-whos-viewing-your-profile-with-how-you-rank (5.2.2022).

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

57

do. Although users can construct their identity when they upload content or write narratives, they have little control over a large part of their representation.

Identity discourse is already pre-established in the frames of the template, and the main rhetorical strategies residing in the interface discourse and design are manoeuvred by those algorithmic affordances that Fogg defines as 'persuasive technologies' (Fogg 2003, 2009; Petroni 2016). Notifications, alerts, like and share buttons, rss feeds, etc., are *de facto* multimodal reifications of hidden discourses at the surface layer that are elaborated by code and algorithms. These persuasive technologies, too, are designed to engage users in enacting and changing attitudes and behaviours.

6. Concluding remarks

The analysis of discrete discursive phenomena, such as interfaces and template, without focusing on how they function within these complex systems of semiosis is no longer reasonable. This contribution provides a tentative framework whose aim is to conflate different descriptors rooted in different fields of study. This has allowed us to adopt a critical approach to the study of digital meaning making processes that can take into consideration the hidden dimension of technology, its discursive 'double'.

Some surveillance scholars (Haggerty, Ericson 2000, 2006; Jones 2017) talk about the "data double" referring to the obscure function of algorithms to collect and assemble data differently and for different purposes through surveillance technologies.[9] The way interface technology works entails a kind of surveillance over users through the pre-programmed profile templates. The code and algorithms channel users' behaviours and actions while they consent to being under surveillance, with the exception of those few people who operate actively on platform settings in order to protect their privacy.

Thus, who is the sign-maker when designing a profile on SNSs? What the users can do with their social media profiles is simply to fill in empty pre-packaged boxes with small, but endless, portions of their social, personal or professional life. In 'designing' their profile at the surface layer, they accept

---

[9] To define these technologies, Haggerty and Ericson (2006, p. 4) claim: "Surveillance technologies […] operate through processes of disassembling and reassembling. People are broken down into a series of discrete informational flows which are stabilized and captured according to pre-established classificatory criteria. They are then transported to centralized locations to be reassembled and combined in ways that serve institutional agendas."

the mission stated by social media.[10] Vice versa, platform designers at the hidden layer design code and algorithms to implement the functionalities of interactivity and connectivity with the aim of accumulating and aggregating personal data and re-using them in other contexts and for different purposes. In doing so, they shape users' interactions and exert control over their identity.

The human agentic value is essentially remodelled onto an algorithmic agentic value that is materially embodied in a profile-shaped template. This point becomes crucial if we conduct research on the discourse of social network profiles. Limiting their discursive analysis to the surface layer means disregarding the meaning making processes deriving from the deep layer, which profoundly contribute to users' identity construction.

As Arola (2010, p.4) claims, in the world of interactivity and connectivity, we need "to rethink the ways in which we might bring design to a discursive level, for while we might be losing the means of production, this should not keep us from questioning and embracing design's potential." Rethinking design's potential of interfaces or templates means understanding how the resources of the deep layer produce meaning. For this reason, it is necessary to start envisaging new frameworks of analysis for the new systems of semiosis that are embodied by software and technology.

Manovich in 2001 looked at databases as systems able to produce meanings and theorized the opportunity to identify a 'discourse of database'. But his call has remained unheard. In the past, we have speculated on media by researching a discourse, a semiotics, an aesthetics, and an ethics of each single medium. Now, there is the urgency of finding theoretical frameworks where and thanks to which we can investigate sign-making processes, networked signification and programmed social practices represented by collections of networked data modelled into the discourse of software and technology.

Bionote. Sandra Petroni is Associate Professor of English Language and Linguistics at the University of Rome "Tor Vergata". She teaches at the BA programme in Languages in the Information Society. Her research interests include Systemic-Functional Grammar, Multimodal Critical Discourse Analysis, Digital Literacy and Critical Internet Studies. Among her publications, two books *Self-Study. La multimedialità e l'apprendimento della lingua inglese nel nuovo sistema universitario italiano* (2004) *and Language in the Multimodal Web Domain* (2011), and several research articles and chapters. She is

---

[10] Facebook's mission is to "Give people the power to build community and bring the world closer together" while LinkedIn's is to "Connect the world's professionals to make them more productive and successful".

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools
to shape identities and discourses

59

member of some international editorial boards and she has participated in national and European research projects. The last one was a three-year Erasmus plus European project (2016–2019), KA2 Strategic Partnerships for Higher Education, *EUMADE4LL (European Multimodal and Digital Education for Language Learning)*.

Author's address: sandra.petroni@uniroma2.it

References

Adami E. 2015, *What's in a click? A social semiotic framework for the multimodal analysis of website interactivity*, in "Visual Communication" Vol 14 [2], pp. 133-153.

Arola K. 2010, *The design of Web 2.0: The rise of the template, the fall of design*, in "Computers and Composition" 27, pp. 4-14.

Baym N. 1995, *The emergence of community in Computer Mediated Communication*, in Jones S.G. (ed.), *Cybersociety: Computer Mediated Communication and Community*, Sage, Thousand Oaks (CA), pp. 138-163.

Beer D. 2009, *Power through the algorithm? Participatory web cultures and the technological unconscious*, in "New Media & Society" 11 [6], pp. 985-1002.

Bettetini G., Gasparini B. and Vittadini N. 1999, *Gli spazi dell'ipertesto*, Bompiani, Milan.

Bolter J.D. 2001, *Writing Space*, Lawrence Erlbaum, Hillsdale (NJ).

Bourdieu P. 1986, *The forms of capital*, in Richardson J. (ed.), *Handbook of Theory and Research for the Sociology of Education*, Greenwood, New York (NY), pp. 241-58.

Bourdieu P. and Wacquant L. 1992, *An Invitation to Reflexive Sociology*, University of Chicago Press, Chicago (IL).

Bruns A. 2008, *Blogs, Wikipedia, Second Life, and Beyond*, Peter Lang, New York (NY).

Castells M. 1996, *The Rise of the Network Society*, Blackwell, Oxford.

Cheney-Lippold J. 2011, *A New algorithmic identity. Soft biopolitics and the modulation of control*, in "Theory, Culture & Society" 28 [6], pp.164-181.

Ciotti F. and Roncaglia G. 2007, *Il mondo digitale*, Laterza, Bari.

Danet B. 1998, *Text as mask: Gender and identity on the Internet*, in Jones S. (ed.), *Cybersociety 2.0: Revisiting Computer Mediated Communication and Community*, Sage, Thousand Oaks (CA), pp. 129-58.

Djonov E. and van Leeuwen T. 2012, *Normativity and software: A multimodal social semiotic approach*, in Norris S. (ed.), *Multimodality and Practice: Investigating Theory-in-Practice-through-Method*, Routledge, New York (NY), pp. 119-137.

Djonov E. and van Leeuwen T. 2013, *Between the grid and composition: Layout in PowerPoint's design and use*, in "Semiotica" 197, pp. 1-34.

Djonov E. and van Leeuwen T. 2018, *Social media as semiotic technology and social practice: the case of ResearchGate's design and its potential to transform social practice*, in "Social Semiotics" 28 [5], pp. 641-664.

Dubé L., Bourhis A. and Jacob R. 2006, *Towards a typology of virtual communities of practice*, in "Interdisciplinary Journal of Information, Knowledge, and Management" 1, pp. 69-93.

Fogg B.J. 2003, *Persuasive Technology*, Morgan Kaufmann, San Francisco (CA).

Fogg B. J. (ed.) 2009, *Persuasive 2009. Proceeding of the 4the International Conference on Persuasive Technology. 'A Behaviour Model for Persuasive Design' April 2009 Claremont CA USA*. http://bjfogg.com/fbm_files/page4_1.pdf (9.10.2021).

Foucault M. 1988, *Technologies of the Self: A Seminar with Michel Foucault*, edited by L. H. Martin, H. Gutman, P.H. Hutton, University of Massachusetts Press, Amherst (MA).

Fuller M. (ed.) 2008, *Software Studies: A Lexicon*. MIT Press, Cambridge (MA).

Galloway A.R. 2004, *Protocol: How Power Exists after Decentralization*, MIT Press, Cambridge (MA).

Gibson J.J. 1977, *The theory of affordances*, in Shaw R. and Bransford J. (eds.) *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, Erlbaum, Hillsdale (NJ), pp. 67-82.

Goffman E. 1959, *The Presentation of the Self in Everyday Life*, Anchor Books, New York (NY).

Haggerty K.D. and Ericson R.V. 2000, *The surveillant assemblage*, in "British Journal of Sociology" 51 [4], pp. 605-622.

Haggerty K.D. and Ericson R.V. 2006, *The New Politics of Surveillance and Visibility*, University of Toronto Press, Toronto.

Hammerich I. and Harrison C., 2002, *Developing Online Content*, Wiley Computer Publishing, New York (NY).

Herring S.C. 1996, *Computer-Mediated Communication: Linguistic, Social, and Cross-cultural Perspectives*, John Benjamins, Amsterdam.

Herring S.C. 2008, *Virtual community*, in Given L.M. (ed.), *Encyclopedia of Qualitative Research Methods*, Sage, Thousand Oaks (CA), pp. 920-921.

Herring S. and Kapidzic S. 2015, *Teens, gender, and self-presentation in social media*, in Wright J.D. (ed.), *International Encyclopedia of Social and Behavioural Sciences*, 2nd ed., Elsevier, Oxford, pp. 146-152.

Hsu C.L. and Lin J.C.C. 2016, *An empirical examination of consumer adoption of Internet of Things services: Network externalities and concern for information privacy perspectives*, in "Computers in Human Behavior" 62, pp. 516-527.

Iedema R.A.M. 2003, *Multimodality, resemiotization: extending the analysis of discourse as multi-semiotic practice*, in "Visual Communication" 2 [1], pp. 29-57.

Jenkins H. 2006, *Convergence Culture: Where Old and New Media Collide*, New York University Press, New York (NY).

Jenkins R. 2010, *The 21st century interaction order*, in Hviid Jacobsen M. (ed.), *The Contemporary Goffman*, Routledge, London, pp. 257-274.

Jewitt C., Bezemer J. and O'Halloran K. 2016, *Introducing Multimodality*, Routledge, London.

Jones R.H. 2015, *Towards a sociolinguistics of surveillance. Video-lecture at the 6th International Language in the Media Conference, 7-9 September 2015,* Universität Hamburg. https://lecture2go.uni-hamburg.de/l2go/-/get/v/18110 (15.8.2021).

Jones R.H. 2017, *Surveillant landscapes*, in "Linguistic landscapes" 3[2], pp. 149186.

Jones R.H. and Hafner C. A. 2012, *Understanding Digital Literacies. A Practical Introduction*, Routledge, London.

Kaplan A.M. and Haenlein M. 2010, *Users of the world, unite! The challenges and opportunities of Social Media*, in "Business Horizons" 53, pp. 59-68.

Kress G. and van Leeuwen T. 2001, *Multimodal Discourse Analysis*, Arnold, London.

Kress G. and van Leeuwen T. 2006, *Reading Images. The Grammar of Visual Design*, 2nd ed., Routledge, London.

Landow J.P. 1992, *Hypertext 2.0*, The John Hopkins University Press, Baltimore (MD).

Lanier J. 2010, *You Are Not a Gadget*, Penguin, London.

Lemke J.L. 2002, *Traversals in hypermodality*, in "Visual Communication" 1[3], pp. 299-325.

LeVine P. and Scollon R. (eds.) 2004, *Discourse and Technology: Multimodal Discourse Analysis*, Georgetown University Press, Washington, DC.

Machin D. 2007, *Introduction to Multimodal Analysis*, Bloomsbury, New York (NY).

Mager A. 2012, *Algorithmic ideology: How capitalist society shapes search engines*, in "Information, Communication & Society", 15 [5], pp. 769-787.

*L*ingue e
*L*inguaggi

Manovich L. 2001, *The Language of New Media*, The MIT Press, Cambridge (MA).

McMillan S.J. 2009, *Exploring models of interactivity from multiple research traditions: users, documents, and systems*, in Lievrouw L. and Livingston S. (eds.) *Handbook of New Media. Social Shaping and Social Consequences of ICTs*. Updated Student Edition, Sage, London, pp. 205-229.

Mejias U. and Couldry N. 2019, *Datafication*, in "Internet Policy Review", 8 [4]. https://policyreview.info/concepts/datafication (3.1.2021).

Moschini I. 2018, *Social semiotics and platform studies: an integrated perspective for the study of social media platforms*, in "Social Semiotics" 28 [5], pp. 623-640.

Moschini I. and Sindoni M.G. (eds.) 2021, *Mediation and Multimodal Meaning Making in Digital Environments*, Routledge, London.

Moschini I. 2022, *The World as a Global Community? A Critical Multimodal Discourse Analysis of Facebook's Institutional Communication and Technical Documentation*, Effegi, Grosseto.

O'Halloran K.L., Tan S., Smith B.A. and Podlasov A. 2010, *Challenges in designing digital interfaces for the study of multimodal phenomena*, in "Information Design Journal" 18 [1], pp. 2-12.

Orlikowski W. and Yates J. 1998, *Genre System: Structuring Interaction through Communication Norms*, The MIT Press, Cambridge (MA).

Page R. 2012, *The linguistics of self-branding and micro-celebrity in Twitter: The role of hashtags*, in "Discourse & Communication" 6 [2], pp. 181-201.

Papacharissi, Z. (ed.) 2011, *A Networked Self. Identity, Community, and Culture on Social Network Sites*, Routledge, London.

Petroni S. 2011, *Language in the Multimodal Web Domain*, Aracne, Rome.

Petroni S. 2016, *Digitality and persuasive technologies: New social actions and practices in digital settings*, in Gardner S. and Alsop S. (eds.), *Systemic Functional Linguistics in the Digital Age*, Equinox, Sheffield, pp. 29-44.

Petroni S. 2019, *How social media shape identities and discourses in professional digital settings: Self-communication or self-branding?*, in Bou Franch P. and Blitvich P.G. (eds.), *Multidisciplinary Research and Theoretical/Critical Reflection on Digital Discourse Analysis*, Palgrave, London, pp. 251-281.

Poell T., Nieborg D. and van Dijck J. 2019, *Platformisation*, in "Internet Policy Review" 8 [4]. https://policyreview.info/concepts/platformisation (15.1.2021).

Poulsen S.V., Kvåle G. and van Leeuwen T. 2018, *Special issue: Social media as semiotic technology*, in "Social Semiotics", 28 [5], pp. 593-600.

Preece J. and Maloney-Krichmar M. 2003, *Online communities*, in Jacko J. and Sears A. (eds.), *Handbook of Human-Computer Interaction*, Lawrence Erlbaum, Mahwah (NJ), pp. 596-620.

Putnam R.D. 2000, *Bowling Alone*, Simon & Schuster, New York (NY).

Rheingold H. 1993, *The Virtual Community: Homesteading on the Electronic Frontier*. Harper Perennial, New York (NY).

Shyam Sundar S. 2012, *Social psychology of interactivity in human-website interaction*, in Joinson A., Katelyn Y., McKenna A., Postmes T. and Reips U-D. (eds.), *Oxford Handbook of Internet Psychology*, Oxford University Press, Oxford, pp. 89-102.

Smelser N.J. and Baltes P.B. (eds.) 2001, *International Encyclopedia of the Social & Behavioral Sciences*, Elsevier, New York (NY).

Thurlow C., Lengel L. and Tomic A. 2005, *Computer Mediated Communication: Social Interaction and the Internet*, Sage, Thousand Oaks (CA).

Thurlow C. 2013, *Fakebook: Synthetic media, pseudo-sociality and the rhetorics of Web*

Can interfaces and social profiles 'speak without words'? Social platforms as ideological tools to shape identities and discourses

63

2.0, in Tannen D. and Trester A. (eds), *Discourse 2.0: Language and New Media*, Georgetown University Press, Washington, DC, pp. 225-248.

van Dijck J. 2009, *Users like you? Theorizing agency in user-generated content*, in "Media, Culture & Society" 31 [1], pp. 41-58.

van Dijck J. 2013a, *'You have one identity': Performing the self on Facebook and LinkedIn*, in "Media, Culture & Society" 35 [2], pp. 199-215.

van Dijck J. 2013b, *The Culture of Connectivity*, Oxford University Press, Oxford.

van Dijck J. and Poell T. 2013, *Understanding social media logic*, in "Media and Communication" 1 [1], pp. 2-14.

van Dijck J., Poell T. and De Waal M. 2018, *The Platform Society: Public Values in a Connective World*, Oxford University Press, Oxford.

van Leeuwen T. 2005, *Introducing Social Semiotics*, Routledge, London.

van Leeuwen T. 2009, *Discourse as the recontextualization of social practice: A guide*, in Wodak R. and Meyer M. (eds.), *Methods of Critical Discourse Analysis*, 2nd ed., Sage, Thousand Oaks (CA), pp. 144-161.

Wittel A. 2001, *Toward a network sociality*, in "Theory, Culture and Society" 18 [6], Sage Publications, Thousand Oaks (CA), pp. 51-76.

Yun G.W. 2007, *Interactivity concepts examined: Response time, hypertext, role taking, and multimodality*, in "Media Psychology" 9 [3], p.p. 527-548.

Zappavigna M. 2012, *Discourse of Twitter and Social Media: How We Use Language to Create Affiliation on the Web*, Bloomsbury, London.

Zhao S., Djonov E. and van Leeuwen T. 2014, *Semiotic technology and practice: a multimodal social semiotic approach to PowerPoint*, in "Text & Talk" 34 [3], pp. 349- 375.