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Mass media and the web in the light of Luhmann's media system

Giovanni Boccia Artieri and Laura Gemini
University of Urbino Carlo Bo, Italy

Abstract

The aim of the article is to observe the contemporary media system in the light of Luhmann's media system, namely a specific function system of society which has witnessed ever greater internal complexity vis-a-vis an environment marked by the spread of the web and social network sites. From the viewpoint of sociocybernetics, the question of increased complexity can be addressed through an ecological approach in order to analyse the distinction between the mass media and the web – in its specific 2.0 evolution, characterized by user-generated content and algorithms. This approach allows to observe the reciprocal relations by preserving the autonomy of the two spheres without resorting to explanations that have to do with hybridization or the blur of the boundaries. In this sense the article analyses Facebook – as an example of web 2.0 operational logic – as a social system distinct from that of the mass media, where the first substantial difference depends on the role played by individuals in reproducing communication and on the role of the algorithm. In this sense mass media and the web are treated on the basis of their relationship of structural coupling by observing how they irritate, or disturb, each other and at the same time maintain their autonomy.

Keywords

Complexity, ecological approach, mass media system, Niklas Luhmann, sociocybernetics, web 2.0

Corresponding author:
Giovanni Boccia Artieri, Department of Communication Sciences, Humanities and International Studies, University of Urbino Carlo Bo, Via Saffi, 15, 61029 Urbino (PU), Italy.
Email: giovanni.bocciaartieri@uniurb.it

Mass media and the web: Ecological approach versus hybridization

As early as 1990, Niklas Luhmann argued that 'if media and techniques of communication change, if the facilities and sensitivities of expression change, if codes change from oral to written communication, and, above all, if the capacities of reproduction and storage increase, new structures become possible, and eventually necessary, to cope with new complexities' (1990: 100).

With the benefit of hindsight, Luhmann's words appear prophetic. The high level of complexity attained by the world society, i.e. the globalized society, including all the systems of communication, organization and interaction (Gallino, 2016; Luhmann, 1997), is the inevitable starting point for a sociological enquiry which looks upon communication and its media as elements of society, of its structure and transformation processes.

In this sense, the theoretical apparatus of sociocybernetics, understood here as the science of social systems and a constructivist paradigm based on second-order cybernetics (Von Foerster, 1981), provides a number of concepts and guidelines which enable us to observe this state of complexity through the complexity itself (Morin, 1992; Qvortrup, 2006; Urry, 2005). This means describing society and its function systems as positions from which to observe the complexity and not as contexts which somehow attempt to resolve it by reducing it.

With these considerations as its starting point, the article will concentrate on the mass media as described by Niklas Luhmann (2000), namely a specific function system of society which has witnessed ever greater internal complexity vis-a-vis an environment marked by the spread of the web and social network sites.

From the viewpoint of sociocybernetics, the question of increased complexity can be addressed first of all through an ecological approach. The reference model is Gregory Bateson (1972) and the fine-tuning of the epistemology which has developed in the area of systems theory and cybernetics. Since the 1950s it has been apparent that the concept of ecology, which has to do with the environment, has become an abstract, generalized concept, to the point that we now talk about general ecology. The environment is not a given, something which exists per se, to which an organism or, as in our case, a system has to adapt, but 'a multifaceted and flexible reference, which changes with the way it is observed and with the perspective of the observer' (Esposito, 2017: 283). On this basis, the ecological approach treats a system as separate from its environment while nonetheless taking account of their interrelations; hence, rather than erasing the differences between system and environment, by observing them it multiplies them. If, therefore, adopting the perspective of the observer, we treat the mass media as system and the web as its environment, the question that needs tackling relates to the terms of this distinction and the different forms it takes.

From the 1950s onwards, this is a problem which has been dealt with in different ways in communication and media studies. This type of analysis has shaped itself around social evolution in relation to the evolution of machines and the digital, starting, on the one hand, from the tradition of studies which refer to media theory, and on the other, from considerations stemming from the human–machine hybridization, like those of the

Actor-Network Theory (ANT). Both approaches deal with the increase in complexity brought about by computational and informational advances, and the consequent complexification of the relation between system and environment, by choosing to blur the distinction between the two poles by using the concept of network.

As regards media theory, researchers have tried in the main to relate the evolutionary process of communication and its technological infrastructures to structural changes in society (Innis, 1972; McLuhan, 1964; Meyrowitz, 1985). The legacy of these studies has been to analyse the advent of the web in terms of its power to transform both mass media – witness Bolter and Grusin's concept of remediation (1999) – and society.

In the mid-1990s, Manuel Castells' trilogy (1996, 1997, 1998) describes society, ever more closely interconnected technologically, as 'network society': 'networks constitute the new social morphology of our societies and the diffusion of networking logic modifies the operation and outcomes in the processes of production, experience, power and culture' (1998: 469), and network logic pervades the entire social structure. The 'network society' which Castells talks about is therefore based on networks which have the power to include or exclude, not unlike the power inherent in Niklas Luhmann's 'communication society': it is a transition from the sociocybernetic perspective of systems theory to network theory. The concept of network society therefore established itself as an alternative analysis model to the systemic theories in an effort to address the more and more complex forms of relation between system and environment produced by the new circularities introduced by machines and the digital. According to Castells' most recent analyses of the success of the internet and the web, the major consequence in terms of communication is that, 'the boundaries between mass media communication and all other forms of communication are blurring' (2009: 64).

On the ANT side, forged by the work of Bruno Latour (1993, 1999), the network concept has been adopted as a theoretical framework for exploring the collective sociotechnical processes which also feature non-human agents (machines, animals, texts, etc.). The ANT network is conceived as a heterogeneous amalgam of elements since actors and network are united in the effort to overcome the distinction between agency and structure. 'This distinction is neither useful nor necessary for ANT theorists, as macrolevel phenomena are conceived as networks that become more extensive and stabilized. Networks are processual, built activities, performed by the actants out of which they are composed. Each node and link is semiotically derived, making networks local, variable, and contingent' (Crowford, 2004: 3).

Both these approaches have dealt with the increasingly complex forms of relation between system and environment – produced by new circularities introduced by machines and the digital – as processes whose boundaries are blurred, rather than concentrating on the forms of distinction. Moreover, these perspectives are in keeping with the growing importance of the notion of hybridity – one that, since the 1990s, has emerged in biology, gained ground, and passed into the social sciences and media studies. It is a notion which has somehow become emblematic of our age and been used to describe the mix of cultures, races, languages, systems and also paradigms. In this sense, hybridity is 'a necessary heuristic device to understand a world in flux' (Kraidy, 2017: 90).

Nowadays, this position is also expressed by all those studies which treat the contemporary media landscape as a continuum, or which, placing themselves in the ontology of

social science hybridity, interpret the media landscape as a hybrid media system (Chadwick, 2013). Viewed from these perspectives, the complexity generated by the joint presence of new and old media in communication not only affects the function systems, politics first and foremost, but evokes a fluid scenario whose boundaries are not fixed.

The ecological viewpoint of sociocybernetics occupies a totally different position, one which leads it to investigate the complexity of the network society and its relation with the media landscape by taking as its starting point the radicalization of the system–environment distinction and not the blurring of boundaries between the two. In other words, only by indicating clearly what belongs to system and what belongs to environment – i.e. by distinguishing an 'in' from an 'out' – is it possible to study the complex forms which are generated when the inside reflects the outside and vice versa (Esposito, 2017). On this basis, in order to describe the relation between mass media and the web as communicative environment, it is necessary to bear in mind that what, as observers, we are observing is a relation of structural coupling – and not of hybridization – between mass communication and the 'new' form of interpersonal mass communication typical of the social media (Boccia Artieri, 2012a). This means making the effort not to rely on an explanation based on notions of flux, hybrid, blurred boundaries or even liquidity, but, rather, to observe the different modes of articulation which relate mass media (system) and the web (environment).

This article will describe the mass media system from the perspective of Niklas Luhmann. It will highlight the structural features in order to show how they determine a functioning based on the passivity of the media users and on a relation with other systems founded on distinction. In this sense the mass media system creates clear boundaries, dealing internally with anything informative and leaving outside anything that is not, with no possibility of establishing intermediate or hybrid spaces between the system and its environment.

The article will then examine the reasons why, working from the distinction concept, it is necessary to consider the web (in its specific 2.0 evolution, characterized by user-generated content and algorithms) as environment vis-a-vis the mass media system. This approach enables us to understand the reciprocal relations by preserving the autonomy of the two spheres, instead of resorting to approaches like hybridization which tend to blur those relations. In particular, we shall describe how Facebook – taken as an example of web 2.0 operational logic – is a social system distinct from that of the mass media. We will describe Facebook as a social system which reproduces communication by means of the components which comprise it (user-generated content), and maintains its internal order through the algorithm which also incorporates the choices and behaviours of its users. Unlike the mass media system, in Facebook the information is treated through the operational logic of the algorithm, therefore the information is not a part of the system's operational code. This being the case, we shall argue that it cannot be considered as part of the mass media system, and neither does it hybridize with them. Rather, it can be observed as a specific sphere of the mass media system with a unique capacity to irritate it, in the sense of causing disturbance and perturbation which will then be processed from within the system.

The web and especially the social network sites are peculiarly irritative because they provide a particular variety for selecting themes addressed by the mass media system. This variety is the result of the content produced and shared by individuals – individuals therefore who are not treated merely as themes, as happens in the mass media system.

Niklas Luhmann and the reality of the mass media

To observe the mass media today is to take account of the way the centrality of the media in the world society context needs to be seen in relation to the communicative environment generated by the web. This is why the present analysis takes as its starting point the definition of the media advanced by Niklas Luhmann (2000) in *The Reality of the Mass Media*, a classic work on the media in the light of the sociocybernetic paradigm. As part of the theoretical framework of the general theory of social systems (Luhmann, 1995), Luhmann identifies the mass media, on the one hand, as a specific function system, self-referential and autopoietic, and on the other, the various media of dissemination of mass communication. As a social system, in the context of the structure based on functional differentiation, the mass media system operates through the information/non-information code and works through its specific organizations (broadcasting channels, publishing houses, etc.): 'The system can work with information. Information, then, is the positive value, the designatory value, with which the system describes the possibilities of its own operating. But in order to have the freedom of seeing something as information or not, there must also be a possibility of thinking that something is non-informative' (Luhmann, 2000: 17). The function of the mass media system is to create a second reality shared by everyone, a basic knowledge that can be taken for granted (for example, if we mention the 2018 World Cup, everyone knows what we are talking about even though we may not follow it). These premises are necessary in order to produce new communications without the need to start again from scratch. The media's construction of reality stems from second-order observation, inasmuch as through observing the mass media one observes what others observe. That said, it is not a reality which requires consensus: it concerns only *what* is observed, not *how*); in this sense the users' opinions are left free.

The mass media system is structurally coupled with the other function systems (the economy, science, art, politics, etc.) – a concept which, in social systems theory, explains how two autonomous systems may be reciprocally related while retaining their mutual autonomy. The environment has the ability to trigger internal processes by perturbation or irritation. If some environmental events or effects cause the system to adjust itself to the environment, it is a structural coupling since the system does not get any intervention directly but just operates inside for adjustment or adaptation. In terms of communication production, the mass media system includes media of dissemination – press, radio, cinema, television – which typically lower the long-term improbability of communication threshold (Luhmann, 1981). The media evolve from writing and are therefore detached from the face-to-face interaction typical of interpersonal communication. Furthermore they manage their relations with the environment – the individual understood as psychic system and organic system – on the basis of their own organizational structure which depends on the internal differentiation between three programme areas – news and

in-depth reporting, entertainment and advertising – which may overlap but have their own specific features and criteria for dealing with information (and distinguishing it from what is not information).

In this sense, the behaviour of individuals and their motives do not affect the functioning of the programmes, but, more simply, 'man' is implicated solely as a social construct, as the theme of communication and the subject represented. News and in-depth reporting presuppose individuals as people wanting to be informed; advertising presupposes the individual who seeks his/her own advantage and who, being capable of deciding, must be presented with opportunities for decision; in entertainment, which Luhmann sees as based on narrative fiction, the individual is the human being, morally responsible but inclined to fall into temptation, who therefore needs to be instructed in the difference between good behaviour and bad behaviour. Ultimately, 'the construct of the "cognitively more or less informed, competent, morally responsible person" helps the function system of the mass media constantly to irritate itself with regard to its biological and psychic human environment' (Luhmann, 2000: 74). From this standpoint, for Luhmann the audience is 'the excluded third', a phantasy within the system: 'it is a parasitic role in the sense that it is not a position from where one is able to perform anything according to the operations of the function system' (Thygesen, 2012: 110).

Besides the programmes, the themes of communication are indispensable in synchronizing media and society, without sacrificing the operational closure of the system. Within the system, the themes represent the hetero-reference of communication: the media talk about a theme such as health and in this way they enter into relation with the medical system. Luhmann cites the example of AIDS to show that this theme 'is not a product of the mass media themselves. It is merely taken up by them and then dealt with in a particular way, subjected to a thematic trajectory that cannot be explained from medical diagnoses nor from the communication between doctors and patients' (Luhmann, 2000: 12). Themes, therefore, harmonize hetero-reference (reference to outside) and self-reference (reference inside the media, its function) within the system's own communication.

Themes are therefore important for the structural coupling of the mass media with the other social systems. So, the media can reach all areas of society (Luhmann speaks of the 'universalism of their function'), but the other systems struggle to impose their themes on the mass media and ensure that they are adequately taken up. The centrality of the media in modern society is due to their ability to impose the acceptance of themes and to set the agenda. Such acceptance does not depend on adopting a positive or negative stance towards the information. Indeed, interest in the theme is often the result of its generating conflicting, polarized responses.

The features of the media as system, as summarized in terms of Luhmann's thinking, and the way in which the media construct reality, seem to be the inescapable starting point for observing the growth of the web as environment. This will make it possible, in our view, to focus more clearly on analogies and differences, avoiding any overlap as if the two areas were indistinct or even a new hybrid media phenomenon. As we shall attempt to demonstrate, the web environment displays the features of mass media, like media of dissemination, but can, at the same time, be kept distinct from the media as a result of its working characteristics. We shall then enquire how the web may

be considered a particularly irritative social system for the media, where the user – the individual – cannot simply be considered as a 'parasite'. On the web, as in the media, communication spread, we inform ourselves, entertain ourselves, encounter advertising; on social network sites we share and discuss themes which are interesting in that they produce conflicting and polarized views, but the web establishes a relationship with the user which cannot take his/her passiveness for granted.

The reality of the web 2.0

From the perspective of social systems theory, the emergence of the internet, the digitalization of communication and the spread of personal media have destabilized the traditional dichotomy between mass communication and interpersonal communication (Lüders, 2008). More specifically, web 2.0 logic, marked by the spread of social network sites, has made the mass media communication environment (individuals, organizations and their operations) even more complex. The mutation that we are observing is linked to the introduction of new possibilities for communication and 'mass personal' connection (blogs, social network sites, etc.) through the Net.

The diffusion of new devices and software allows us to store, annotate and rewrite media content, and put it back into circulation so that it can be re-used. The literature has focused attention on user-generated content (Shirky, 2008), pointing out how blog posts, wiki contributions, forum discussions, social network posts and tweets, podcasts and other types of audio files, digital images and videos are all symptomatic of the democratization of multimedia content production, made possible by the availability of simple, low cost, hardware and software. In this sense, the appearance of web platforms which enable enthusiasts and amateurs to produce and disseminate content – what is called web 2.0 (O'Reilly 2005) – has contributed to the construction of a media system in which interpersonal and mass communication do not merely coexist but interweave in complex ways – we need only consider the literature on citizen journalism which describes how ordinary citizens become producers of news 'in competition with' the mass media (Gillmor, 2004).

This technological and cultural transformation and the subsequent scientific and journalistic debate has led a number of scholars to talk in terms of hybridization and a blurring of boundaries between mass media and web, especially the social web with the eruption of social network sites. It is a debate which has witnessed stances sometimes more ideological than analytical on topics such as the dynamics of individual participation, the democratization of the media, and the merging of media corporation culture and grassroots culture (Formenti, 2012).

From this viewpoint it is necessary to address the subject by adopting an ecological approach – i.e. observe and describe the forms of distinction between system and environment – which enables us to highlight the differences rather than dwelling on possible areas of overlap. In this sense we have to begin by unravelling one or two conceptual knots and understanding how to apply the system–environment distinctions to the scenario that we have outlined: a scenario which sees the mass media system relate to the web and its connection platforms and features the internet as a communicative superstructure which enables the joint presence of mass communication and interpersonal

communication. In observing the mass media (as system), the task is to examine the terms in which the structural coupling with the web (as environment) results in greater internal complexity for the system and for the maintenance of its autonomy. In this sense, the use of the theoretical apparatus of sociocybernetics enables us to treat the dissemination of the web and its relation with the mass media as a condition determined by the fact that there exists an exchange between system and environment, where the system can be found in the environment and the environment appears to penetrate the system. It is the visibility of this form of interchange, as we saw in the first section of the article, which has led several researchers to talk of hybridization and a blurring of the boundaries between the systems, rather than enquiring into the nature of these systems and of the mechanisms which enable entities to couple while remaining different.

With this end in mind, it is not possible to treat the interchange between the mass media system and an environment characterized by social networks and user-generated content from the standpoint of the intentions of the individuals who produce and disseminate content through the platforms. Neither can it be treated as a general empowerment of individuals vis-a-vis the mass media. What is required is an analysis of the features peculiar to that 'environment', formed by communications which are closely interrelated through network logic.

Why Facebook is not a mass medium

Let us take Facebook as an example of the logic of web 2.0. One of the aspects highlighted in the literature (Ellison and boyd, 2013) is the way in which the alteration of the platform and the role of affordances has led, over time, from the centrality of the user profiles to the centrality of the News Feed algorithm. This transition has produced a new way of using content based on the stream.

For the user, being in the stream is an experience at once new and familiar. It appears to hark back to TV zapping, but in fact it means engaging with a new logic of the platform's internal algorithm. The algorithm is the device which renders the contents of the stream visible and combines them in the form which every user experiences. Unlike a mass medium such as television, the pre-eminent means of audiovisual communication (Luhmann, 2000), when a user logs into Facebook, the experience is unique and cannot be shared: users do not access the same (television) channels and cannot take it for granted that others do. And yet there is a strong impression that what we observe on Facebook is a shared reality, as if Facebook were part of the mass media system. And in fact there are a lot of mass media contents passing through the platform which derive from areas such as news, fictional narrative and advertising. These contents are made visible by their network of contacts, but they are not the only ones. On Facebook we inform ourselves and entertain ourselves with personal stories and images from private life.

The visibility algorithm selectively combines the various contents according to predetermined weights which take account both of criteria decided by the platform (e.g. the weight of friends and family to the detriment of publishers and brands) and the behaviour of the users (e.g. reactions and comments on posts). In this way the algorithm acts as a form of cybernetic control of complexity and contingency, enabling Facebook to operate autonomously and produce its internal order.

The Facebook algorithm produces a stream which is at once unique and different for each user. In this sense Facebook is not a mass medium: each user inhabits a different Facebook, even if they access it at the same time. And yet the reciprocal relations which the user establishes through his/her social networks on Facebook make it probable – or, rather, less improbable – that some contents are anyway more visible and perceived as common experience within the networks themselves. In fact, as Adam Mosseri (Facebook's Head of News Feed) explains, the algorithm is designed so as to give greater weight to what is informative to the user:

> People expect the stories in their feed to be meaningful to them – and we have learned over time that people value stories that they consider informative. Something that one person finds informative or interesting may be different from what another person finds informative or interesting – this could be a post about a current event, a story about your favorite celebrity, a piece of local news, or a recipe. We're always working to better understand what is interesting and informative to you personally, so those stories appear higher up in your feed. (Mosseri, 2016)

Facebook's orientation towards what may be considered informative is apparently similar to what enables the mass media system to operate on the basis of the information/non-information code. But unlike the mass media system, Facebook takes account of what is informative or non-informative for the user. Even for information deriving from external sources, including the mass media, 'we began asking people to rank the informativeness of updates in their feed on a scale of one to five' (Mosseri, 2018).

Unlike the mass media system, here it is not possible to take the individual's passiveness for granted; indeed, behaviours and individual choices are integrated into the algorithm so as to orient other users in their future selections. In terms of the cybernetic framework, the example of Facebook (though it could be extended to the web and other platforms) simply brings us back to the distinction between the computer and its environment and between the machine and the user (Esposito, 2017): the user is simultaneously consumer and producer of contents, while the information processed by the machine is produced by the network itself through the algorithm. In this sense, social network sites can be considered as an emergent communicative phenomenon, i.e. as social systems which produce themselves by organizing their own component parts.

These elements are the contents generated by the users (UGC). They are selected and processed within the system on the basis of the technological structure mainly determined by algorithms, in other words by automatized information selection and control mechanisms which are characteristic of the autonomous functioning of such systems. The UGC represent the environmental variety which can be used within the system (hetero-reference). The communication situation which we find ourselves observing thus concerns human agents (users) and mechanical agents (computers and networks) and the ways in which contingency, i.e. the unpredictability of human communication, is managed and organized.

The level of complexity within the social network systems is conditioned by their reference environment being composed of other social systems to which they are related through structural coupling. In this sense, the mass media system, viewed from the side of the social network system, is a highly irritative environment inasmuch as many of the

contents shared by users come from the mass media. These contents include news sharing, entertainment products, advertising, i.e. the programmes of the mass media system. But, at the same time, what distinguishes the social networks from the other social systems is the structural coupling with systems of interaction: in other words the conversational exchanges of the users, generated by contents posted and shared. In this sense, Lee et al. (2010: 140) talk of an 'ether of interactivity': that is to say that 'as they read, type and click, participants in Facebook, MySpace and other social network sites reveal that the digital medium web 2.0 has fundamentally changed their ability to organise the complexity of communication, to reach and be reached by others, and to inform themselves with the self-reference of society'.

This way of characterizing the social networks as systems allows us to treat them as a specific environment for the mass media. The social networks are, in essence, a highly irritative environment precisely because they provide variety and support the ways in which the mass media come to treat as themes not only individuals but the potentially informative contents which users produce and share. Hence it could be said that the self-reference of the mass media system finds itself dealing today with a further aspect of hetero-reference which regards users as transmitters, and that this hetero-reference is peculiarly irritative (Boccia Artieri, 2012b). One particularly illuminating example of this is political communication, which, through recourse to social networks by politicians and citizens, has clearly undergone a process of disintermediation in recent years. In fact, the political statements which were formerly confided to official channels and broadcast by the mass media are now frequently consigned to politicians' profiles and accounts.

From the point of view of the mass media, the statements of politicians are information treatable as news by applying the selective criteria of the information programmes – for example, because the politician expresses an authoritative opinion (Luhmann, 2000). But in this case the platform which the politician uses is not merely the source from which the media glean the news, it is part of the news itself. Through their operations, the mass media assert their difference from the social network environment by attributing the utterance to what the politician had said on Facebook or Twitter. In other words, Facebook and Twitter become part of the news. The fact that press and television make use of the platforms, or that journalists use Facebook and Twitter professionally, is merely an expression of the fact that the internet can be considered a medium of dissemination; as regards *how* the communication is produced, we need to choose one or other side of the distinction from which to observe. If we observe from the viewpoint of the social network sites, the news media on Facebook or Twitter and, even more obviously, the journalist adapt both their language and the processes of disseminating the news to the logics of the platforms. Conversely, if we observe from the viewpoint of the mass media, the contents from the platforms are adapted to the languages of the media. This is all the clearer for the politician's statement on Facebook or Twitter being taken up and commented on by the users. The informative content (the statement), repeated in this way and made redundant, in turn produces a variety which is useful for the reproduction of mass media communication. The users can integrate information with other information (data, numbers, other statements), they can openly criticize or support the politician's statement by replying directly to him/her or to the comments from other users.

Sometimes it is the users themselves whose communicative behaviour generates forms of irritation which are organized through the logics of social network sites to which the mass media system is sensitive, for example the aggregation of individual contents through a hashtag. By means of its Trending Topics system, Twitter highlights what the system considers up-and-coming topics, according to a sort of attention ranking which recalls a media agenda without actually being one. This logic of visibility with a view to being taken up by the mass media system is at the root, for example, of many hashtag activism ventures (Segerberg and Bennett, 2011).

All this is to say that a feedback loop is triggered which, from the mass media viewpoint, serves to increase their internal complexity without jeopardizing their autonomy. The mass media are structurally coupled to an environment in which the social networks are active, and they, too, practise the observation of observation and represent a sphere in which the 'contribution' of individuals to communication is especially evident. Hence the mass media treat as information what they observe from the web environment and observe themselves in this relationship, adapting their internal structure and rendering it more complex. From this theoretical perspective, system and environment are not confused. Just as the platform – Facebook, Twitter, etc. – is not confused with its users, there is all the more reason for one system not to be confused with another, even when, as in the case of the relation between mass media and web, the level of structural coupling is decidedly higher.

Open conclusions

The aim of these pages has been to observe the contemporary media system in the light of Luhmann's media system. To do that we chose to treat the contemporary media system by adopting an ecological approach which endeavours to describe the complexity resulting from the joint presence of the mass media and the web environment, understood as a media of dissemination. More precisely, our analysis acts on the socio-cybernetic suggestion of preserving the distinction between system and environment as the starting point from which to probe the complexity of the relation between mass media and web. It is an alternative approach to those based on hybridization which blur the distinction between the two poles. This is why the web, as medium of dissemination, has been treated as a system distinct from the mass media, i.e. as its environment. The reasons underlying this choice also depend on the fact that the web as system presents some logic which can only partly be traced to the logic of the mass media. To begin with, the web, despite operating on the media's information/non-information code, cannot be considered a function system. We have pointed out how the first substantial difference between the mass media system and the web depends on the role played by individuals in reproducing communication. If in the mass media the individual is a theme, a social construct serving the system's self-reference and its functioning through programmes, in the web the user is a generator of content. For this reason it was decided to focus attention mainly on social network sites as the most salient expression of web 2.0 logic. At the same time, however, we were at pains not to lose sight of the fact that the web as system operates according to the logic of communication between machines, and so the UGC are not simply contents uploaded by

individuals on the web but, in their turn, themes processed within the platforms by means of the automatized control mechanisms, i.e. the algorithms. In this sense the web and its platforms are an autonomous, self-referential system which treats the contingency of the human environment for its own (communicative) purposes.

Mass media and web have therefore been treated on the basis of their relationship of structural coupling. From the standpoint for observing the web, the mass media supply a considerable part of the themes and the articulation between the spheres of news, entertainment and advertising is reflected, for example, in the interconnections between posts, comments and pages which feed the social networks. However, the logic of the stream – so different from television programming, for example – allows us to distinguish it clearly from the mass character of the media (the fact that everyone sees the same thing). The web, unlike the mass media, renders visible and treatable as information the conversations and exchanges between users which, over and above the weight decided by the algorithm, are fundamental to the communication loop. From the perspective of the media system, the web environment not only supplies themes and irritation opportunities which enable the system to reproduce itself, it becomes informative itself: a statement from Donald Trump on Twitter is informative per se and informative because it is on Twitter. However, this increased level of media context complexity also has important implications for the functioning of the mass media themselves. If manipulation has always been considered the media's original sin, it is equally true that the acceptance of media communication has never been questioned. But nowadays the social networks are the ideal environment for expressing disagreement with the media, as with prominent figures or social systems. Take the debate over fake news, or the dynamics of misinformation, or the debate which has opened up over various health issues where we find information from official channels along with personal opinions, direct experiences, etc. In short, we are witnessing a change of which it is not yet possible to predict the outcome, but which seems to indicate that the web environment may be creating problems for the role of the media, or perhaps for their authoritativeness, without, however, compromising their autonomy.

The decline of the media legacy in the face of the correspondingly greater weight accorded the social media in the individual's information diet (Bialik and Matsa, 2017) is allied to a growing distrust of the traditional media (Edelman Trust Barometer, 2018), which may mean no longer being able to take for granted that they can operate without consensus, blithely considering the audience as a 'parasite' of the system.

At the same time, we cannot say that the web and the social network sites represent a context of absolute centrality for the individual and the audience, in other words for the environment. More than the rhetoric associated with empowerment and the dynamics of personalization (of information, entertainment, etc.), what distinguishes web 2.0 is the exploitation of behaviours and individual choices, of contents generated and shared by users, to feed the algorithms and create the internal order. And, at the same time, the variety produced by individuals – which is persistent, visible, spreadable and searchable (boyd, 2014) – is used to increase the internal complexity of the system itself. The web user continually confronts this variety and the reduction and selection mechanisms, and is, at the same time, part of it. The user searches, so to speak, for information and, at the

same time, participates in its production and can observe this fact. So these levels of observation show how interaction with the web imposes, 'in practice', the second-order cybernetic model in which the observer is a part of what he/she observes (Esposito, 2017). In the same way, we again come across the observation of observations characteristic of the media, and further demonstrated in the web. The question which Luhmann poses at the end of his book on the mass media remains valid today, though the debate has shifted to the web and social network sites: '*how* is it possible to accept information about the world and about society as information about reality when one knows *how* it is produced?' (2000: 122).

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ORCID iD

Giovanni Boccia Artieri https://orcid.org/0000-0002-1398-7823

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Author biographies

Giovanni Boccia Artieri, PhD, is Full Professor in Sociology of Communication and Digital Media and Dean at the Department of Communication Sciences, Humanities and International Studies, University of Urbino Carlo Bo. He is coordinator of the PhD programme on Humanities. His main research interests revolve around media theory, with a specific focus on social network society and participatory culture.

Laura Gemini, PhD, is Associate Professor in Cultural and Communicative Processes at the Department of Communication Sciences, Humanities and International Studies of the University of Urbino Carlo Bo. Her research interests deal with the field of the performance studies in particular the relationship between performance, media, technological languages and audience studies.

Resumen

La intención de este artículo es observar el sistema de medios de comunicación contemporáneos a la luz del sistema de medios de Luhmann, es decir, un sistema social funcional específico que ha sido testigo de un aumento en la complejidad interna con respecto a un ambiente marcado por la expansión de las redes sociales y sus nodos.

Desde el punto de vista de la sociocibernética, la cuestión de la complejidad creciente puede abordarse desde un enfoque ecológico para analizar la distinción entre medios de comunicación masiva e internet – en su específica evolución 2.0, caracterizada por la generación de contenidos y algoritmos por el usuario. Este enfoque permite observar las relaciones de reciprocidad preservando la autonomía de ambas esferas sin recurrir a explicaciones relativas a la hibridación o la indefinición de límites.

En este sentido, el artículo analiza Facebook – como ejemplo de lógica operativa 2.0 – como un sistema social diferenciado del de los medios de comunicación. La primera diferencia sustancial depende del papel desempeñado por individuos en la reproducción de la comunicación y del papel del algoritmo. Los medios de comunicación y la red son analizados a partir de su relación de acoplamiento estructural, observando cómo los medios de comunicación e internet se molestan mutuamente al tiempo que mantienen su autonomía.

Palabras clave

Sistema de comunicación de masas, red 2.0, Niklas Luhmann, enfoque ecológico, sociocibernética, complejidad.

Résumé

L'intention de cet article est d'observer le système médiatique contemporain à la lumière du système médiatique de Luhmann, c'est-à-dire un système social fonctionnel spécifique qui a connu une augmentation de complexité interne dans un environnement marqué par l'expansion des réseaux sociaux et de leurs nœuds.

Du point de vue de la sociocybernétique, la question de la complexité croissante peut être abordée selon une approche écologique pour analyser la distinction entre les médias de masse et Internet – dans son évolution spécifique 2.0, caractérisée par la génération de contenu et d'algorithmes par l'utilisateur. Cette approche nous permet

d'observer des relations de réciprocité préservant l'autonomie des deux sphères sans recourir à des explications liées à l'hybridation ou à l'absence de définition des limites.

En ce sens, l'article analyse Facebook – en tant qu'exemple de la logique opérationnelle 2.0 – comme un système social différencié de celui des médias. La première différence substantielle dépend du rôle joué par les individus dans la reproduction de la communication et du rôle de l'algorithme. Les médias et le réseau sont analysés à partir de leurs relations de couplage structurel, en observant comment les médias et Internet se gênent mutuellement tout en maintenant leur autonomie.

Mots-clefs
Système de communication de masse, réseau 2.0, Niklas Luhmann, approche écologique, sociocybernétique, complexité.