

DOSSIER

# SETTING THE PUBLIC AGENDA IN THE DIGITAL COMMUNICATION AGE

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**ABSTRACT** - The agenda-setting theory is one of the powerful study fields in communication research. Nevertheless, it is not a settled theory. Recent studies based on big data indicate seemingly contradictory results. While some findings reinforce McCombs and Shaw's original model (i.e. the media set the public agenda), others demonstrate great power of social media to set media's agenda, what is usually described as reverse agenda-setting. This article – based on an interactional model of agenda setting building – indicates how such results are actually consistent with each other. They reveal a complex multidirectional (and to some extent) unpredictable network of interactions that shape the public debate, which is based on different kinds of agenda (thematic or factual) and time lengths (short, medium or long terms).

**Keywords:** Public Opinion. Agenda-setting Theory. Big Data. Political Communication

## A CONSTRUÇÃO DA AGENDA PÚBLICA NA ERA DA COMUNICAÇÃO DIGITAL

**RESUMO** - A teoria do agendamento é, até hoje, umas das mais poderosas peças intelectuais produzidas pela pesquisa em Comunicação. Entretanto, não se trata de uma teoria estabilizada. Isso porque estudos recentes baseados no processamento de dados massivos na Internet (big data) indicam resultados, aparentemente, contraditórios entre si. Enquanto alguns achados reforçam o modelo original de McCombs e Shaw (i.e. os media agendam o debate público), outros demonstram grande capacidade das mídias sociais em determinar a agenda dos media, o que se designa por agendamento reverso. Este artigo, a partir de um modelo interacional de construção da agenda pública, indica como tais resultados seriam coerentes entre si. Isso porque eles revelam, a partir do aludido modelo, a complexa, multidirecional e, em certa medida, imprevisível rede de interações que acabam por conformar o debate público em função de diferentes tipos de agendamento (factual e temático) e temporalidades (curto, médio e longo prazos).

**Palavras-Chave:** Opinião pública. Teoria do agendamento. Big data. Comunicação Política.

## LA CONSTRUCCIÓN DE LA AGENDA PÚBLICA EN LA ERA DE LA COMUNICACIÓN DIGITAL

**RESUMEN** - La teoría de la agenda setting es una de las más poderosas herramientas intelectuales producidas por la investigación en Comunicación hasta los días actuales. Sin embargo, no se trata de una teoría estabilizada. Esto se debe porque estudios recientes basados en el procesamiento de datos masivos en la Internet (big data) indican resultados, aparentemente, contradictorios entre sí. Mientras algunos descubrimientos refuerzan el modelo original de McCombs y Shaw (i.e. los medios agendan el debate público), otros demuestran una gran capacidad de los medios digitales en determinar la agenda de los medios, lo que se designa por agenda inversa. Este artículo, a partir de un modelo de interacción de construcción de agenda pública indica como tales resultados serían coherentes entre sí. Esto porque aquellos revelan, a partir del mencionado modelo, la compleja, multidireccional y, en cierta medida, imprevisible red de interacciones que acaban por conformar el debate público en función de diferentes tipos de agenda (factual y temática) y temporalidad (corta, media y largo plazos).

**Palabras claves:** Opinión Pública. Teoría de agenda setting. Big data. Comunicación Política.

### Introduction

The theory of agenda-setting is undoubtedly one of the most fruitful realizations ever made by communication research. It represents one of the few examples of communication theories that successfully made their results visible and known in other Human Sciences' disciplines. In Brazil, several studies indicate that this theory is also widespread and often applied in communication studies (BRUM, 2003; CERVI, MASSUCHIN, TAVARES, 2010; COLLING, 2006; FORMIGA, 2006; HOHLFELDT, 1997; MAIA & AGNEZ, 2014; SILVA, 2005; SILVA, 2014). The impact of agenda-theory would be so profound in Brazil that Barros Filho & Praça (2014) regard it as the theory with "the major insertion in the scholar literature on communication [studies]" (p.28).

Originally, this theory was in line with the American communication research that investigated the influence of mass media in shaping public opinion. In this regard, the McCombs and Shaw (1972) first study indicated that "though mass media may not be able to make people *what* to think about some issue, as the hypodermic theory aimed, they are able to influence them *what* to think and talk *about* (...)" (HOHLFELDT, 1997, p. 44, our emphasis). Generally speaking, the Chapel Hill study by McCombs and Shaw (1972) presented

evidence that the public agenda (i.e., the issues and subjects regarded as the most important at the moment) was strongly correlated with the media agenda (the issues and subjects of major salience in news coverage). This finding was followed by the reasoning that the public agenda would react to the media agenda by incorporating its most pronounced issues.

In contrast to this initial milestone, we can already identify a subset of studies (BROSIUS & WEIMANN, 1996; MAIA & AGNEZ, 2014; SHEHATA & STRÖMBÄCK, 2013; WEIMANN, 1982) with theoretical and methodological refinements enough to overcome the understanding of a linear and unidirectional flux (from news media to the public) as the most accurate and relevant to describe how public agenda emerges in contemporary societies. In this respect, Brosius & Weimann (1996, p. 563) present an informative and synthetic literature-review describing additional and alternative paths to this unidirectional and linear image of agenda-setting.

By concatenating the main research made over the last 40 years, we may then identify substantial evidence that multiple and cyclical communication fluxes set the public agenda. In this scenario, audiences are not solely recipient of (and reacting to) media agenda, but are also taking active part in this process. As a result, public agenda would not be determined by media agenda, but rather it would be a social construct of interaction between multiple agents and social systems.

Nevertheless, the theoretical debate is far from being settled since recent studies based on online big data (LESKOVEC et al, 2009; CHA et al, 2010; NEUMAN et al, 2014; YANG & LESKOVEC, 2011) seem to block attempts of establishing an unambiguous confirmation of any agenda-setting model at stake. This is because whereas some of these studies reinforce the original model by McCombs and Shaw, others demonstrate the force of reverse agenda-setting, which consists of transferring the salience of issues in public agenda into media agenda.

In face of that, we identify the following research problem: for what reasons do these studies suggest results so contradictory to each other? This paper aims to answer this question by proposing an interactional model of agenda-setting building. We produced this model comparing published academic papers that undertook literature review on the agenda-setting research made over the last decades. Afterwards, we engaged in critically synthesizing studies

based on time series (both from public and media agendas). By crossing such efforts, we came up with a model that understands the aforementioned results as mutually consistent with each other.

This becomes possible as soon as one realizes that these studies reveal different kinds of agenda-setting in terms of type (thematic or factual agenda) and time length (short, medium or long term). By combining these types and time lengths we propose a model with seven distinct (yet, complementary) dynamics of a cyclical agenda-setting building. A model that – though being interactional and cyclical – presents agents and institutions with asymmetrical power relations. Hence, some with more agenda-setting power than others.

With the purpose of presenting our model, this paper is organized in five sections. In the first one, we briefly present an overview of agenda-setting theory. There, we identify the theoretical and methodological aspects that culminate in the aforesaid research problem. In the two subsequent sections, we explore each set of studies that seems to present contradictory conclusions on how public agenda is shaped in the digital communication era. In the fourth section, we elaborate on how each previously mentioned study fits into our proposed model. For this reason, section 4 has subdivisions devoted to explicate the model's specific dynamic and each one of its constituents. The goal of the following section is presenting the model as a whole, emphasizing its processes and also the relevance of structural constraints for agenda-setting – such as the relation of media with the political system. Finally, we conclude the paper with some considerations on the limits of the proposed model and on the necessity of empirical and methodological appropriate studies for testing the model's explanatory power beyond the Anglo-Saxon world.

### **1. Big data and agenda-setting: methodological refinements, theoretical deadlocks**

Several methodological improvements have been made in the methodological framework presented by the first study of McCombs & Shaw (1972). This framework consists of two main elements: (a) survey data; and (b) media content analysis for identifying the salience of issues in news coverage. The next step is establishing causal relations between these two data sets (cf. McCOMBS & SHAW, 1972).

Over 40 years of ongoing research, from those 100 survey interviews correlated to media content analysis, many subsequent works introduced more methodologically coherent procedures with the hypothetical construct of agenda-setting theory (cf. BROSIUS & KEPPLINGER, 1990; BROSIUS & WEIMANN, 1996; SHEHATA & STRÖM-BÄCK, 2013; NEUMAN et al, 2014). Among them, we underline the following ones: use of more representative samples, gathering of more comprehensive data regarding the public agenda (panels, longitudinal surveys produced by research institutes etc.); and application of statistical models that effectively embrace time series and variance of issues' salience over time (op. cit.).

Among these innovative procedures, tracking the salience of issues over time seems to be the most efficient in terms of enabling the research team to identify who actually sets the agenda. This is because correlations merely show that two data sets (from media and public agenda) simultaneously realize some specific issues as more salient or relevant in the current public debate than others. Nevertheless, this kind of measurement does not show which of these agents (if media or the public) started to give attention to an issue and which of them followed the lead. This becomes possible only when one tracks the salience of issues over time in both sections (media and the public).

In face of the large expense in cost and time of the chronological tracking, few large scale researches were undertaken before the availability of big data on the internet. Among these studies, we highlight those led by the German scholar Hans-Bernd Brosius (BROSIUS & KEPPLINGER, 1990; BROSIUS & WEIMANN, 1996) due to the comprehensiveness of their content analyses and the time frame of their (several) surveys. The study by Adam Shehata & Jesper Strömback (2013) undertook a panel analysis<sup>1</sup>, which is a methodological procedure even more advisable. In contrast, its time period was much shorter than those from the other researches, and only two rounds of interview were undertaken.

These researches as a whole replicated a rather questionable assumption coming from the first study by McCombs and Shaw (1972). This assumption consists of taking as reliable and valid the data provided by surveys on consumption patterns of media outlets and on the relevance respondents ascribe to issues.

Problems of validity and reliability might be found mainly in

the two following aspects: (a) self-report data are susceptible to the unavoidable imprecision of memory's respondents about their own actions, such as which media outlets they get exposed and how much time they spend consuming each of them; (b) ascribing relevance to some issue not necessarily translates itself into discursive engagement (debate) with other citizens about that issue. As a result, assuming such data as valid reveals a plebiscitary conceptualization of public sphere<sup>2</sup>.

One of the main advantages of big data researches (LESKOVEC et al, 2009; CHA et al, 2010; NEUMAN et al, 2014; YANG & LESKOVEC, 2011) is their capacity to overcome such limitations. Besides, these investigations collect their data not from some sort of external *stimuli* (e.g. asking questions to respondents), but by collecting user-generated content in social networking sites (SNSs), without much of the researcher's interference. Thus, they offer a strong reduction (or even a complete elimination) of reliability problems and biases that different methods of survey present by influencing cognitive aspects of respondents' replies. Moreover, data collected by bots present a regularity and simultaneity that manual collection just cannot offer.

Taking all of this into account, we might argue that studies based on big data extracted from the internet present great methodological refinements. Something is absolutely clear, though; specifically, that these researches did not bring any settlement for agenda-setting theory in their sets of results. This is because while some of these results seem to confirm the original model by McCombs & Shaw, others turn out to be fundamentally contrary to it. Therefore, we see methodological leaps, but also theoretical deadlocks even more pronounced than before.

This paper faces such a problem by arguing that these deadlocks might be solved as soon as we draw some distinctions between different agenda-setting types and time-lengths, and when one begins to understand the process of agenda-setting building with the due force of its meaning. This implies interested and interactive actions between different sorts of agents and institutions. In order to clarify such distinctions, in the following sections we will explore studies that are confirming and contesting the original model of agenda-setting theory, respectively.

## 2. Confirming the original model

Some of the studies devoted to measure mass media's fluxes and agenda *vis-à-vis* those from audiences in SNSs reinforce the causal relation pointed out by previous evidence on the nature of media's power in setting public agenda *in the first place*. Regarding this previous evidence, Renita Coleman and colleagues review some findings<sup>3</sup> of Chapel Hill's subsequent studies:

With high correlations between the media and public agendas established, the next step was to show a causal connection and the time sequence. Were the media setting the public agenda, or the public setting the media agenda? The second major project was a panel study conducted in Charlotte, North Carolina, during the 1972 presidential election that found +.51 correlation over time from the media to the public, but only a +.19 correlation from the public to the media (...) (COLEMAN et al, 2009, p.148).

This causal relation seems to receive confirmation from a certain number of studies that use big data available online in order to track diffusion of objects or issues in the digital environment.

Cha et al (2010), for example, point out that in the *Twitter-sphere* objects (hashtags or key-words) with the highest level of diffusion – and, consequently, with broader audience – are those spread by traditional mass media outlets. In this regard, the authors conclude that “mass media is necessary and sufficient to reach a majority of Twitter audience” (p. 994).

Similar evidence was presented by Jaewon Yang & Jure Leskovec (2011), who tracked memes and organized them in two data sets. One of them composed of 580 million Tweets, and the other of 170 million blog posts and news media articles. Their “results hint that the adoption of quoted phrases tends to be much quicker and driven by a small number of large influential sites” (YANG & LESKOVEC, 2011, p. 09). As a result, a small number of powerful spreaders seems to keep steering public attention.

This robust data suggest that the early steps of the communication cycle seem to be very much the same of the mass communication era, especially concerning to a relatively stronger power of mass media in setting public debate than the other way around.

However, other researches – both before and afterwards the use of online big data – suggest precisely the opposite. The following section will present this other side.

### 3. Mutual and reverse agenda-settings

An alternative to the unidirectional perspective of agenda-setting appears shortly after the first study by McCombs & Shaw – more precisely in 1975 by the work of Karen Siune and Ole Borre, who investigated agenda-setting during a Danish election. In their study, the authors already propose that “the rise of political issues in an election is the result of an interaction process involving voters, party leaders, and the mass media” (SIUNE & BORRE *apud* EICHHORN, 1996, p. 40).

It was precisely this conceptualization of an internally differentiated audience in its more passive and active sections that established the theoretical framework of Brosius & Weimann (1996). In their research, the authors designate the more active audience's sections as *early recognizers* and, according to the study, these were exactly the key players in setting the agenda both from media and the public (p. 576). The authors also argue that their results do not confirm unequivocally any of the tested agenda-setting models<sup>4</sup>. Thus, they argue that:

(...) all the four models may be true, depending on the timing and the issue. The flow of issues between the media and the public is found to be more complex than a one-step, one-directional flow (media to public). First, the public is not a monolithic and passive recipient of the media agenda. Within the public, there are certain individuals who are more active in identifying emerging issues and in diffusing them to the public or the media agenda. (p. 575).

The study of Brosius & Kepplinger (1990) had already identified this adventitious scenario in which media lead the salience of some issues and the public, others. This leadership (or influence) by the public is, then, known as reverse agenda-setting, which is the main alternative model in the corresponding theory. Realizing this variability of leadership's roles, the authors suggest that “at a given moment, some issues can be in a stage of media influence and others in a stage of public influence, with the direction of influence possibly changing at various stages” (p. 205).

This implies that, depending on the moment the research chooses to track the public attention given to an issue, a certain agenda-setting model might be confirmed and, in a second moment, another. Accordingly, studies with long-term analyses and embracing several issues are appropriate for verifying which model is more efficient to describe public agenda dynamics.

In search for these suitable conditions for a more comprehensive and exhaustive testing of the most efficient agenda-setting models – at least of the main models in dispute (media → public) X (public → media) – the team led by Russel Neuman (2014) hired a Canadian enterprise specialized in monitoring online content to collect and track cycles of attention given to 29 issues over a year. The data collection gathered traditional news media outlets in order to compose time series of media agenda and, under the goal of producing time series for the public agenda, the assemblage included social networking sites like Twitter (100 million active users), blogs (160 million) and discussion forums (300.000) (NEUMAN et al, 2014, p. 193)<sup>5</sup>.

By holding this impressive data, the authors undertake a reasonably sophisticated analysis of public attention dynamics based on the 29 issues under tracking. According to them (NEUMAN et al, 2014, p. 204), 18 issues presented stronger evidence in favor of reverse agenda-setting (public → media) and 11 issues had more pronounced results indicating the classical causal direction (media → public). For six issues, in turn, the research team found statistical evidence for mutual reciprocal causality (public ← → media).

However, the authors are cautious and do not make the naïve analysis of taking statistical calculations as the exclusive criteria for assessing causal relations. By examining carefully some cases and typical aspects of time series from each sector under analysis, the authors, then, realize that rather than a unidirectional agenda-setting, the data seem to describe the distinct dynamics of each sector. Therefore, each of them would be reacting with their own pace and rhythm to events perceived commonly as relevant by both sectors (*ibidem*). This means that albeit social media would be more frenetic, with an almost instantaneous reaction to such events, mass media outlets would react more slowly due to the publication pace of newsmaking and their organizational constraints.

Regardless the degree of the authors' conviction in confirming the statistical results favoring the reverse agenda-setting model, the fact is that the research team led by Neuman presents a quite different picture from the classical agenda-setting model – in which media have great influence upon the public. Moreover, this research seems to blatantly contradict the findings we have reviewed in the previous section of this paper.

We argue that these contradictions may open space to the rise of a coherent explanatory framework. This becomes possible as soon as we start to realize that the aforementioned results are equally valid, but for distinct agenda-setting types (thematic and factual) that present different dynamics in function of distinct time-lengths (short, medium and long terms).

#### **4. For a unified model**

This paper argues that the studies and results we have discussed in the two last sections – although seemingly contradictory to each other – may take part of a consistent view on how public agenda is shaped. This becomes possible provided that we draw the due and necessary distinctions to understand how different agenda-setting types (factual and thematic) present differentiated dynamics depending on the variety of their time-lengths (i.e., short, medium or long terms). Thus, we have initially six possible combinations of agenda-setting, namely: (1) factual of short term; (2) factual of medium term; (3) factual of long term; (4) thematic of short term; (5) thematic of medium term and, finally (6) thematic of long term. However, we will see that the combination “factual of medium term” presents two subdivisions. Therefore, in total we have seven dynamics of agenda-setting, which are synthesized on Table 1. Hereinafter, we examine each dynamic and its corresponding specificity<sup>6</sup>.

##### **(a) Factual of short term**

In the second section of this paper, we introduced some studies that seem to confirm the original model by McCombs & Shaw as essentially valid for explaining how public agenda is shaped in the digital communication age. However, many differences are at stake. Starting with the fact that the aforementioned studies found a strong mass media’s agenda-setting power not concerning issues – as was the case of the original work by McCombs & Shaw – but concerning facts and celebrities’ statements (LESKOVEC et al, 2009; YANG & LESKOVEC, 2011). In fact, mass media keep being – almost undoubtedly – the most powerful players precisely in this more factual than thematic agenda-setting.

## **(b) Factual of medium term**

### *b.1 – Remaining factual:*

By turning our attention to the dynamics of medium term, then the scenario becomes even more complex. According to the study by Cha et al. (2010), opinion leaders (*evangelists*) obtain more diffusion and propagation of certain key-words and hashtags in the scope of a longer time-length (above 15 days). In any case, the same study shows that mass media outlets concentrate most portion of audience's share, despite the fact that they post (publish) a much lower quantity of content than other players. Thus, when we restrict our look to the factual aspects of public attention, then mass media keep holding their position as the most powerful players in the agenda-setting building.

### *b.2 – Transformation of factual into thematic agenda-setting*

Nevertheless, in the preceding studies there are also evidence of a feedback by audiences regarding the factual agenda-setting steered by mass media. In the medium term, this feedback might produce a *thematic* reverse agenda-setting (public → media). This sort of evidence had been already identified even before the digital communication age. This was the case of the study by Brosius & Kepplinger (1990) regarding the *energy supply* issue. The study shows that the Chernobyl accident triggered a massive coverage of the event, resulting in a factual agenda-setting (media → public). This was followed by a strong interest of audiences in the *energy supply* issue (factual → thematic). Thereafter, a pronounced news coverage on the same topic took place, which gave support for a *thematic* reverse agenda-setting. As a result, we have the following kind of medium term agenda-setting: media (factual) → public (factual → thematic) → media (thematic).

Something similar might be inferred by concatenating more recent studies that use big data captured from online social media. In this regard, Leskovec and colleagues (2009, p. 07) point out that “thread volume in news sources increases slowly but decreases quickly, while in blogs the increase is rapid and decrease much slower”. Equivalent results were found by Xenos & Kim (2008, p. 496) in relation to the longer time frame that the blogosphere held the Alito nomination in its agenda than New York Times did.

These studies are in line with the communicational phenomenon predicted by the subsequent moment of factual agenda-setting (the one of thematic transformation), especially when one notices that “those

going online for political information, often from political blogs, are more likely to be ‘opinion leaders’” (XENOS & KIM, 2008, p. 488). Since these social media (like blog, microblogs, etc.) are arenas often used by opinion leaders and the most active parts of the audience, then we find over there a typical sphere for repercussion (*repercussão*)<sup>7</sup> of facts diffused by mass media. In this kind of repercussion, audiences engage in debating and (re)framing these facts. At a second moment, we may consequently identify a thematic agenda-setting from these audiences to the media (public → media), more precisely a reverse agenda-setting.

### **(c) Factual of long term**

All in all, we realize that audiences – especially their most active sections – are more powerful in thematic agenda-setting. This is because in the factual dimension (even over a long term) news media still hold an active and prominent role. A possible explanation for this may lie on the fact they have privileged access to information sources and concentrated resources – as well as required procedures to feed constantly the public sphere with reliable information on events that audiences do not have direct access to, such as wars, political decisions in foreign countries or in institutions holding low transparency levels. In spite of the absence of online big data studies tracking factual agenda-setting over long term, to our best knowledge there is no reason or evidence to believe the findings of Funkhouser (1973) regarding the Vietnam War would be substantially different from more recent cases, like the Civil Syria War or the ISIS’s terrorist attacks.

### **(d) Thematic of short and (e) medium term**

As previously said, thematic agenda-setting presents a much more balanced power relation between media and audiences concerning their agenda-setting capacity. In this regard, a further assessment and interpretation of Neuman and colleagues’ (2014) work shows that their results are fundamentally in alignment with those presented by Brosius & Weimann (1996). In the latter, the authors demonstrate how the most active audience sections appear as key elements for understanding the *interactional* dynamics that attach media agenda to the public agenda in the medium term (above 14 days).

Neuman and colleagues research (2014) indicate essentially the same for a short time frame (1-14 days) by measuring the public agenda

using big data automatically retrieved from SNSs (therefore, user-generated content). By these means, their investigation analyzed data only from individuals going online to debate and share topics, excluding everybody else. Thus, this method has a bias in favor of the most active audience's individuals, who comment and express their ideas about public affairs more constantly and intensively than the lurkers or those who use offline environments to debate and collectively make sense of issues under discussion in the public agenda. Accordingly, we may say that, even though being robust and reliable, the data set used by Neuman et al. (2014) does not offer a valid diagnostic for the public agenda in its broadest sense – which includes its plebiscitary dimension – but only for the agenda of the most active (both discursive and technologically) section of the public.

Having said that, results of the research at stake are congruent with those presented by Brosius & Kepplinger (1990), in so far as the most plausible effects within a short time frame (1-14 days) occur in the form of a mutual reciprocal relation and, so, as an *interactional* relation between mass media and their audiences.

By plausible we mean a kind of analysis that compares results of statistical tests with those dynamics that become recognizable after considering the epistemological limits of same tests. Thus, rather than simply endorsing these statistical results (which indicate a predominance of reverse agenda-setting), it is possible that, after all, social and mass media are reacting to same events, but with different rhythms (NEUMAN et al, 2014). The authors sum up this reasoning as follows: “Both crowds and the professional journalists are reacting to a shared perception that an event is significant and each is responding according to its own natural dynamic.” (p. 204).

### **(f) Thematic of long term**

This kind of agenda-setting is well documented concerning the issues of civil rights and racial relations in the USA, specifically in the 1960s (McADAM, 1996; FUNKHOUSER, 1973). These studies demonstrate that the Southern Christian Leadership Conference (whose one of its main leaders was Martin Luther King Jr.) organized some actions - especially those followed by broadcastings of the brutal beatings of peaceful protesters by white policemen - were decisive for a broad news coverage on these matters and, as a result, for making these issues as the most important at that moment to the general population.

Therefore, these studies provide evidence for a kind of agenda-

setting in which counter-publics strategically use news factors (conflict, personalization, etc.) in planned and continuous actions in order to grasp media and public attention to their issues. Irruptive events, when continuously performed in parallel to a discursive and mobilizing political action, may produce over the long term the following kind of agenda-setting: (counter-publics agenda → media agenda → the public agenda). Studies on collective action by social movements and their relation to the media often mention such a process (see MAIA, 2009; MENDONÇA, 2008). Table 1 summarizes this, so as the previously described dynamics.

**Table 1** - Agenda-setting model based on agenda types (factual x thematic) in function of time-lengths (short, medium and long term)

Type	Time-length	Causality direction	EXAMPLES (REFERENCES)
<b>Factual</b>	Short term (1-14 days)	Media => Public	Memes propagation (Leskovec et al, 2009; Yang & Leskovec, 2011)
<b>Factual</b>	Medium term (1) = Remaining factual Medium term (2) = Factual transforming into thematic	(1) Media => Public (2) Media (factual) => Public (thematic) => Media (thematic)	(1) Iran elections (Cha et al, 2010) (2) Chernobyl => energy supply (Brosius & Kepplinger, 1990)
<b>Factual</b>	Long term (years)	Media => Public	Vietnam War (Funkhouser, 1973)
<b>Thematic</b>	Short term (1-14 days)	Mutual* (Public <=> Media)	International relations and public debt (Brosius & Kepplinger 1990; Neuman et al, 2014)
<b>Thematic</b>	Medium term (months)	Mutual* (Public <=> Media)	Criminality, unemployment (Brosius & Weimann, 1996).
<b>Thematic</b>	Long term (years)	Counter-publics => Media => Public	Civil Rights, racial relations, and focus of elections coverage (Funkhouser 1973, McAdam, 1996; Hallin, 1992)

Source: authors

\* Issues of social concern or public order (e.g. criminality, unemployment, abortion etc.) tend to present a causal direction having the public as starters (public => media).

## 5. Politics, social structure and the model as a whole

In the last section, we have discussed the point of Neuman and colleagues (2014) that agenda-setting takes shape as a result of a common perception between audiences and journalists that some events and issues are relevant. On this matter, Eilders (2006) makes an important contribution by identifying some news factors that explain how some issues and political agents are constructed as relevant not only by media professionals, but commonly with their audiences. From this vantage point, she points out:

(...) journalists and recipients process world events in very similar ways. Thus, the picture of reality presented by the media cannot be seen as systematically restricted by the application of exclusively journalistic selection criteria, but essentially meets the audience's relevance assignments. (EILDERS, 2006, p. 19).

We may (re)-interpret some unfolding developments produced within the traditional research line of agenda-setting when we take into account precisely the reasoning by Christiane Eilders in relation to the generally shared nature of these relevance criteria (news factors) between journalists and audiences. By reviewing the most recent literature (from 1970's to 2008) within this long established theoretical approach, Renata Coleman, Mashwell McCombs, Donald Shaw and David Weaver say that "agendas of leading newspapers [...] are still so strongly correlated to the national agenda" (COLEMAN, et al, 2009, p. 157).

In order to realize the interactional and, at the same time, structural nature of agenda-setting building, it is appropriate to recall that who set, to a large extent, the national agenda is precisely the political system. In this respect, we may say that the political system grasps so much attention from news media and sets its agenda so frequently that we can state that the political system's agenda-setting power is not eventual, but structural. For example, different studies made in Brazil demonstrate the almost absence of civil society actors in the primetime of the leading media outlets while politics takes a substantial part of their news coverage. Their attention is, hence, largely devoted to politicians in the highest ranks of the political system (GOMES, 2010; MIGUEL, BIROLI, 2010).

Taking into account the power of the political system in setting the media agenda, we could ask then who set the agenda of the

political system, after all? By insisting in this kind of question, the resulting answers tend to be circular because “in its retroactive form, the politics’ world needs to find out what is the audience’s primary agenda.” (GOMES, 2004, p. 159). This is because political sphere needs to speak in accordance to audiences’ interests through the public visibility controlled by the information industry in order to reach out citizens, especially its possible voters (*Ibidem*; MIGUEL, BIROLI, 2011).

Resuming our discussion about the agenda-setting building, we accentuate its *interactional* nature as the *sine qua non* feature of a model that aims to unify the seemingly contradictory results we have reviewed in this article. Nevertheless, we are making reference to interactions with asymmetrical power relations and, wherefore, that are structurally shaped. Thus, the fact of media having its agenda considerably set by the political system also reveals, more than an interactional, a structural dimension of how agenda-setting is built. This because by observing the transference of issues’ salience from the political system into the media system is possible to foresee and identify patterns of force relations among agents in their corresponding agenda-setting capacity (GOMES, 2004, 2009; HABERMAS, 2008; MAIA, 2009; MIGUEL, BIROLI, 2010, 2011).

The most noticeable example is the elections. The political system is what determines their realization period (their “when”) and during this period it is possible to envisage with a high confidence level that both media and the public will be thinking and debating about elections<sup>8</sup>.

Besides, it is also insightful realizing how, in the structurally organized interactions that attach media to the whole social system, several political actors might strategically use broadly shared relevance criteria (both by media professionals and audiences) in order to propagate new political agendas in society. Thus, when more active and adversarial publics manage efficiently these relevance criteria, then we may see public agenda giving attention to issues that presented no salience by then (HABERMAS, 2008; MAIA, 2009; MENDONÇA, 2008).

The agenda-setting model we are proposing in this paper states that when these opinion leaders and counter-publics accumulate enough force to issues and inputs, they produce communicative fluxes into media direction, offering them information on audience’s leanings regarding the issues and inputs at stake. Such

information tends, in turn, to influence the media system output and its thematic agenda-setting in a long-term perspective. This flux of influence corresponds to the *critical-interpretative media subsystem* (BRAGA, 2006).

### Concluding remarks

This paper sought to organize the debate on the agenda-setting building in the digital communication era by focusing on researches based on online big data. We have argued that agenda-setting building organizes and (re)organizes itself in a multidirectional flux of discursive interaction. Yet, some of the studies use sophisticated methods that help us to realize that the force direction of agenda-setting varies in accordance to the time-length (short, medium and long terms), the type of agenda (factual or thematic), and incidental elements.

In view of that, we have proposed that agenda-setting is an interactional social construction shaped by structures with asymmetrical power relations. These structures embraces, at the same time, predictable and unpredictable dimensions (respectively, resulting of structural and non-structural processes). In order to didactically sketch this understanding, we have presented seven dynamics that disentangle some of the agenda-setting mechanisms, precisely as follows: (1) factual of short term; (2) factual of medium term remaining factual; (3) factual of medium term changing to thematic (4) factual of long term; (5) thematic of short term; (6) thematic of medium term and, finally (7) thematic of long term. These dynamics are organized in Table 1, just above.

Thus, whereas the structural dimension allows foreseeing that every two years elections become a salient issue in the public agenda (both in the traditional and social media), the non-structural dimension does not enable any prediction about when will occur an event like September 11, 2001 or a irruptive social movement that will change the top public concerns in the public sphere (see MAIA, 2009; MENDONÇA, 2008). This erratic dimension also does not allow predicting which will be the agenda-setting impact of the same events in audiences because they behave differently in function of the historical time and the distinct reservoir of taken-for-grantedes produced by each society's lifeworld.

Precisely for this reason, we sustain that any application of our proposed model finds hurdles to be entirely valid beyond the sociopolitical realities where the discussed studies were undertaken. The most part of these studies were conducted either in USA or Germany. To our best knowledge, the methodological refinement of these researches is not yet well diffused in Brazil. The national state of the art seems to keep insisting on unidirectional fluxes since the main concern is testing the agenda-setting power of news media in relation the public, and the intermedia agenda-setting<sup>9</sup>. According to Maia & Agnez (2010), the main focus in the Brazilian research has been exclusively devoted to the media agenda. This implies an assessment restricted to issues and objects of the news coverage (usually undertaken by content analysis). Therefore, this kind of research tends to infer possible consequences in the public, but without actually verifying them<sup>10</sup>. Consequently, this reinforces – explicitly or not – traditional paradigms of media influence, specifically those that assume audiences as passive entities in relation to media messages (MAIA & AGNEZ, 2010; BARROS FILHO & PRAÇA, 2014)<sup>11</sup>.

This absence of national researches relying on surveys and online big data seems to us strongly related to the operational limits of Brazilian research, namely: (a) while this kind of investigation is expensive, financial resources to Human Sciences are relatively low and insufficient to realize this kind of project; (b) the prevailing of a traditionally *individual* structure of research, which only recently watched the creation of research centers with their staff working jointly, not in a isolate way, and (c) the inaccessibility of longitudinal data and methodologically stable (collected and produced with the same procedures) regarding both the public and media agendas<sup>12</sup>.

Albeit these limitations cannot be solved in a short term, we hope this discussion and the organization of the seven main dynamics of agenda-setting we have presented in this paper might be useful for renewing the teaching and researching on agenda-setting theory. A sort of renewal that seeks to investigate how public agenda is built by multidirectional fluxes revealing, at the same time, structural and adventitious aspects of public sphere.

## NOTES

- 1 The overall difference between panel analyses and surveys is that whereas panel analyses select the same individuals over different rounds of interview, surveys select randomly their interviewees.
- 2 See Barros Filho & Praça (2014); Maia & Agnez (2014).
- 3 The work by Funkhouser (1973) also attest something similar and was published just one year later than study by McCombs & Shaw (1972).
- 4 They test four different models. The first corresponds to the classical two-step flow of communication model (media agenda → opinion leaders → public agenda); the second describes a reverse two-step flow of communication model (public agenda → opinion leaders → media agenda); the third predicts opinion leaders setting media agenda (opinion leaders → media agenda → public agenda); and finally, the fourth indicates a reverse two-step flow of communication having opinion leaders as starters (opinion leaders → public agenda → media agenda). (Brosius e Weimann, 1996, p. 566).
- 5 See Primo (2011) and Silva (2014) for a specific discussion on the impact of blogs in newsmaking and in agenda-setting. See Castro (2014) for a literature-review on Brazilian studies that investigated the relationship between internet and agenda-setting.
- 6 We understand that even these seven dynamics result from a complexity reduction. For this reason, a much broader spectrum of dynamics could be found.
- 7 Translation note: According to Lycarião & Dos Santos (2016): "In Portuguese, the term 'repercussão' seems to be more accurate than the equivalent English word 'repercussion' because 'repercussão' might be either a positive or a negative positioning produced by audiences [e.g. opinion leaders] in relation to a public statement or interpretative input such as a meme, a joke, a Congressman declaration, and so on." (p.14).
- 8 Political campaigns take place especially during this period. Overall, the free publicly-sponsored electoral broadcasting time – known in Portuguese as *Horário Político Gratuito Eleitoral* (HPGE) – and digital campaigns, in specific, actively try to influence the media and the pub-

- lic agendas. See Silva (2005) and Cervi, Massuchin, Tavares (2012) for a further discussion on agenda-setting theory during elections.
- 9 We reviewed the national literature by searching the key-words “agenda-setting” and “agendamento” on the Google Scholar. We checked out all the articles found in the first 20 pages displayed this search-engine. By looking the quantity of the overall results we might be lead to the incorrect impression that there is a wide and well developed literature field. Actually, we noticed that there are many incompatible results with our purposes (i.e. agenda-setting in public policies) or simply minor mentions to the theory. We also identified a considerable amount of articles receiving any citation at all. Therefore, we tried to focus on work with higher impact, especially those that had already undertaken a comprehensive literature review.
  - 10 An exception is the study by Cervi, Massuchin, Tavares (2012), which effectively compares content analysis of media material with survey data. Their study case presented evidence that there wasn't a commonly shared agenda between the public and the media.
  - 11 Our literature review is in line with the analysis of these authors.
  - 12 In the case of United States, many of the studies we have reviewed used data provided by the Gallup Institute in order to identify the public agenda. For the media agenda (yet, less often) a usual source was the Pew Research Center. In the case of Germany, we might point out the *Institut für Demoskopie Allensbach* and *the Konrad-Adenauer-Stiftung*, respectively.

## REFERENCES

BARROS FILHO, Clóvis; PRAÇA, Sérgio. Agenda setting, newsmaking e a espiral do silêncio [Agenda-setting, newsmaking and spiral of silence]. In: CITELLI, Adilson et AL (Eds.). **Dicionário de Comunicação: escolas, teorias e autores** [Communication Dictionary: schools of thought, theories, and authors]. São Paulo: Editora Contexto, 2014, pp. 25-35.

BRAGA, José Luiz. **A sociedade enfrenta sua mídia** – dispositivos sociais de crítica midiática [Society confronting its media: social mechanisms of media criticism]. São Paulo: Paulus, 2006.

BROSIUS, H. B.; KEPPLINGER, H. M. The agenda-setting function of television news. **Communication Research**, v.17, n.2, pp.183-211, 1990.

BROSIUS, H. B.; WEIMANN, G. Who Sets the Agenda Agenda-Setting as a Two-Step Flow. **Communication Research**, v.23, n.5, pp.561-580, 1996.

BRUM, Juliana. A hipótese do agenda setting: estudos e perspectivas [Agenda-setting hypothesis: studies and perspectives]. **Razón Y Palabra**, n. 35, 2003. Available in: <http://www.razonypalabra.org.mx/anteriores/n35/jbrum.html>. Access on: Jul. 26 2016.

CASTRO, Davi. **Agenda-setting e Internet: tendências e perspectivas de pesquisa [Agenda-setting and internet: trends and research perspectives]**. 2014. Master Thesis (Master in Communication)- Graduation Program in Communication . Brasília, Universidade de Brasília, 2014.

CERVI, Emerson Urizzi; MASSUCHIN, Michele Goulart; TAVARES, Camila Quesada. Agenda da mídia, dos políticos e do público na campanha eleitoral de 2010 [Agendas of media, politicians, and the public in the 2010 electoral campaign]. **Revista Debates**, v. 6, n. 1, pp. 237, 2012.

CHA, M.; HADDADI, H.; BENEVENUTO F.; GUMMADI, P. K. Measuring User Influence in Twitter: The Million Follower Fallacy Proceedings of the fourth international AAAL conference on weblogs and social media, Menlo Park, CA, USA, pp. 10-17. Menlo Park, CA, USA. Available in: <http://www.aaai.org/ocs/index.php/ICWSM/ICWSM10/paper/viewFile/1538/>. Access on: Jul. 26 2016.

COLEMAN, Renita.; McCOMBS, Maxwell.; SHAW, Donald.; WEAVER, David. Agenda Setting. In: JORGENSEN, Karin Wahl e HANISTSCH, Thomas (Eds.). **The handbook of journalism studies**. London, New York: Routledge, 2009, pp.147-160.

COLLING, Leandro. Agenda-setting e framing: reafirmando os efeitos limitados. **Revista Famecos: mídia, cultura e tecnologia**, v. 1, n. 17, pp.88-101, 2006.

EICHHORN, W. **Agenda-setting prozesse: Eine theoretische analyse individueller und gesellschaftlicher themenstrukturierung**. München [Agenda-setting processes: a theoretical analysis of individual and social thematic structuration], Germany: Fischer, 1996. Available in: <https://core.ac.uk/download/files/454/12161958.pdf>. Access on: Jul. 26 2016.

EILDERS, Christiane. News factors and news decisions. Theoretical and methodological advances in Germany. **Communications**, v.31, n.1, pp.5-24, abr. 2006.

FORMIGA, Fábio. **A evolução da hipótese de agenda-setting [Evolution of agenda-setting hypothesis]**. 2006. Master Dissertation (Master in Communication) – Graduation Program in Communication. Brasília, Universidade de Brasília, 2006. Available in: <http://repositorio.unb.br/bitstream/10482/2257/3/Formiga,%20F.%20A..pdf>. Access on: Jul. 26 2016.

FUNKHOUSER, G. R. The issues of the sixties: An exploratory study in the dynamics of public opinion. **Public Opinion Quarterly**, v.37, n.1, pp.62-75, 1973.

GOMES, W. Audioesfera política e visibilidade pública: os atores políticos no Jornal Nacional [Political audio-sphere and public visibility: politicians in Jornal Nacional]. In: GOMES, Itania M. M.. (Eds.). **Televisão e realidade**. Salvador: EDUFBA, 2009, pp. 175-222.

GOMES, W. **Transformação da política na era da comunicação de massa [Transformation of politics in the mass communication era]**. São Paulo: Paulus, 2004.

HABERMAS, Jürgen. **Mudança estrutural da esfera pública: investigações quanto a uma categoria da sociedade burguesa [Structural transformation of the public sphere: an inquiry into a category of bourgeois society]**. Rio de Janeiro: Tempo Brasileiro, 1984 [originally published on 1962].

HABERMAS, Jurgen. Comunicação política na sociedade mediática: o impacto da teoria normativa na pesquisa empírica [Political Communication in Media Society: Does Democracy Still Enjoy an Epistemic Dimension? The Impact of Normative Theory on Empirical Research]. **Libero**, v. 11, n. 21, pp. 9-22, 2008.

HOHLFELDT, Antonio. Os estudos sobre a hipótese de agendamento [Studies on agenda-setting hypothesis]. **Revista Famecos**, Porto Alegre, n. 7, p.42-51, 1997.

LESKOVEC, Jure.; BACKSTROM, Lars.; KLEINBERG, Jon. Meme-tracking and the dynamics of the news cycle. In: **Proceedings of the 15th ACM SIGKDD international conference on Knowledge discovery and data mining**. ACM, 2009. pp. 497-506. Available in: <http://learning.mpi-sws.org/networks-seminar/papers/kdd09-quotes.pdf>. Access on: Jul. 26 2016.

LYCARIÃO, Diógenes.; DOS SANTOS, Marcelo Alves. Bridging semantic and social network analyses: the case of the hashtag# precisamosfalar sobre aborto (we need to talk about abortion) on Twitter. **Information, Communication & Society**, pp. 1-18, 2016.

MAIA, R. C. M. Atores da sociedade civil e ação coletiva: relações com a comunicação de massa [Civil society actors and collective action: relations with mass media]. **Lua Nova**, v. 76, pp. 87-118, 2009.

MAIA, Kênia Beatriz Ferreira.; AGNEZ, Luciane Fassarella. O agenda-setting no Brasil: contradições entre o sucesso e os limites epistemológicos [Agenda-setting in Brazil: the contradictions between success and epistemological limits]. **E-compós**, v. 13, n. 3, pp. 544-552, 2010.

McADAM, D. The framing function of movement tactics: strategic dramaturgy in the american civil rights movement. In: McADAM, D., McCARTHY, J. D. & ZALD, M. N. (Org.) **Comparative perspectives on social movements: political opportunities, mobilizing structures and cultural framings**. Cambridge: Cambridge University Press, 1996. pp.338-355.

McCOMBS, Maxwell E.; SHAW, Donald L. The agenda-setting function of mass media. **Public opinion quarterly**, v. 36, n. 2, p. 176-187, 1972.

MENDONÇA, R. F. Movimentos Sociais como acontecimentos: linguagem e espaço público [Social movements as events: language and public space]. **Lua Nova**, v.72, pp.115-142, 2007.

MIGUEL, L. F.; BIROLI, F. Meios de comunicação de massa e eleições no Brasil: da influência simples à interação complexa [Mass media and election in Brazil: from simple influence to complex interaction]. **Revista USP**, v. 90, pp. 74-83, 2011.

MIGUEL, L. F.; BIROLI, F. Visibilidade na mídia e campo político no Brasil [Media visibility and political field in Brazil]. **Dados** (Rio de Janeiro. Impresso), v. 53, pp. 695-735, 2010.

NEUMAN, R.W.; GUGGENHEIM, L.; MO JANG, S. E BAE, S.Y. The Dynamics of Public Attention: Agenda-Setting Theory Meets Big Data. **Journal of Communication**, v. 64, n.2, pp. 193-214, 2014.

PRIMO, Alex Fernando Teixeira. Transformações no jornalismo em rede: sobre pessoas comuns, jornalistas e organizações; blogs, Twitter, Facebook e Flipboard [Transformations in the web journalism: on ordinary citizens, journalists and organizations]. **Intexto**, n. 25, pp. 144-161, 2011.

SHEHATA, A., e STRÖMBÄCK, J. Not (Yet) a New Era of Minimal Effects A Study of Agenda Setting at the Aggregate and Individual Levels. **The International Journal of Press/Politics**, v.18, n.2, pp.234-255, 2013.

SILVA, Paulo Sérgio. **Agenda-setting e a eleição presidencial de 2002 no Brasil [Agenda-setting and the 2002 presidential election in Brazil]**. 2005. PhD Dissertation (PhD in Political Science). Universidade de São Paulo. Available in: [http://www.teses.usp.br/teses/disponiveis/8/8131/tde-27062007-144540/publico/TESE\\_PAULO\\_SERGIO\\_SILVA.pdf](http://www.teses.usp.br/teses/disponiveis/8/8131/tde-27062007-144540/publico/TESE_PAULO_SERGIO_SILVA.pdf). Access on: Jul. 26 2016.

SILVA, J.A.B. A expansão da teoria do agenda-setting em sistemas informativos da Web [Expansion of the agenda-setting theory in information systems on the Web]. **Galaxia**, n. 28, pp. 262-273, dez. 2014.

XENOS, M.A.; KIM N. New mediated deliberation: Blog and press coverage of the Alito nomination. **Journal of Computer-Mediated Communication**, v.13, n.2, pp.485-503, 2008.

YANG, Jaewon.; LESKOVEC, Jure. Patterns of temporal variation in online

media. In: **Proceedings of the fourth ACM international conference on Web search and data mining**. ACM, 2011, pp. 177-186. Available in: <http://cs.stanford.edu/people/jure/pubs/memeshapes-wsdm11.pdf>. Access on: Jul. 26 2016.

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