FACEBOOK AS A META-IDEOLOGICAL APPARATUS

REASSESSING THE ENCODING/DECODING MODEL IN THE CONTEXT OF SOCIAL MEDIA

Marie Palmer

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Certificate of Authorship

I certify that the work presented in this dissertation has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged in the text.

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This work is dedicated to my dad, Hervé-Luc Palmer and to my "Podri", Marcos Palmer Alemany, who both would be very proud to see that, in two generations, the three years of elementary school done by my grand-father allowed me to be a doctor.

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Abstract

Social media, over the past fifteen years, has become a major gateway to news. The practice of an algorithmically-customised selection of news content has revived critical concerns within the research community regarding the risk of large scale ideology diffusion without appearing to do so. This research aims to tackle those critical concerns, investigating how the circulation of news on social media, via algorithmic customisation, may impact how the users decode news posts, using Facebook as a case study.

A transdisciplinary qualitative approach combining cultural studies and Systemic Functional Linguistics (SFL) has been chosen. A series of in-depth interviews with a 'guided tour' of Facebook's newsfeeds was conducted and screen-recorded with a sample of young journalism students. The interview data and the researcher's observations during the guided tour served to understand decoding practices via a thematic analysis while the content of the newsfeeds was used to observe what the algorithm selected for them, and how meaning was created through circulation. The news posts were coded with an automated semantic tagger, in order to reproduce an algorithmic thinking process, and then a multimodal analysis model was done to investigate any surface patterns of meaning making.

The analysis of the participants' newsfeed showed that the circulation moment may be compared to a decoding/encoding sequence. The newsfeed-generating algorithm decoded both the news contents posted on the platform and its users' preferences, and then re-encoded the news posts before re-circulating them to users. During the circulation, no new verbal message is created, but existing ones are aggregated together and contextualised in a certain way, to orientate users' decoding towards the algorithm's preferred meaning.

Despite being orientated to decode towards the algorithm's preferred meaning, users seemed to preserve their decoding autonomy. They appeared to adapt their decoding practices and to interpret the ideological connotations carried by a news posts before comprehending it and identifying its relevance. When appraising unmarkedness, instead of positioning themselves with respect to the algorithm's code, they evaluated the news post code with respect to their own set of values. Additionally, on Facebook users systematically

encoded a post-decoding response which was automatically transmitted to the algorithm and worked to inform further circulation. Therefore, the circulation of news posts on Facebook's newsfeed was redefined as an encoding/decoding circuit composed of three moments: production encoding/decoding, circulation decoding/encoding, and 'prosumption' decoding/encoding. The larger implications of this redefinition are the characterisation of Facebook as a meta-ideological apparatus, promoting a meta-ideological cultural order that encompasses the cultural order promoted by news producers.

PART I

PRESENTING THE RESEARCH PROJECT

CHAPTER 1 – Introduction

1.1 Background – News and social media

Since the creation of the first social networks in the early 2000s' for entertainment purposes, social media platforms have become major gateways to news content, provoking lasting changes within the traditional news media ecology. Among those, Facebook has evolved since its creation in 2004 from being a local social network used by students to a worldwide network linking more than 2.41 billion active users[1], and the major gateway to news content outpacing any other social media platform. The chronology of this evolution will be examined in Subsection 1.1.1. This dazzling ascent has stimulated many scholars to understand and interpret this phenomenon; their work will be reviewed in Subsection 1.1.2.

1.1.1 How social media become a major gateway to news

In just 15 years, social media platforms have arisen as key actors of the news market. The Reuters Institute for the Study of Journalism has been documenting their emergence since 2011 in their annual digital news reports, providing an interesting insight on how the quick ascent of social media in the news market has been perceived. Those may be used to recall the chronology of those changes and how they were described at the time (see Figure 1.1).

In 2011, after the Arab Spring, social media platforms were beginning to be considered as a gateway to news. Although news organisations were starting to use the social media, most of the news items were shared on those platforms by individuals. Among those, Facebook decided to make news one of the platform's priorities and in less than a year became the most widely used social network for news. By 2012, social media platforms were a gateway

[1] Official number of active users in June 2019 (Facebook, 2019)

to news for 20 % of the population and were considered as "intermediaries for a large proportion of news journeys online" (Newman, 2012, p. 61).

By 2013, social media had become a "key part of the news media ecology" (Newman & Levy, 2013, p. 75). Among those, the dominant position of Facebook was undeniable and it was by far the most important social network used for news everywhere in the western world by 2014. By then, an important characteristic of social media platforms as a gateway to news began to become increasingly visible: most of their users tended to come across news when surfing on the social media, even though they did not specifically look for news.

In 2015, "a sharp increase in the use of social media for finding, sharing and discussing the news" was pointed out (Newman et al., 2015, p. 4) and Facebook's position among social media was significantly consolidated. A year later, the "growing importance of social media as a source of news" (Newman et al., 2016, p. 4) was confirmed as Facebook still maintained its dominant position as the most important network for reading and sharing news.

However, 2016 appeared to be a pivotal year for social media as a gateway to news. Their alleged role as a key player in the US Presidential election and in the Brexit referendum, by circulating made-up news stories, raised some concerns. By 2017, "growth in social media for news (was) flattening out" (Newman et al., 2017, p. 24) as social media platforms were accused of exacerbating low trust and creating filter bubbles, along with allegations of fake news after the 2016 US Presidential election. Following that trend, Facebook's growth appeared to slow down. Several explanations were put forward, such as this being a first sign of market saturation, the repercussion of criticisms mentioned above and/or the consequence of the algorithm changes implemented in 2016, which aimed to prioritise the circulation of personal communication over news content in response to those issues (Newman et al., 2017).

In 2018, the growth of social media platforms as news providers "(was) halted" (Newman et al, 2018, p. 9). Among them, the use of Facebook for news started to decline in most western countries after years of continuous growth (Newman et al., 2018). However, the use of Facebook for other purposes appeared to be more or less constant. This difference

was explained by the modification of Facebook's algorithm in mid-2017 and January 2018 to focus on personal communications rather than on news circulation, after coming under extensive criticism for circulating fake news which allegedly influenced the outcomes of the 2016 US Presidential election and of the Brexit referendum. The criticism against the platform were even amplified when it was revealed that the UK firm Cambridge Analytica had harvested the data of up to 87 million Facebook users and used it to influence the outcomes of both the 2016 US presidential election and the Brexit referendum.

In 2019, in the light of those repeated scandals, social media as a gateway to news are now associated with the rise of populism, the fear of fake news, and low trust. Although Facebook remains by far the most widely used social network for news, the time spent by Facebook users on the platform appears to be decreasing. Numerous issues seemed to have tarnished the reputation of the social media platform, with accusation of spreading fake news, encouraging the growth of populism, and making inappropriate use of users' personal data.

Figure 1.1. Facebook as a key actor of the news ecology over the years, adapted from the Reuters Institute for the Study of Journalism.

1.1.2 Scholarship on the emergence of social media as a key actor of news circulation

The exponential growth that led social media platforms to become major gateways to news in less than 10 years, with consequent disruption of traditional well-established channels of news distribution, necessarily caught the attention of media and journalism scholars who tried to understand the nature of social media and to measure the impact of those changes on the traditional conception of news. While news production, circulation and consumption in the context of social media have been explored, those moments have tended to be isolated one from another and studied separately.

In the early years of social media, from 2004 to 2008 when Facebook and several other platforms were created, media scholars focused on defining what social media platforms were and their affordances. Among these, Boyd (2006) demonstrated how people "publicly display their connections to others" on social media (p. 1) and then proposed a definition of "social network sites" (Boyd & Ellison, 2008, p. 210).

However, it quickly became apparent that social media platforms were doing more than connecting people together. In the early years of Facebook's exponential growth, academics pointed out how social media constituted a shift in the communication paradigm, revolutionising media studies, audience studies and journalism studies. By providing publishing platforms that are free and easy to access, social media appeared to radically transform the traditional vertical relationship between media producers and the "people formerly known as the audience" (Rosen, 2006). Publishing was no longer reserved for professional media producers; it was also open to amateurs on a large scale. The audience thus appeared to be transformed into "produsers" (Bruns, 2008, p. 1), that is to say content producers and consumers at the same time.

This "mass amateurization of publishing"(Shirky, 2008, p. 60) led some early enthusiastic scholars to talk of "citizen journalism" (Allan & Thorsen, 2009, p. 17), "participatory journalism" (Thurman & Hermida, 2010, p. 46), or "grassroot journalism" (Gillmor, 2006, p. xvii), among other terms. Some roles traditionally attributed to professional journalists were taken over by these 'empowered' citizens. For example, Bruns (2005) observed how social media users could use those platforms to do "gatewatching" (p. 11). In other words,

media organisations were in charge of the agenda-setting and the publication of news, but their gatekeeping monopoly was removed as users were now able to comment, share and complement their work (Gurevitch et al., 2009). Through social media, this empowered networks of citizens were also considered as endowed with "fifth estate" prerogatives as they could pursue accountability in government and institutions (Dutton, 2007, p. 1).

Despite this early wave of enthusiastic literature, some critical voices emerged when social media platforms began to be considered as key actors in news circulation and appeared to be affecting professional news media work. Couldry (2012), for example, pointed out that the opening of the news monopoly could generate information saturation and consequently erode trust in the news institution. By contrast, Pariser (2011) highlighted the risk of a "filter bubble" (p. 9), invisibly reducing the scope of news that social media users have access to.

After 2013, when social media platforms were becoming more influential in the news market and Facebook had secured its position as a central pathway to news through a dazzling growth that seemed at the time unstoppable, social media was studied as part of the "new ecology of news production and consumption" in order to move beyond those early praises or criticisms, and to understand the phenomenon beyond simple comparisons with traditional journalism in mass media (Newman et al., 2014, p. 146). An important corpus of literature then emerged analysing the technical specificities of algorithmic circulation (Beam, 2014; Kerr & Earle, 2013) and pointing out possible media effects. It appeared that algorithms were not neutral (Gillepsie, 2010) and that the circulation process itself was generating meaning (Aronczyk & Craig, 2012; Bødker, 2016; Langlois, 2014). This raising of awareness regarding the impact of algorithms led some academics to argue for the regulation of social media, with the creation of ethical guidelines for algorithm use (Ananny, 2016), or even for the creation of an "Habeas Data" in reference to Habeas Corpus (Jensen & Helles, 2017).

Since 2018, despite the fact Facebook intended to step back as a gateway to news content, research scholarship has focused on describing and analysing the now intrinsic link between journalism practices and social media (e.g. Bruns, 2018), and between social media and news consumption (Gil de Zuñiga & Diehl, 2019). It is now commonly accepted that social media in general has fundamentally changed news production, news circulation, news

consumption, and their respective fields of studies: journalism studies, media studies and audience studies. In light of those changes, it appeared interesting to orientate this research towards the study of media effects.

1.2 Genesis of the study – Circulation and meaning-making

After reviewing the scholarship regarding the emergence of social media as a gateway to news, a gap appeared, within media effect studies scholarship, regarding the impact of the automated circulation process on how users decode news content they access on social media platforms. This question was triggered by the reading of 'Stuart Hall's Encoding/Decoding Model and the Circulation of Journalism in the Digital Landscape' (Bødker, 2016), in which Bødker demonstrates how the process of circulation on social media adds ideological meaning representative of "an additional dominant order, linked to the industrial structures of big commercial social media companies (e. g. Facebook and Google)" (p. 416) to original news content that circulates on those platforms. In light of this article, it appeared necessary to reassess Hall's seminal Encoding/Decoding model (1973b; 1980b), in the context of social media, including an autonomous circulation moment and observing the consequences of such an addition on how receivers decode messages on social media.

1.2.1 Understanding the concept of "augmented commodity"

In his article, Bødker (2016) concentrates on Hall's notion of circulation. He interprets this as a process combining technology and hermeneutics during which meaning travels in and out of a message form, and observes how this notion can be used to understand how meaning is added to original news content when circulating on the web. The original news commodity, as authored and published by a media outlet, is usually modified through its journey in the world-wide web because it tends to merge with interpretative participatory work such as visits, readings, likes, comments, etc. All these elements, which are added during the process of circulation, also carry meaning. Therefore, what people access on the web or on social media is not the original news commodity, but an "augmented commodity" (Bødker, 2016, p. 415).

In terms of ideologies, the additional layer of circulation meaning constituting the "augmented commodities" contributes to embedding original news commodities - themselves reflecting a "dominant cultural order" (Hall, 1980b, p. 123) inscribed in the professional practices of journalism - in "an additional dominant order, linked to the industrial structures of big, commercial, social media companies" (Bødker, 2016, p. 416). However, the process of circulation and the modification of content it generates are usually imperceptible to the users (Eslami et al., 2015) as this process is automated via invisible and frequently-changing algorithms and as the meaning it generates is not necessarily carried in a textual form.

Such an observation raises a fundamental issue: little is known about the nature and the function of the ideological meaning added during the circulation process. Subsequently, it remains unclear how the circulation ideological meaning and the production articulate together. The impact of the additional circulation meaning on how people decode news commodities on social media largely remains unexplained.

1.2.2 Hall's Encoding/Decoding model in the context of social media

The issue raised by Bødker, regarding how the circulation process on social media contributes to add meaning to news content circulated on those platforms, suggests that Hall's Encoding/Decoding model (1973b, 1980b) needs to be reconsidered in the context of social media in order to include the circulation moment into the modelling and to understand how this circulation moment may impact both the encoding and the decoding moments. Prior to reassessing the Encoding/Decoding model, it is however necessary to resituate Hall's work within academic literature in order to show how it radically transformed the approach to modelling mass media communication. This historical perspective will first serve to justify the necessity to reconsider this model in the context of social media and, second, it will help to formulate the questions proper to encoding and decoding on social media.

Early models of mass media communication aimed at apprehending the effects mass media could have on audiences (e. g. Adorno, (1975) 2009; Lasswell, 1948; Shannon & Weaver, 1949). They tended to consider mass media communication as a unidirectional process, in which the undifferentiated masses constituting audiences were passive targets susceptible

to be directly affected by mass media messages. However, those early modellings were quickly criticised for their simplistic conceptualisation of the audience, which did not take into account the fact that the audience can make some motivated choices (Blumler & Katz, 1974), influenced by their social environment (e.g. Lazarsfeld et al., 1968). Therefore, later models tended to focus on audiences (e. g. Katz, 1959, Lazarsfeld & Stanton, 1944, Berelson, 1949, Blumler & Katz, 1974). These provided a better description of audiences, especially regarding their uses and their motivations depending on their social background. However, they often privileged a very functional and individualistic approach, which consequently tended to fall short in predicting media effects.

With the Encoding/Decoding model, Hall tried to overcome the limitations of both, — the early mass media communications focusing on mass media effects and the audience centred models — focusing on the discursive aspect of the communication process on mass media. During the communication process, producers use language to transmit meaning to the audience. In turn, the audience has to extract the meaning out of the message form. However, language is an imperfect meaning vehicle as the interpretation of language signs may vary depending on the social and cultural context. The analysis of mass communication as a discursive process led Hall to clarify the relationship between possible media effects and audience reception. On the one hand, Hall approached possible media effects in terms of a "complex structure in dominance" (Hall, 1980, p.130). Drawing from the Marxist perspective, he affirmed that media messages reflect, through the use of a specific language code, the dominant social and economic order of society because this order is inscribed in the professional practices of journalism. Therefore, media are creating a dominant/hegemonic code which may inform the perception of the audience. On the other hand, he nuanced the possible impact of mass media on the audience as the latter plays an active role in determining and accepting the meaning of the message when extracting the meaning out of its message form. However, the active role played by the audience and the outcome of decoding is not an individual outcome. Contrary to the uses and gratifications approach which privileged a more individualistic approach, Hall considered that audience reception was influenced by social structures.

Hall's groundbreaking conclusions regarding the structure in dominance created by mass media and the active role played by audiences when decoding may be affected in the context of social media. First, the structure in dominance of news producers may be

different in the context of social media as the circulation process on social media platforms is independent from the production of the message. As demonstrated in Section 1.2.1, during the circulation process, meaning is generated, - although not necessarily in the form of textual language (Aronczyk & Craig, 2012; Bødker, 2015, 2016; Lee & LiPuma, 2002). This circulation meaning reflects what Bødker called an "additional dominant order" (2016, p. 416), which echoes the cultural and commercial values of social media companies. Consequently, the dominant code generated by journalists when producing news messages may be affected and the relationship between the "dominant order" and the "additional dominant order" appears to be unclear.

Second, what users are decoding is no longer a news commodity generated by a media producer for an imagined audience; it is an "augmented commodity" (Bødker, 2016, p. 415) that has been specifically selected for them - at the individual level - by the Facebook algorithm on the basis of their detected preferences. Their preferences are defined by an algorithm on the basis of the indications that users had given to them, either voluntarily when liking, or involuntarily when navigating on the platform, as every communication act is registered and stored by Facebook (Boyd & Ellison, 2008; Jensen & Helles, 2017; Meikle & Young, 2012). Consequently, the decoding moment may also be affected by the circulation process on social media as audience is carefully targeted on the basis of concrete information regarding their preferences and their online behaviour.

Therefore, it appears that Hall's original Encoding/Decoding model needs to be reassessed in the context of social media. Such a reassessment will try to answer two main questions that arose from the previous observations:

- How do production and algorithmic circulation articulate themselves in terms of meaning generation? How does that affect the structure in dominance?
- To what extent does the circulation process affect how social media users decode news content and its outcomes?

1.3 Aim, scope and significance of the study

The aim of this study is to understand how the algorithmic processes of circulation on social media modify the original Encoding/Decoding model.

Using a case study approach, this research will focus on Facebook. As explained in Section 1.1, Facebook has been selected because it is one of the most widely used social media platforms to access news. Among the news content available on Facebook, only the news content accessed by users through their newsfeed will be studied because these content items are 'coming' to the users via a process of algorithmic circulation (Gil de Zúñiga et al., 2017). News content available on Facebook pages, Facebook groups, and the news posts received by users sent directly by a friend on their Facebook Messenger application have not been considered.

In this thesis, news posts will be studied only from the perspective of circulation on social media and decoding. The production of the news content by a media outlet, largely documented in existing academic literature, will not be included in the context of this study. Such a choice is justified by the need to make clear the effects on news being circulated on Facebook according to Facebook's algorithm and in accordance with Facebook's logic.

Three main outcomes are expected from this study:

1) The primary outcome of this study consists of understanding the nature and the function of the meaning added during the circulation process on Facebook's newsfeed. It will be necessary in that case to appraise the algorithmic rhetoric underpining the management of circulation. Uncovering the algorithmic rhetoric aims at comprehending how new production and algorithmic circulation articulate themselves in terms of meaning generation and how that affects the structure in the dominance of news media. Such an outcome aims to tackle the risk of what Sandvig (2015) called the "social industry" (p. 4). It will also provide significant elements to add to the current academic and political discussions regarding the necessity to legally redefine the place of social media in society.

2) The second outcome of this study involves reassessing the conclusions drawn from Hall's Encoding/Decoding model regarding the importance of the interpretative work of the decoder in the context of social media. A decoding sequence applicable to news content on Facebook's newsfeeds will also be defined if possible. While in

his original work Hall did not detail the set of processes behind decoding, such a flaw has been pointed out by other scholars (Morley, 1992; Wren-Lewis, 1983).

3) The third outcome of this study consists of proposing, on the basis of the two previous outcomes, a modelling of Encoding/Decoding sequence adapted to the context of news posts circulating on Facebook.

1.4 Overview of the dissertation

This study has been divided into three parts:

- Part I – Presenting the research project
- Part II – Encoding & circulation
- Part III – Circulation & decoding.

Part I – Presenting the research project – establishes the need for this study, reviewing the literature regarding news circulation, formulating the research questions underpinning this research and presenting the methodology used in order to answer those research questions. It contains chapters 2 and 3.

Chapter 2 – News circulation on Facebook and meaning-making. A review of Stuart Hall's Encoding/Decoding model applied to news circulation on social media – will locate this research within existing scholarship in order to understand its significance and to define the underpinning main concepts. First, news and newsmaking will be defined. The definition will emphasise and focus on the "symbolic power" (Bourdieu, 1991, p. 166) of news and how this tends to affect how news readers apprehend the world surrounding them. The representations conveyed by news circulated via mass media had long been considered as having a direct effect on the audience. The hypodermic needle effect of mass media has however been dismissed by later scholarship focusing on the audience (e.g. Katz, Blumler). Those audience studies though tended to fall short in predicting media effects. Therefore, Hall (1973b) tried to overcome those limits. In his seminal work 'Encoding and Decoding in the Television Discourse', he focused on the hermeneutical process at stake in media communication and highlighted its imperfections. He concluded that the interpretative agency of the decoder prevents the systematicity of the mass media influence. However,

contrary to previous audience studies, he dismissed the individual interpretative agency of the audience suggesting that decoding is determined by structural factors and thus media effects could be predicted depending on those factors. Those conclusions may however be challenged in the context of social media platforms. These, independent from news producers, have emerged as a major gateway to news over the past 15 years. On those platforms, news content is circulated to users via an automated process facilitated by algorithms. During this process of circulation, meaning appears to be created and added to news content. However the nature of this meaning, as well as the logic underpinning the process of circulation, remain opaque and unstable. Also, those platforms keep track of all their users' actions in their system, providing potential information regarding the structural factors impacting decoding. Therefore, some critical concerns regarding the fact that algorithms could carry ideological content without appearing to do so have to be raised. In those conditions, it appears necessary to reassess Hall's conclusions in the context of news circulation on social media.

Chapter 3 – A qualitative research design to reassess the Encoding/Decoding model – will detail the qualitative research design elaborated for this study. In order to do so, theoretical coherence with the original model was a priority. Therefore, a constructionist epistemological stance and a theoretical framework which associates cultural studies and structuralism (Hall, 1980a) were chosen for this study. On that theoretical basis, a qualitative approach combining ethnography (Gray, 2003) and semiotic analysis (Fiske, 1992) was privileged for its ability to investigate, on the one hand, the construction of meaning via the algorithmic process of circulation and, on the other hand, the participants' individual experiences of decoding. Semi-structured, one-to-one interviews with a screen-recorded "guided tour" of the participants' Facebook's newsfeeds (Mathieu & Pavlickova, 2017, p. 430) were conducted. The interviews were used to gather information regarding their decoding habits, while the guided tour served to collect data regarding the circulation process, that is, the content selected by the newsfeed-generating algorithm for each user and the data regarding how participants decode this content. The newsfeed data were automatically coded with an automatic semantic tagger (Rayson, 2008) and submitted to a multimodal analysis (Bateman, 2008) to understand how meaning was created via the automated circulation process. The in-depth interviews were manually coded and a thematic analysis was conducted to recreate the sequence of processes followed by the participants to decode news posts. This study has been conducted with a "purposeful"

sample (Patton, 2002) of seven French journalists and journalism students, between 18 and 24 years old. The choice of the sample was made to enhance the results with intense news consumers.

Part II – Encoding & circulation – will focus on the circulation process of news posts on Facebook. In chapters 4 and 5, it aims to understand how the newsfeed-generating algorithm generates a personalised selection of news posts for each user and to highlight the algorithmic rhetoric underpinning this automated process of circulation. Understanding the algorithmic rhetoric will serve to explain how the meaning created during news production is altered by the meaning created during the circulation process. Therefore, it will tackle the issue raised by Bødker (2016) regarding the articulation between the dominant code created by news production and the alternative code created during circulation.

Chapter 4 – Circulation and meaning-making – will focus on the following question: What does the personalised news offer on Facebook add in terms of meaning to news content? The results of the multimodal analysis of the participants' newsfeed will be presented.

Chapter 5 – Understanding Facebook's algorithmic rhetoric – attempts to explain the rhetorical purpose underpinning the creation of the contextual meaning described in Chapter 4. The creation of contextual meaning via the generation of horizontal and vertical intertextual links, seems to recreate familiar "situation types" (Matthiesen, 1993, p. 272). In these "situation types", the register – that is to say, the sum of all the possible meanings that may be used in a specific situation – that a user would use may be predicted. Therefore, by controlling both the context of culture and the context of situation via the use of intertextuality, the newsfeed-generating algorithm may generate an intertextual momentum that would orientate the user to decode towards a preferred meaning. In light of those results, algorithmic rhetoric, the circulation moment will be defined as a decoding/encoding moment, during which the newsfeed-generating algorithm first decodes all the contents posted on the platform and then re-encodes them. Those conclusions will be used to clarify the articulation between the dominant code created by news production and the alternative code created during circulation.

Part III – Circulation & decoding –, which includes Chapters 6, 7 and 8, will examine the hermeneutical process followed by Facebook's users when decoding news posts in the context of their newsfeed. It aims to assess whether users maintain their decoding autonomy despite the algorithmic rhetoric underpinning the circulation process.

Chapter 6 – Analysing the hermeneutical sequence of decoding – will identify the sequence of different processes followed by the participants to decode news posts on their newsfeeds, on the basis of what they said during the in-depth interviews and what they did during the 'guided tours'. Four processes will be defined and illustrated by specific examples: the appraisal of unmarkedness, the comprehension of the message, the identification of relevance, and the post-decoding sequences.

Chapter 7 – Understanding the encoding/decoding circuit – will attempt to discuss the results obtained in Chapter 6. Two main points will be highlighted: 1) the fact that the participants evaluate the alignment of the news post with their own ideology at the beginning of the decoding sequence, and 2) the systematisation of post-decoding responses. The first point will answer the original question of this study regarding the conservation of the decoding autonomy of the users when decoding, despite the algorithmic rhetoric developed by Facebook. The second point will be used to argue that, instead of talking of a decoding moment in the context of Facebook, it seems more appropriate to talk about a prosumption decoding/encoding moment (Toffler, 1990). In light of those results, the original encoding/decoding model will be redefined as a round circuit composed of: production, circulation and prosumption. This redefinition will highlight the nature of Facebook as a meta-ideological apparatus.

Chapter 8 – Concluding remarks – will sum up the findings obtained in this study and propose some areas for future research. Some possible practical applications of this research will also be discussed.

CHAPTER 2 – Facebook's role in news circulation and meaning creation: A review

2.1 Introduction

In Chapter 1, the emergence of social media platforms, especially Facebook, as an important circulation channel for legacy media news has spawned some critical concerns. Fears that those platforms may shape how people perceive the world by controlling what they have access to and by invisibly spreading some ideologies (Pariser, 2011; Sandvig, 2015; Sunstein, 2007). Scholarship has demonstrated that the process of circulation on social media inherently creates meaning, yet not necessarily in the form of a text[2] (Aronczyk & Craig, 2012; Bødker, 2015; Langlois, 2014; Lee & LiPuma, 2002). On social media platforms, original news content appears to be circulated in the form of an "augmented commodity" (Bødker, 2016, p. 415), comprising the original news commodity produced by a news producer and an additional layer of meaning created by the process of circulation itself. This research proposes to deconstruct this "augmented commodity" in order to understand what kind of meaning is exactly to it and why this content is added to it. It also proposes to explore how social media users decode this 'augmented commodity" to appreciate if the additional meaning it carries impact the decoding autonomy of the decoder. Using a case study approach, this research focuses on the news posts provided to Facebook users in their personal newsfeeds.

In the current chapter, it is necessary to situate those questions within existing scholarship in order to understand their importance and to define the main concepts underpinning this research. A clear definition of news and newsmaking will thus show how the messages

[2] Text is understood here in a broad definition including words, pictures and videos (Jensen, 2012)

created by media outlets entail a "symbolic power" (Bourdieu, 1991, p. 166) which can influence how news readers perceive the reality represented by them. Their influence is not systematic though. In his seminal work , 'Encoding and Decoding in the Television Discourse', Hall (1973b) explained the possible effects of mass media in the audience as those impose their dominant vision of the world throught their messages. However, he rejected the systematicity of those effects as the audience can negociate or reject this dominant code.

These conclusions may nontheless be challenged in the context of social media. These outlets constitute a circulation platform, independent from news producers, where news items are automatically circulated in a customised way by the almost imperceptible actions of algorithms. The principle of algorithmic-customised circulation is to select "meaningful" content for specific users based on tangible data: the analysis of the users' previous behaviours on the platform. The logic underpinning those choices is not publicly known, but what can be said is that it is influenced by a "technological frame" (Bijker, 1997, p. 168), itself reflecting existing power structures. Consequently, the customisation of the circulation process as well as the haziness of the process supporting it has raised some critical concerns regarding the fact that algorithms could carry ideological content without appearing to do so, and the fact that the influence of certain media could be increased by the customisation of circulation.

It thus appears necessary to reassess Hall's conclusions in the context of news circulation on social media. However, as this chapter will demonstrate, two gaps in the literature have been identified. Little is known about the rhetoric underpinning the customised-circulation, and there are no empirical observations on the concrete impact of this rethoric on how Facebook users decode news content in their newsfeed. Consequently, this research will focus on those two aspects, within a reformulation of the theoretical framework provided by Hall's Encoding/Decoding dichotomy, and including the circulation moment on the Facebook platform.

2.2 News, newsmaking, and "symbolic power"

The first step to understanding what is at stake with the personalisation of news offers on Facebook consists of clearly defining news by responding to key questions: 1) what is

"news"?, and 2) what is the function of "news" and "newsmakers" in contemporary society as meaning makers? (Hartley 1996, p. 32).

2.2.1 News and newsmaking

The term "news" implicitly combines two elements (Zelizer, 2004). It is used to name the event that is selected to be reported, and it refers to the product of reporting – the news commodity. Both elements are inseparable. An event is not a news item by nature; it is "culturally determined" (Galtung & Ruge, 1999, p. 21) to be turned into a news item by a news medium, since it corresponds to a possibly newsworthy event within the cultural framework of the news organisation and might be identified as such by the potential audience. The selected event then undergoes a process of newsmaking (Roshco, 1975), which includes several steps that start with selecting some events to report and finish with the production of the final news commodity. By the end of the process, news items are social products that represent the society from which they have arisen (Roshco, 1975). Those commodities should resonate with the set of references the receiver uses to interpret it (Galtung & Ruge, 1999).

Since the emergence of mass media, the process of newsmaking news is entrusted has by journalists working for professional mass media organisations. A journalist's central function in contemporary liberal democracies has been to critically select and report daily events "as a resource for participation in the politics and cultures of democratic society" (Bardoel & Deuze, 2001, p. 99). As such, journalists have been empowered and expected to act as representatives of the people and to share people's views of the world (Schultz, 1998).

2.2.2 News as a meaning maker

Newsmakers, through the news they produce, frame the news they produce through what Bourdieu refers to as the "habitus" (1991, p. 37). The habitus corresponds to their unsconscious sense of the world, that is to say the set of cultural, social economical and political values they use to interpret the world. Those cultural references they use to make sense of the world is the product of a constant struggle between individual experiences and structures (Hall, 1980a). The set of cultural references can be apprehended through the

sum of individual ordinary experiences and how they interact to define social practices (Hall 1980a). Culture is thus conceived through grounded patterns extracted from the entangled relationships between conscious subjects without determinacy. However, the product of experience needs to be associated with abstract power structures because people unconsciously think and experience the world through pre-existing frameworks of culture. The complexity of sense-making thus needs to be conceived as an entanglement of agencies' practices and social structures.

Through the set of cultural references they use to depict society, journalists are meaning-makers (Hartley, 1996). They are endowed with "symbolic power" (Bourdieu, 1991, p. 166) and have the "power of constructing reality" (Bourdieu, 1991, p. 166) by designing and circulating symbolic frames. Those symbolic frames are collective tools of cognitive conception of their surrounding world. Thus, journalists influence what their audience has access to and how they interpret events (Bourdieu, 1991). Symbolic power authorises them to have a direct impact on society by interfering in the course of events, to influence people's actions and, indeed, to create events (Thompson, 1995).

2.2.3 News and reception by the audience

If news conveys meaning created by journalists endowed with symbolic power, it is important to measure the extent of this power and to understand its possible effects on the audience. Several approaches can be found in academic literature.

Early models of mass media communication used to conceive the communication process as linear and unidirectional directed to a passive audience, on which the effect of the message was almost systematic (e. g. Adorno, (1975) 2009, Lasswell, 1949; Shannon & Weaver, 1949). Mass audiences, even if composed of individuals acting according to their interests without constraints, were assumed to react in a uniform way to news message accessed via mass media. Audience behaviour was thus considered predictable and easily manipulated through mass media, that were conceived of as a powerful tool able to impose its "culture industry" at massive scale (Adorno, 2009, p.15).

However, if those early modellings had the advantages of raising the issues of mass media effects, they were quickly criticised for considering media consumption as a situationally

dictated incidental act and for obliviating the reasons why audiences turn to media. It then appeared necessary to switch the focus of attention from "what media do to people" to what "people do with media" (Katz, 1959, p. 2). A corpus of literature centred on the audience reception emerged, in which audiences were conceived as playing an active role in the communication process in that they voluntarily and purposefully initiate the consumption of certains mass media programs in order to fulfil some specific needs. Those early works tended to adopt a functional approach of media and to focus on why audience chose to consume specific programs, their motivations, their feelings and their appreciations (e. g. Lazarsfeld & Stanton, 1944 ; Berelson, 1949). Later works expanded this approach to multiple contexts and studied audience in their own right without consideration of media effect (e. g. Blumler & Katz, 1974). These highlighted the social and psychological reasons underpinning the needs to consume some mass media programs, how those needs generated expectations and how media patterns of exposure varied depending on those needs and gratifications (Katz et al., 1973).

This uses and gratifications approach greatly contributed to mass media communication as it "allowed researchers to study mediated communication situations via a single or multiple sets of psychological needs, psychological motives, communication channels, communication content, and psychological gratifications within a particular or cross-cultural context" (Lin, 1996, p. 574). Those provided a better description of audiences, especially regarding their uses and their motivations depending on their social background. However, they often privileged a very functional and invidualistic approach, which consequently tended to fall short in predicting media effects.

Therefore, even if the symbolic power of news and newsmakers is incontextable, it remains difficult to measure the extent of the power relationship at stake between newsmakers and their audience.

2.3 Encoding and decoding news

In his seminal work 'Encoding and Decoding in the Television Discourse', Stuart Hall (1973b), tried to overcome this dichotomy, adopting a semiotic approach and studying mass media communication as a discursive process.

2.3.1 Reconciling media effects studies and audience studies: the Encoding/decoding model.

In a attempt to overcome the limits of the functional and individualistic perspective of the uses and gratifications approach, Hall (1973b, 1980b) analysed the discursive process at stake in mass media communication using semiotics in his seminal work: the Encoding/Decoding model.

The peculiarity of Hall's Encoding/Decoding model lies in the fact that his work emphasises the linguistic and hermeneutical aspects of the communication process. Hall considers communication a "passage of form"(1980b, p. 128): from meaning to language on the producer's side; from language to meaning on the receiver's side. The message, at the center of the communication process, is thus a "sign vehicle" (Hall, 1980b, p. 129) which aims to transmit meaning between the producer and the sender through language.

Therefore, Hall (1973b, 1980b) conceptualised communication as a discursive process (see Figure 2.1) composed of two main relatively autonomous moments: (1) the production or "transposition into" the message form (labelled as "encoding"); and (2) the reception or "transposition out" (labelled as "decoding"). During the "encoding" moment, the sender "constructs the message" through a "code" to deliver the audience a preferred interpretation of the message and to induce an effect on the receiver. The chosen code is influenced by the producer's "meaning structures" (Hall, 1973b, p. 4), which means that it is shaped by the social practices and the habitus conveyed by the media institutions. This encoded message is then received through a medium by the audience, which is composed of individuals who separately have to "decode" it, that is to say, to extract the meaning out of the message form. To realise this transposition, the receiver also uses meaning structures, that is to say a set of values influences by their social, cultural and economical environment. However, the meaning structures used to decode do not necessarily correspond to those used by the producer for encoding (1973b, 1980b). Consequently, the receiver may not interpret the message as the sender conceived it.

Figure 2.1. The Encoding/Decoding process. Extract from Stuart Hall, Encoding and decoding in the television discourse (Hall, 1980b)

The possible distortion of meaning within the communication process is due to the use of language as an intermediary to carry a message. Since language does not embody the referent or the concept it signifies, it is an imperfect sign vehicle. Hall uses a Saussurean perspective on language, which considers that there is a dichotomy between the signifier, or "sign vehicle", and the "signified", or the concept the signifier refers to. The relationship between the signifier and the signified is a socially constructed convention; it may vary from a cultural perspective to another. The meaning of message is thus neither transparent nor invariant.

Difference of interpretations may occur at the connotational level. Hall draws from the distinction made by French Linguist Roland Barthes between connotation and denotation. A signifier or sign vehicle carries two different types of codes: (1) the codes of denotation – those that refer to recognisable objects and, as a consequence, are literal and unambiguous; and (2) the codes of connotation – those that add extra suggested meanings to denoted signified. Codes of connotation can convey ambiguity and lead to different interpretations. As the interpretation of language derives from social knowledge, which finds its origins in social practices (Hall, 1980b, p. 131), the interpretation of the connotations carried by a message can differ from one individual to another, according to their social knowledge.

As distinct from language, the medium is not central to the process of meaning creation in the Encoding/Decoding model. It is not individually isolated as a factor of meaning creation. It is, however, included as part of the meaning structures that will shape the producer's choices. Technical infrastructures play a role in the production of the discursive commodity. They influence how the "passage of form" (Hall, 1980b, p. 131) of the message is made and the types of discourses used in the message creation: aural and visual in the case of television discourse studied by Hall. As a consequence, Hall considers the production of a message and its circulation via a medium to be part of the same moment – the moment of "production/circulation" (Hall, 1980b, p. 128).

As such, the Encoding/Decoding model reached two main conclusions and contributes to reconciling media effect studies and reception studies. On the one hand, Hall acknowledges the potential media effect of mass media on the audience previously highlighted by early mass communication models. As the access of the news production and distribution is restricted and controlled by professional media organisations,

themselves controlled by elites, mass media tend to use codes that reflect their habitus. In doing so, they impose a "dominant hegemonic order" (Hall, 1980b, p. 134), which tends to normalise their views of the world. On the other hand, in the same way as the uses and gratifications scholars, he contested the systematic effect of mass media on the audience, arguing that the audience, which plays an active role in the communication process, can challenge producers' interpretation during decoding. However, Hall's approach differs from the uses and gratifications approach in that he rejected the individualistic approach of reception. According to him, the way members of an audience decode a media message is not based on individual experiences. It is, on the contrary, structural and influenced by their social and cultural environment.

2.3.2 Decoding, "misunderstanding" and the "struggle over the meanings"

Hall's conclusions regarding the nature of encoding and decoding helps to understand the dynamic of powers in the communication process. On the one hand, producers promote a "dominant hegemonic order" (Hall, 1980b, p. 134) through their message, which reflects their values and views of the world. On the other hand, as every sign is intrinsically polysemic, the receiver may distort the "preferred meaning" as conceived by the producer and "misunderstanding" can then happen (Hall, 1973b, p. 14). However, a "misunderstanding" is not an individual act; it is linked to the use of a different set of codes, codes that are influenced by a multiplicity of social, cultural and political factors such as social class, history, political power, and economics. As a consequence, "misunderstanding" is the product of a "systemically distorted communication" (Hall, 1980b, p. 135). Hall then defines three "hypothetical" situations[3] of communication:

[3] The use of the term hypothetical is important as Stuart Hall has been criticised for the rigidity of his classification. But in Encoding/Decoding (1980), Hall clearly mentions that his classification is hypothetical. It needs to be "empirically tested and refined" (p. 136) while being used to theoretically illustrate misunderstanding.

1) the **"dominant-hegemonic position"** (p. 135): when the producer's and the receiver's codes align, the receiver's interpretation can follow the "preferred meaning", which corresponds to a dominant framework to interpret the world.

2) a **"negotiated code"** (Hall, 1980b, p. 136): the receiver understands what the producer wants to say, accepts the dominant social order proposed by the producer on an abstract level but takes liberty when it comes to applying those codes to specific defined situations.

3) an **"oppositional code"** (Hall, 1980b, p. 138): the receiver understands the meaning of a message but applies a completely different set of codes and interprets it with a completely different framework of references.

The possibility of using a "negotiated" or an oppositional code opens up the possibility of a constant "struggle over the meaning"(Hall, 1980b, p. 133). This "struggle" aims to legitimise a preferred meaning of connotative signs within the limit of the dominant cultural order, which is a set of commonly accepted connotative codes (Hall, 1973b). However, meaning at a connotative level is fluid and rooted in cultural practices. Consequently, connotations are susceptible to changes, and those changes can be generated through "struggles over the meaning", which generate a permanent negotiation of the "dominant cultural order" (Hall, 1980b).

2.3.3 The limits of the Encoding/Decoding model

While Hall gave a very clear description of the power relationships at stake within the process of mass communication, some limits to his conclusions regarding decoding were pointed out by further scholarship.

First, his definition of decoding has been criticised for its oversimplification of the process. Morley (1992) suggests that the moment of decoding hides a much more complex process than Hall (1973b, 1980b) describes. Hall defines decoding as an undivided action of reading to extract meaning, but decoding may instead encompass a combination of several processes, ranging from paying attention, identifying the message as relevant, understanding the message, interpreting it, and occasionally generating a answer (Morley,

1992).

Therefore, if decoding is considered as a set of processes, the dimensions of "relevance/irrelevance" and "comprehension/incomprehension" of a message (Morley, 1992, p. 127) should also be examined before contemplating the ideological stance. For example, the stance of the message in itself with respect to the audience's interest and meaning (Dyer, 1977) may also be considered. In other words, the fact that decoders are apprehending the message positively or negatively before completing decoding may impact their ideological stance. Taking an ideological stance at the end of decoding may thus not be the only possible outcome of decoding.

Some critiques also suggested adopting a greater flexibility of interpretation regarding theoretical positions as the three stances – preferred meaning, negotiated decoding and oppositional decoding – might not reflect reality. Empirical observations should thus prevail over theoretical positions (Morley, 1980; Wren-Lewis, 1983).

Despite its limitations, the Encoding/Decoding model gives a very clear description of mass media communication as an hermeutical process and an interesting insight in the power relationships at stake between news producers and their audiences, which is still valid today. However, in the context of social media, the Encoding/Decoding sequence is altered by the fact that circulation is not longer part of production. Therefore, the power relationships at stake in the model need to be reconsidered.

2.4 Circulation on social media

As mentioned in Section 2.3, in the original model of Encoding/Decoding proposed by Hall on the basis of mass media communication, circulation is part of the production process. However, on social media, the message does not reach the audience just after the encoding of the message by its producer; the discursive commodities produced by traditional news media are circulated by social media, via plaforms such as Facebook. This separation of production and circulation has revived a number of critical concerns regarding the fact that the circulation of news via social media may be carrying ideological meaning without appearing to do so (Sandvig, 2015) and, may be creating an additional dominant cultural order (Bødker, 2016) reflecting social media companies values.

Consequently, it is important to understand: 1) what Facebook is; 2) how it hosts and retrieves (Langlois, 2014) news posted on its platform for its users, autonomously from news producers; and 3) what exactly happens to the original news commodity between the moment it is posted on Facebook by a news media outlet or shared by a reader, and the moment it is distributed for decoding by the user. Figure 2.2 shows this circulation schematically.

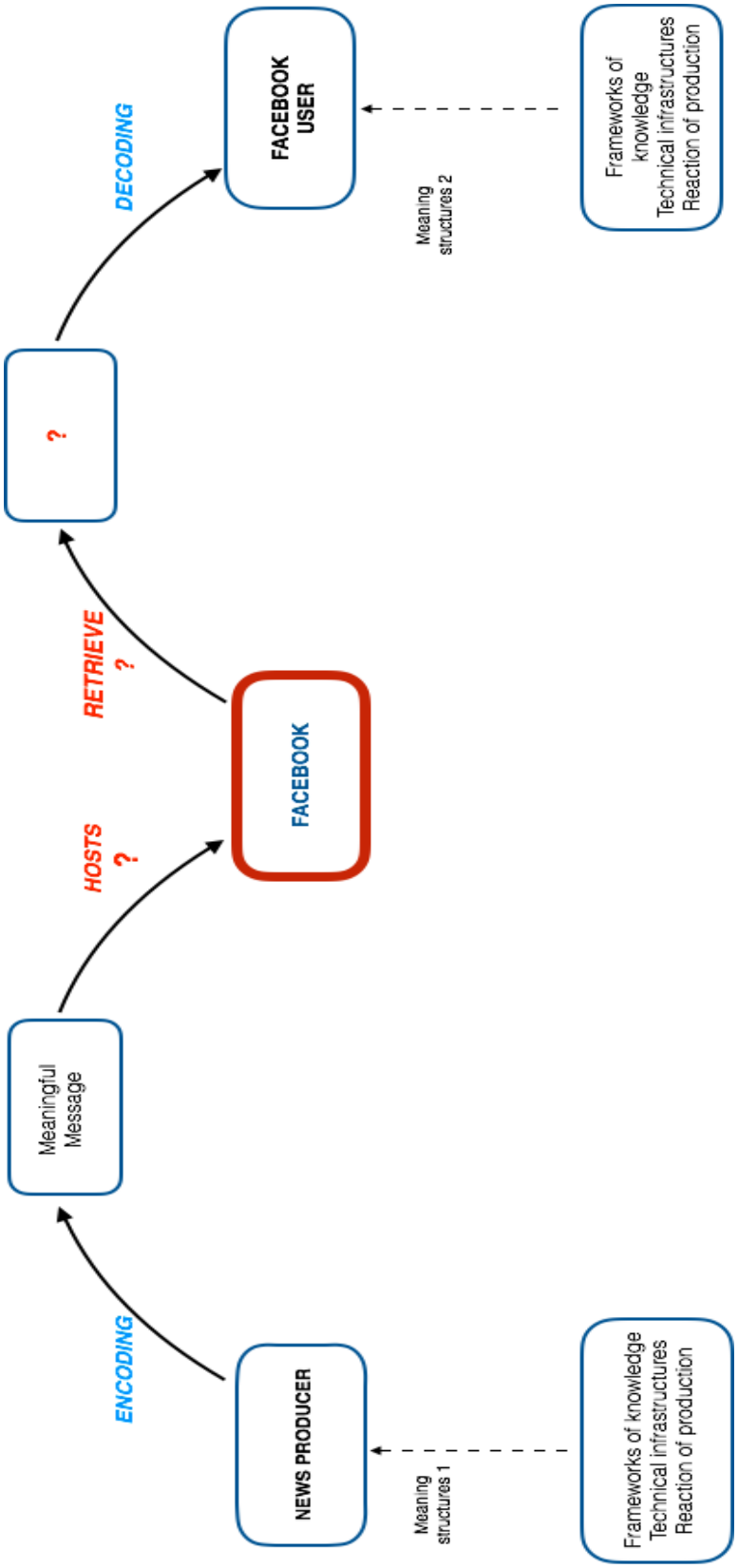

Figure 2.2. Introducing circulation on Facebook within the Encoding/Decoding sequence (Hall 1980b)

2.4.1 Facebook as a complex networked environment

Understanding circulation on Facebook requires an examination of what Facebook is – and more generally what social media platforms are – and how they work. Social media platforms are born from the "convergence of modes" (De Sola Pool, 1983, p. 23), which is a process of technical confluence between the different media technologies, the types of information they convey, and the modes of communication. In the 1980s, the arrival of new possibilities of communication exchange via technological advances opened a period of transition towards new forms of communication processes. The growing use of computers and electronic software blurred the lines between the various existing media. Social media, as products of convergence, constitute a complex "interactive" environment (Van Dijk, 2012, p. 9), where several modes of communication coexist (Meikle & Young, 2012). Facebook mixes one-to-one, one-to-many, many-to-many, and many-to-one modes (Jensen & Helles, 2017). As explained by Jensen & Helles, one-to-one refers to interpersonal communication, when two or more individuals consciously exchange information. One-to-many communication consists of mass media communication: a producer distributes a message to a wide audience composed of anonymous individuals. Many-to-many communication, which is the particularity of social media, refers to networked communication where each participating person is potentially both message sender and receiver within a large network of connected individuals. Many-to-one communication refers to all the elements communicated by users when using social media that are recorded and then kept by Facebook.

This process of "convergence", via the emergence of social media, has created the conditions for the appearance of a "participatory culture" (Jenkins, 2006, p. 60), where audiences could express themselves. This change was made possible by social media providing "free publishing and production platforms" (Lovink, 2011, p. 5), which do not require any professional training. The bottleneck to publication that characterises mass media is consequently removed when the prerequisite high capital cost of accessing mass media becomes widely distributed in society (Benkler, 2006). On social media, content production is no longer restricted to a small number of professional institutions. Thus, there is a "mass amateurization of publishing [sic]" (Shirky, 2008, p. 60). Every person can publish information and share ideas easily and cheaply, and potentially reach a large-scale diffusion through social media (Baym & Boyd, 2012). The "fundamental break between the

producer and the consumer" (Thompson, 1990, p. 15) created by the mass media access bottleneck has disappeared, as the "people formerly known as the audience" (Rosen, 2006) have became "produsers" (Bruns, 2008), that is to say content-producers and users at the same time.

Among social media, Facebook belongs to the sub-category of "social network media" (Meikle & Young, 2012, p. 61), which are internet-based platforms that can be accessed either through mobile devices or websites, and where individual users can create a profile, post content, and connect with other users by viewing their profiles and connections (Boyd & Ellison, 2008). On social network media, users present themselves so that the other users situate them within their cultural context (Boyd, 2006). These social network media are now part of everyday social, professional and personal life (Boyd & Ellison, 2008). Users not only utilise social network media to connect with their contacts and browse their content; through their personal Facebook newsfeed, each user has access to a unique customised selection of content, where social content ('friends' status) is interwoven with commercial content (advertisements) and professional news as a result of algorithmic calculations (Bødker, 2016).

News can be encountered on Facebook under three forms (see Table 2.1). It can be a one-to-one message within an interpersonal communication via a nominative post sent directly to a friend on his/her wall. A news item can also appear on a user's newsfeed as a one-to-many message after being published on the social media directly by the news producer itself, without any visible form of personalisation. Finally, it may be commented on or shared as part of a many-to-many conversation. In the context of this research, which aims to understand the peculiarities of personalised circulation of traditional news in the social media environment, the focus will be limited to the one-to-many and the many to-many forms of communication selected in newsfeeds.

Table 2.1. How news is circulated on Facebook

Forms of Communication	How to access news
One-to-one	News directly sent by a user to a friend by posting nominatively on the wall
One-to-many	News accessed through the user's newsfeed
Many-to-many	Friends' comment on a news article

2.4.2 Inputs hosted on Facebook

After defining and analysing how the Facebook platform works, the second step to approaching circulation of news on Facebook consists of indexing the kinds of content that it hosts. These can be divided into two types: 1) communication messages produced by users (including the news produced by traditional media) that will be further circulated by the algorithm to other users; and 2) "meta-communication" elements (Jensen & Helles, 2017, p. 8), such as behavioural and network information that will be algorithmically processed to recirculate the messages produced by users (including news).

The content posted on Facebook vary, and include messages posted by users under the form of multimodal messages (pictures, texts, videos, link, etc.), news produced by traditional media outlets, and other content produced by various sources (the content production is no longer restricted to a small number of professional institutions). After being posted on the platform, all these messages will be circulated by Facebook and individually proposed to users if the platform considers them of interest.

Facebook also captures meta-communication elements as the social media platform systematically collects and stores information regarding its users' actions and behaviours on the platform (Jensen & Helles, 2017). Those non-verbal elements are called "web stigmergies" (Dipple, 2011, p. 355). Stigmergies is a term borrowed from entomology and

refers to the indirect communication mechanism through which ants or termites leave hints of their actions, which in turn affect the behaviour of their peers. Applied to the web, stigmergies refers to the hints left by the users on the platform (time spent, link openings, research, likes, etc.) Those elements, embedded in the environment, are automatically collected, although users are not necessarily conscious of the display of information. What can be included is the composition of users' online network-meaning information regarding who are their friends, the nature of their relationships outside the social network, the frequency and the nature of their communication within the system, the common contacts between users, the type of news they read, and the news sources they frequently read, etc.. On Facebook, users are resituated within their social network, the elements of which are not supposed to be circulated but will be used to recirculate messages as an indicator of the user's preferences (Boyd, 2006).

Facebook is therefore not only a medium that circulates content, it is also a gigantic database of personal information: storing contact details, texts, pictures and videos, and information regarding their networks, ideas (Meikle & Young, 2012) and behaviours (Boyd & Ellison, 2008).

2.4.3 Content retrieval on Facebook via algorithms

This double nature of Facebook as a medium and as a database of personal information, influences how it circulates content. Facebook retrieves information combining two principles: 1) the "personalisation principle", which means that the selection of content is proposed to the user via a unique personal 'newsfeed'; and 2) the "linking principle", which consists of drawing some connections between information (Langlois, 2014, p. 30). With regard to the personalisation principle, Facebook collects all the information that makes a profile unique, such as geographical preferences, languages preferences, personal likes, time spent on specific pages, and constitution of the network of friendships. In accordance with the linking principle, it endeavours to associate existing content with the information it possesses on the user to make some unique recommendations. In other words, it draws associations between human users and data. The personalisation and linking work are automatically done by algorithms, without visible human intervention. These algorithms are pieces of code that are used to "transform input data into a desired output"(Gillepsie, 2014, p. 168). Finally, Facebook proposes to its users an automated and personalised

selection of content. The selection is done according to a prediction of their preferences based on their previous behaviours within the system.

After describing the nature of Facebook as a social media and understanding how it circulates news content, it is necessary to reassess its place within the communicaiton process.

2.5 Personalised circulation and meaning creation

The peculiarities of the personalised circulation on Facebook have led to a reassessment of the place of technology within the communication process and a reconsideration of the prevalence of the message content over the medium (Bødker, 2016; Langlois, 2014). Each medium, depending on its technical properties, shapes peoples' senses to produce particular social outcomes (McLuhan, 2009). Even though McLuhan's famous adage, "the medium is the message" (p. 22), has been heavily criticised for its lack of empirical verification, it is interesting to reconsider it in the context of social media. Social media may be more than simple tools to transmit messages. They provide content, and by disseminating the content in a specific way via algorithms, they also create an additional layer of meaning to the existing news commodity (Bødker, 2016). In order to understand the kinds of meaning they provide, it is necessary to define 1) how algorithms work; 2) how algorithms create an "augmented commodity" (Bødker, 2016, p. 415) carrying meaning; and, more specifically, 3) the technological frame used by Facebook algorithms.

2.5.1 Defining algorithms and technological frames

As mentioned earlier, circulation on social media is done via algorithms. Those are pieces of code used to "transform input data into a desired output" (Gillepsie, 2014, p. 168). Their agency is only activated in a pre-determined context to solve a specific problem they have been designed for. Outside of this context, algorithms lose agency and meaning. However, such a definition hides the sociological and normative features of an algorithm; it does not embrace the intersection of the technologies and people at stake in the functions performed by the algorithm. Algorithms are, in fact, based on a "sociotechnical relationship" (Ananny, 2016, p. 93); they combine technical and sociological factors. The way a computational algorithm will transform input data into a desired output is

determined by how the algorithm has been programmed by a human being within a social context.

As with the traditional producer defined by Stuart Hall, algorithms are also influenced by meaning structures. Their programmers design them to make choices on the basis of a "technological frame" (Bijker, 1997, p. 168). The outputs of algorithmic calculations reflect the ways programmers have conceived them through "a combination of current theories, tacit knowledge, engineering practices (such as design methods and criteria), specialised testing procedures, goals and handling and using practices" (p. 168). The technological frame influences the "algorithmic values [as] a system of criteria which are used to make decisions about the inclusion and exclusion of material and which aspect of said material to present in an algorithmically driven news feed" (DeVito, 2016, p. 754).

However, the fact that algorithms work in a "semiautonomous agency" (Ananny, 2016, p. 94), without visible human intervention, creates an effect of imperceptibility. Algorithms are deliberately obfuscated in order to give an impression of neutrality (Gillepsie, 2014). Individual users have no choice in the selection of information that is relevant to them (Langlois, 2014, p. 42) and in many cases they are not aware of any filtering (Eslami et al., 2015). As a consequence, computational algorithms can easily be used to convey meaning without appearing to do so (Sandvig, 2015).

2.5.2 The hermeneutical aspect of algorithmic circulation

Even though it is almost imperceptible, algorithmically personalised circulation generates meaning. In news, meaning is often interpreted according to the model of a text (Aronczyk & Craig, 2012, p. 92). However, this sphere of interpretation should be widened in the context of social media because the simple act of circulation also participates in the creation of meaning (Bødker, 2015). A computational algorithm does not modify the original message form or the language chosen by the producer; it somehow transforms the original news product into a new output.

The new output generated by the algorithmically personalised circulation has been defined by Henrik Bodker as an "augmented commodity" (Bødker, 2016, p. 415). "Augmented commodities" are made of two layers, each containing meaning. Their first layer is the

original commodity produced by the news producer. As mentioned above, the meaning of this commodity is often interpreted according to the model of a text. This original product is entrenched within a second layer of meaning, composed of the traces of circulation of the object on social media that can be visible (e.g. comments, shares, likes, numbers of visits) and invisible (e.g. previous behaviours). The meaningful message accessed by the social media user is thus this digital object or "augmented commodity".

Recent scholarship has detailed the possible meaning carried by the second layer of the augmented commodity, which was generated by Facebook's algorithms. Algorithms, when choosing some news from a large database for an individual user, structure possibilities (Ananny, 2016; Langlois, 2014) that are based on how the algorithms perceive how the user can be significantly linked to content data. The selected news items are thus promoted to the rank of being more interesting for this user than others (Beam, 2014). It creates an almost invisible hierarchy of information by choosing to hide some news items. In doing so, algorithms assign a degree of public significance to the news they retrieve, but this public significance is temporally located, as algorithms also organise the times and places where the users access the selected content (Ananny, 2016).

In other words, computational algorithms add a layer to show how meaningful a news item is for the specific user; they assign "meaningfulness" to the original message (Langlois, 2014, p. 26), which means surfacing some content rather than others and attributing legitimacy to some messages rather than others, with users having no choice in the selection of information that is relevant to them. The assignment of meaningfulness is a form of governance power because algorithms delimit the range of possibilities. In this way, algorithms "govern" meaningfulness (Langlois, 2014, p. 23).

Such an algorithmic governance of meaningfulness represents an " additional dominant order" (Bødker, 2016, p. 416) which corresponds to the interests of social media companies. Therefore, the additional dominant order appears to be wrapping up the original "dominant cultural order" (Hall, 1980, p.123) embedded in news commodities. However, it remains very difficult to apprehend the characteristic of this additional dominant order.

2.5.3 What criteria does Facebook use to "assign meaningfulness"?

Little is understood about the criteria Facebook algorithms use to assign meaningfulness due to intellectual property protection and the constant changes of the algorithm's nature. Despite the difficulty of having information regarding the "black box" (Latour, 1987, p. 13), a ranking of criteria has been developed by DeVito (2016) on the basis of a content analysis of the official documents provided on Facebok on its website or on its publications.

DeVito's approach shows that Facebook algorithms use a mix of "preferential prediction" (Kerr & Earle, 2013), which anticipates what users would be interested in seeing in their newsfeeds, and of "preemptive prediction" (Kerr & Earle, 2013, p. 2), which selects content for users without taking into account their preferences (Jensen & Helles, 2017). However, preferential criteria are predominant, with 'friend' relationships and status updates being by far the most important criteria used by Facebook to rank meaningfulness for the user (see Table 2.2).

Table 2.2. Hierarchy of the criteria used by Facebook algorithms to customise the content offer on the users' newsfeed according to De Vito (2016)

Level of Importance	Rank in Facebook meaningfulness	Factor	Content
Major importance	1	Friend relationship	
Very high importance	2	Explicitly expressed user interests	Obtained through status updates
High importance[4]	3	Age of post	
Importance[5]	4	Prior user engagement	Including post comments and likes
Lesser importance	5	Implicitly expressed user preferences	Including content–type preference and user clicks
Difficult to evaluate the importance	6	Page relationships	
Difficult to evaluate the importance	7	Platform priorities	E.g.: Facebook privileging videos
Difficult to evaluate the importance	8	Negatively expressed preferences (including negative feedback)	
Difficult to evaluate the importance	9	Content quality	

Despite the fact that these criteria are approximate on account of the lack of official communication and the changing nature of algorithms (Gillepsie, 2010), this list reveals an interesting point: the change of scalability of circulation. A clear change of logic appears in the criteria of circulation. On mass media, news items are selected, produced and circulated by journalists according to criteria of global significance. The audience is conceived of as a

[4] The age of the post may be of decreasing importance in newer versions of the Facebook algorithm.

[5] Prior user engagement may be gaining importance in the latest versions of the Facebook algorithm.

sum of individuals, discursively constructed and positioned. By contrast, Facebook's algorithms have imposed an individualised logic of selection and circulation. A simple visualisation of DeVito's list of criteria (see Figure 2.3) shows an over-representation of criteria-based individual preferences. As Carlson (2017) puts it: "algorithmic judgement is scalable, down to the individual" (p. 11).

The scalability is made possible because Facebook collects a large amount of information about each user and aggregates it. Its algorithms can then associate specific content with each user's previous behaviours and personalise the news offer. Facebook gets more information about its users than mass media about their audience, and Facebook's knowledge about each individual, contrary to mass media, is based on tangible data from the individual's previous communications.

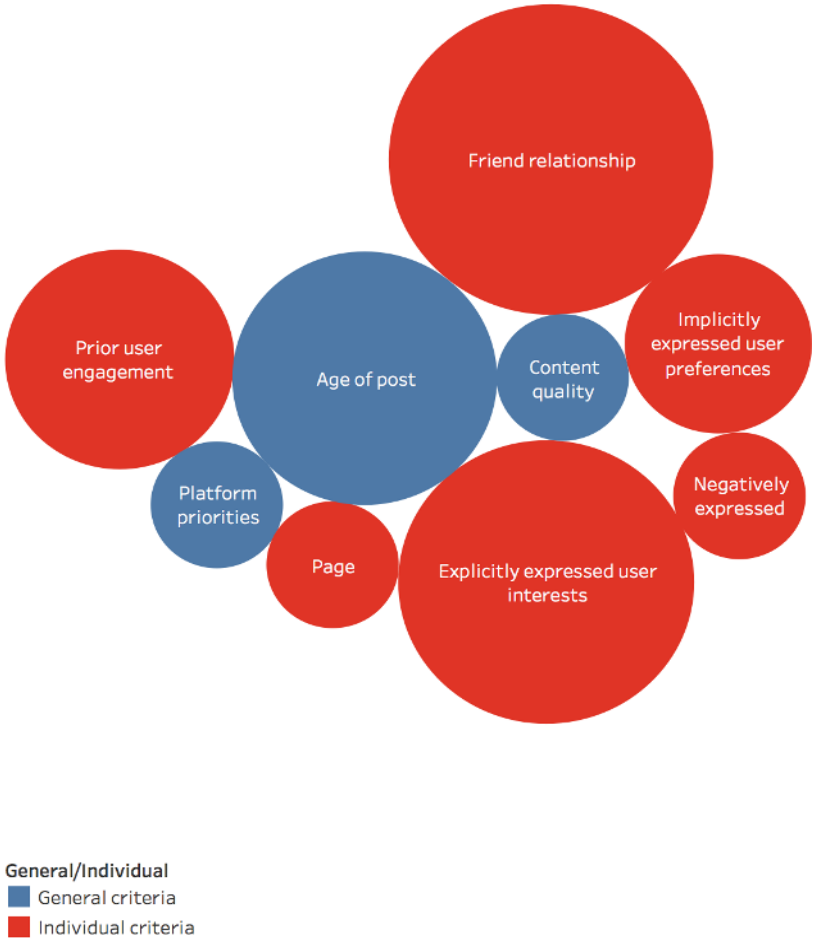

Figure 2.3. Visualisation realised on the grounds of Michael De Vito's (2016) list of criteria via the software Tableau.

The position of the user within a network of Facebook friends is also of major importance to proposing content, according to DeVito (2016). Media studies have shown for a long time the impact of the social environment on the reception of a mediated message (Lazarsfeld et al., 1968). Media does not operate in a social vacuum, as people are socially connected and interact with each other. These social connections influence how a person receives and interprets a media message. However, in traditional mass media, the influence of the social network is not measurable, as it happens "into the air" (Peters, 1999, p. 200), which is to say there is no control or registered trace of the interaction. On Facebook, it is quite the opposite as the social network of the user is visible and registered "into the system" (Jensen & Helles, 2017, p. 16). Therefore, Facebook algorithms use the

information they get about the complex social network of each individual to personalise news offers.

The two main specificities of the circulation mechanism on social media – 1) the creation of additional meaning which wraps the meaning carried by the original news commodities into a new set of values representing social media companies and 2) the fact that circulation is personalised down to the scale of the individual on the basis on tangible information regarding users' previous consuming behaviours and users' social network - generate questions regarding how personalised circulation affects the power relationships at stake in the Encoding/Decoding model.

2.6 Introducing a circulation moment within the Encoding/Decoding sequence

On the basis of the observation made above, it appears necessary to introduce a circulation moment – independent from the production moment – within the Encoding/Decoding sequence in order to propose a modelling of the Encoding/Decoding of news on Facebook. However, the introduction of a circulation moment may affect Hall's conclusions. As explained in Section 2.3, the Encoding/Decoding model provided two main outcomes. First, it showed the fact that mass media communication could impact how the audience perceived the world by imposing a dominant hegemonic code which reflects the values of a dominating elite controlling mass media. Second, it highlighted the active role of the audience in decoding the message and in conducting a struggle over the meaning that contributes to make the dominant hegemonic order evolve. Therefore, it appears first necessary to observe how the encoding moment and the circulation moment are articulated together in order to understand how the production code interacts with the circulation code. Second, it implies to understand how the specificities of personalised circulation on social media described in Section 2.5 may affect the decoding process and its outcomes.

2.6.1 Articulating the encoding moment and the circulation moment

Introducing a circulation moment within the Encoding/Decoding model questions Hall's conclusions regarding the dominant hegemonic order created by mass media. As explained

above, the emergence of social media contributed to dissociate the process of circulation from the process of production. This dissociation led to create two dominant orders: one corresponding the original "dominant hegemonic order" defined by Hall (1980b, p. 123) and an "additional dominant order" (Bødker, 2016, p. 416) conveying the values of social media companies. Consequently, the "augmented commodity" accessed by users via social media platforms contains an original news message conveying values corresponding to the original dominant hegemonic order and an additional layer of circulation meaning, wrapping up the original news message and conveying the values of a different dominant order (Bodker, 2016).

However, little is known regarding how production and circulation coding articulate themselves in terms of meaning generation from a linguistic and hermeneutical point of view, nor how this process of circulation affects the structure in dominance of news media outlets. Therefore, this will be the object of the first research question of this work.

This research will try to understand what the process of circulation on Facebook's newsfeed add to news content in terms of meaning; and how this additional meaning articulates with the meaning contained in the original news commodity. In order to do that, the meaning generated by the algorithmically-customised circulation and added to the original news content will be observed in Part II - Encoding & Circulation. This observation will be divided into two steps. First, the selection of certain content over other will be studied in order to understand how the choice of certain contents over other during the circulation moment creates meaning. Second, "augmented commodities" will be studied as individual units of meaning to highlight how hints of circulation added to the original news commodity generate meaning. On the basis of those observations, the third step will consist of unveiling the algorithmic rhetoric underpinning the creation of meaning during the circulation moment.

The expected results of this research will be to clarify, from a linguistic and hermeuneutical point of view, to what extent the original news commodity and its dominant hegemonic code is "folded into a new form of governance, or an additional dominant order, linked to the industrial structure of big commercial social media company" (Bødker, 2016, p. 416).

2.6.2 How the circulation moment can affect the decoding moment

The second main contribution of Stuart Hall's Encoding/Decoding model consisted in demonstrating the active, yet not individual, role of the audience in decoding the meaning out of its message form. Through their active decoding, the members of the audience participate in a constant struggle over the meaning that contributes to make the dominant hegemonic order evolve. However, their capacity to 'struggle' over the meaning may be affected by the change in nature of the message in the context of social media.

First, the context of decoding on social media platforms differs from that studied by Hall as the content offered to users on their newsfeed is personalised. As mentioned above, while decoding of mass media often happens "into the air" (Peters, 1999, p. 200), leaving no trace, decoding on social media happens "into the system" (Jensen & Helles, 2017, p. 17). As a consequence, users leave web-stigmergies or traces of their decoding such as the time spent on a publication, the opening of a link, the attribution of a 'like', the writing of a comment, or the sharing of content. The information contained in the web-stigmergies are then informed to customise further selection of content, creating "cycles of anticipation" (Gillepsie, 2010, p. 204) of users' interests. One may wonder here if those "cycles of anticipation" correspond to anticipate the decoding position of a user towards the news post and to maximise the selection of content that would trigger an aligned decoding. Stigmergies may contain a lot of information about the structural factors that may help to predict the ideolocal stance that a user can take towards a news post.

Therefore, the use of those cycles of anticipation to customise the news offer may challenge Hall's conclusions regarding the ability of the user to conduct a constant struggle over the meaning that contributes to making the dominant hegemonic order evolve. Scholarship regarding the existence of a "filter bubble" (Pariser, 2011, p. 9) or of "echo chambers" (Sunstein, 2007, p. 6) tends to suggest that the algorithmically-customised news offer aims to exclusively select content whose ideological stance would match the users'. As a consequence, if the personalised offer of news content is too homophilious and a filter bubble restricts the access to content that can trigger a negotiated or confrontational readings, the struggles over the meanings may be limited.

Second, as explained in Section 2.5.3, on social media platforms, users decode an augmented commodity in which two different sets of values coexist – the dominant hegemonic order of news producers and the additional dominant order of social media platforms – within the augmented commodities. Therefore, the three hypothetical positions defined by Hall may have to be reconsidered taking into account this specificity.This research will therefore focus on the following question: **To what extent, does the circulation process affect how social media users decode news content; and does it impact decoding outcomes?**

To answer this second research question, the process of decoding on social media platforms will be empirically observed via ethnographic observation and the outcomes of decoding will be analised in Part III - Circulation & decoding. The first expected outcome of this research question will be to model the decoding sequence, including the set of processes composing decoding, and to understand how users adapted their decoding sequence to the specificities of the circulation process on Facebook. The second expected outcome will consist in proposing a typology of the different ideological stances that may be taken by users towards the augmened commodity, taking into account that it may contain two different ideological sets of values. The third expected outcomes will consist in understanding how users may contribute to the struggle over the meaning in the context of Facebook.

2.6.3 Modelling Encoding/Decoding in the context of Facebook

The answers to the two questions formulated above regarding will then be used to adapt the Encoding/Decoding model in the context of news circulation on Facebook, detailing its different steps and indicating their specificities in comparison to the original model developped in the context of mass media.

In doing so, this research will try to avoid to take a "futurology" perspective (Morley, 2003, p. 441). Research on new technologies tend to assume technical advances would necessarily lead to improve the quality of mediated communication and to enhance the level of understanding between the sender of a message and its receiver (Carey, 1989; Marvin, 1990). However, this ideological conception linking technological changes with an improvement of human communication is often utopian and erroneous (Mattelart, 1996).

The counterpart of this perspective, which consists of nostalgically considering previous past communication methods as better, must also be avoided (Morley, 2003). Therefore, the results of this research concerning Facebook would need to be resituated into a broader historical perspective rathe than being considered for themselves (Spigel, 2001a, 2001b).

2.7 Conclusion

The emergence of social media has created "new conditions for the production and the circulation of meaning" (Langlois, 2014, p. 12), where technology is omnipresent. But these conditions frequently remain obscure. The interference of technology with the use of computational algorithms often responds to the unclear imperatives of social media platforms. Those imperatives are almost imperceptible to the user, evolve quickly, and respond to other unknown imperatives of social media platforms.

Messages received by Facebook users – in the context of this study: news posts – are not any longer news commodities produced by a media outlet; they are "augmented commodities", composed of the original news commodity plus an additional layer of meaning composed by traces of its circulation process. However, little is known about this augmented commodity nor about its possible effects. Therefore, the first aim of this study is to deconstruct it and to understand what the circulation moment generates in terms of meaning. This will shed light on how news production and news circulation on social media platforms are articulated together; and on how the addition of a circulation moment (independent from news production) may affect the structure in dominance of news media outlets.

Besides this, the impact of those news conditions of production on how users decode the news post as an "augmented commodity" is largely unknown. Decoding in the context of algorithmically-customised distribution content of news content on Facebook remains almost an unexplored field, with no empirical observations yet conducted. Consequently, the second aim of this study will be to understand how circulation encoding affects decoding and to redefine decoding as a set of processes on Facebook on the basis of empirical observations.

Stuart Hall's original model Encoding/Decoding will be used as a model to apprehend these changes of circulation and the possible impact on how user decodes. However, it should be augmented to take into account circulation as an intermediary process of Decoding/Encoding. This intermediary process creates meaning, although not through language. Rather, by considering the previous communication behaviours of the user, it predetermines whether the meaning assigned by the producer of a message will be significant for the receiver and shows it. The user is culturally pre-positioned in order to define what will be meaningful. Such a cultural pre-position may modify decoding.

This study will therefore focus initially on the circulation moment to determine the algorithmic rhetoric underpinning it, and subsequently, it will focus on how Facebook users decode news content on their Facebook newsfeed to observe how the algorithmically customised circulation impacts their practices. Those two steps will lead to the reassessment of the Encoding/Decoding model in the context of Facebook. A qualitative methodology, combining ethnography and semiotic analysis has been developed for this purpose, and will be fully explained in the next chapter.

CHAPTER 3 - A qualitative research design to reassess the Encoding/Decoding model

3.1 Introduction

Chapter 2 addressed the published scholarship regarding the circulation of news content on social media, and more specifically on Facebook. Three gaps were identified. The first gap is linked to the additional meaning generated by the circulation process itself. In recent research, this circulation process is identified as a "dynamic cultural phenomenon in its own right" (Aronczyk & Craig, 2012, p. 93). Consequently, the news messages available on Facebook newsfeeds are likely to carry extra meaning in comparison with the original news commodity they refer to (Bødker, 2016). However, it appears that there is a dearth of empirical research investigating the exact content of the meaning added to those "augmented commodities" (Bødker, 2016, p. 415). The second gap resides in the absence of studies on how people decode those "augmented commodities" on their Facebook newsfeed, even though this social media platform can be considered as a major gateway to news (Newman et al., 2019). Finally, the third gap relates to the absence of empirical studies investigating the possible correlation between the meaning generated by the circulation process on Facebook and how people decode news contents on their Facebook newsfeed.

In light of those gaps, two research questions were formulated:

1) How do production and algorithmic circulation articulate themselves in terms of meaning generation? How does that affect the structure in dominance?

2) To what extent does the circulation process affect how social media users decode news content and its outcomes?

In order to answer these questions, a qualitative research design combining ethnography and semiotic analysis (Fiske, 1992), was elaborated. This qualitative design had to answer two imperatives. First, it needed to be theoretically coherent with the final purpose of this study which is to reassess Hall's Encoding/Decoding model (1973b, 1980b) in the context of news circulation on Facebook newsfeeds. Second, the research questions implied the collection and analysis of data regarding two different elements: data regarding the process of circulation of news content on Facebook newsfeeds and data regarding how users decode news contents on Facebook.

In this chapter, the qualitative design and the different steps of its completion will be described. The first section will present the elaboration of the research approach step by step, from the definition of the epistemological stance to the choices of specific methodologies. The second section will detail the research design, focusing on the sampling strategy and any ethical considerations. The third section will describe the data collection process from the recruitment of the participants to the realisation of the interviews. Finally, the data analysis will be characterised step by step in the fourth section.

3.2 Research approach

In Chapter 1, the expected outcome of this research was defined: Reassessing Hall's Encoding/Decoding model in the context of news circulation on Facebook newsfeed. To achieve this objective, it was necessary to: 1) to maintain theoretical coherence with the original model and 2) to gather the necessary data to answer the questions. Consequently, a research approach has been developed in order to meet those two requirements.

This section will detail how this research approach was designed. The first step to define the research approach consisted in clarifying the epistemological and theoretical requirements imposed by the use of Hall's work (1973b, 1980a, 1980b), respectively constructionism and cultural studies associated with structuralism. The second step was the choice of an inductive qualitative methodology inspired by ethnography and semiotic analysis. Finally, the third step involved choosing two qualitative methods to collect data - a semi-structured interview combined with a "guided tour" (Mathieu & Pavlíčková, 2017, p. 430), and then three methods to analyse those collected data: a thematic analysis (Jensen,

2012), and a multimodal analysis (Bateman 2008) associated with automatic semantic tagging via the software USAS (Rayson 2008).

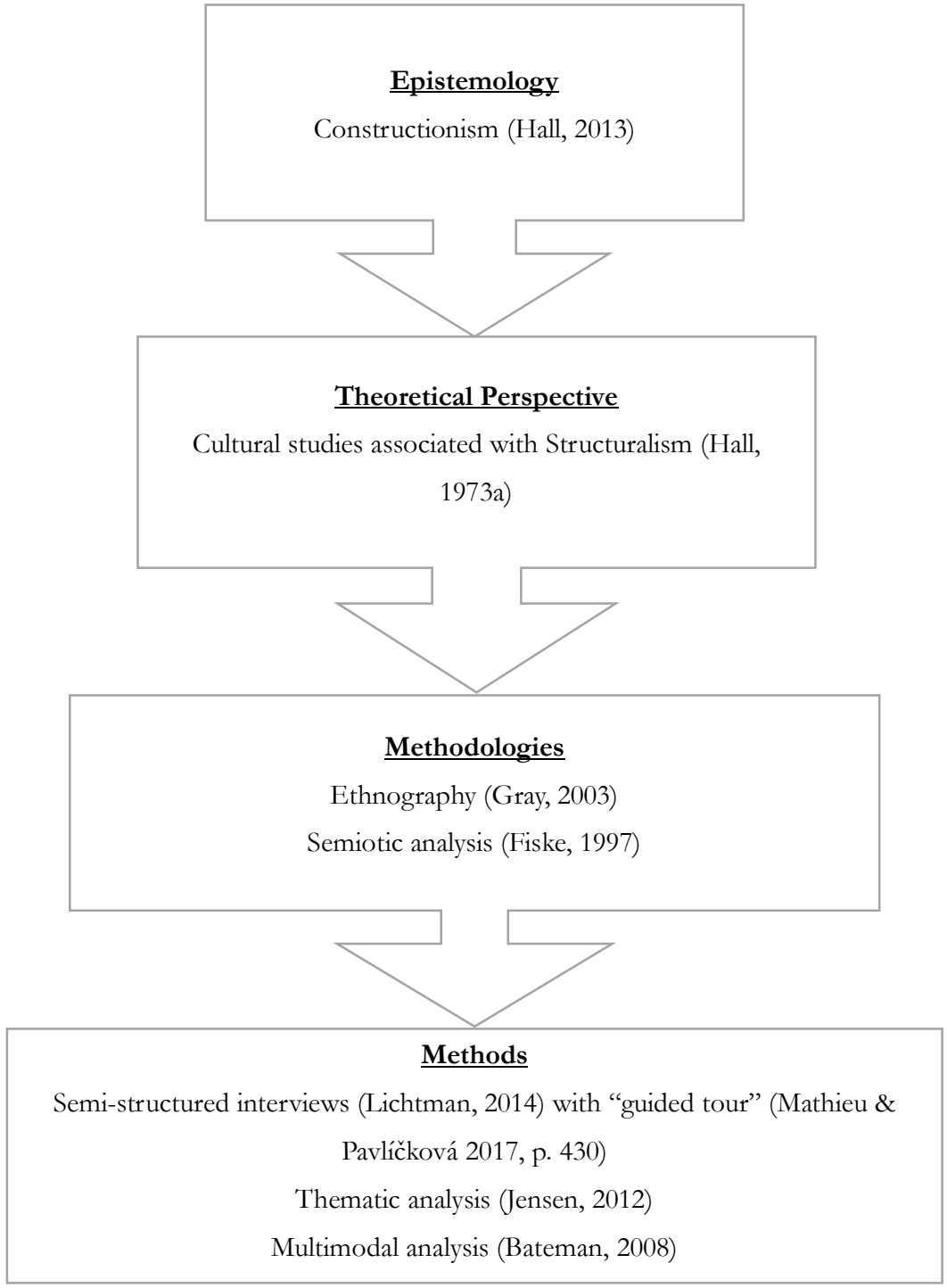

Figure 3.1. Mapping of the research approach (Crotty, 1998)

3.2.1 Theoretical perspective and epistemology

The first step to define the research approach of this project involved defining its underpinning epistemology and theoretical framework. This study naturally followed the theoretical perspective and the epistemological stance defined by Hall (1973b, 1980a, 1980b, 2013) in order to be coherent with the purpose of this research: Reassessing Hall's Encoding/Decoding model in the context of news circulation on Facebook newsfeed.

One of the most interesting aspects of Hall's conception lies in the fact that he proposed that meaning-making be studied from a constructionist point of view, taking elements from two usually opposing paradigms: culturalism and structuralism.

Constructionism as an epistemology starts from the premise that there is no objective meaning (Crotty, 1998). Meaning is constructed and its constructions differs among individuals. Culturalism and structuralism, taken together, help to understand how meaning is constructed through individual experiences and ideologies. On the one hand, culturalism focuses on agencies and experiences (Hall, 1980a). Meaning-making is apprehended through the sum of individual ordinary experiences and how they interact to define social practices. It is conceived through grounded patterns extracted from the entangled relationship between conscious subjects. Determinism is absent from this conception. However, this approach is limited in the sense that the relationship between people and experience cannot be the only grounds for studying culture, as people unconsciously think and experience the world through pre-existing frameworks (cultural, social, political, etc.). Structuralism on the other hand insists on those pre-existing frameworks. It focuses on how the abstract organisation that underlies grounded relationships produces ideologies that unconsciously determine how the world is represented and lived[6]. It offers a way of conceiving the complexity of social practices with abstract structures. However, the main

[6] For example, in *The determinations of news photographs,* Hall (Hall, 1973a) shows how news photographs "translate the legitimations of the social order into faces, expressions, subjects, settings and legends" (p. 181). If a man is considered as a powerful public figure, journalists would tend to represent him with a head and shoulder portray with a thoughtful expression in order to produce an impression of power and importance that would legitimise his position.

limitation of structuralism is that it overlooks the concept of 'subject', reducing individual experiences and agencies to an insignificant factor. In contrast, those two factors are acknowledged in culturalism.

In the light of the inherent limitations of those two opposing paradigms, Hall (1980a) instead suggests articulating them together into a unity to apprehend meaning-making because meaning is the product of a constant struggle between individual practices and ideologies.

3.2.2 Methodologies

In order to collect both data regarding individual experiences and data regarding structures, this study adopted a qualitative methodology with inductive reasoning based on a combination of semiotic analysis and ethnography (Fiske, 1992). This combination is advantageous in clarifying how meaning-making operates (Fiske, 1992; Gomm, 2009) as it avoids "the trouble with audiences" (Gray, 1999, p. 22). According to Gray (1999), ethnography tends to emphasise and focus too much on human creative agency through prolonged observational immersion, while semiotic analysis often forgets the human experience by considering only "the ideologically constructed text" (p. 28). She therefore suggests this dualism can be overcome by considering both individual experiences and structures as two sides of the same coin.

3.2.2.1 Semiotic analysis

A semiotic analysis (Fiske, 1992) was used to understand what kind of meaning was produced during the circulation process of news content on Facebook newsfeeds. This methodology was chosen for its capacity to focus on connotations (Seiter, 1997), in which interpretation is at the heart of the Encoding/Decoding process (Hall, 1973b, 1980b)

The meaning generated during the circulation process is characterised by the fact that it is added to an existing message that already carries its own meaning (Bødker, 2016). Consequently, the semiotic analysis aimed to isolate those two layers of meaning - the one given by the producer and the one given by the circulating algorithm – and to see how they interact. When studying those layers of meaning, the focus was on connotations as

ideology carriers. Connotation, as defined in Chapter 2, refers to the fluid and abstract layer of meaning carried by signifiers, that can change over time and places (Barthes, 1982). This is through the use of those that a message producer, and may be a message circulator in the case of Facebook newsfeed-generating algorithm, may spread ideologies. Ideologies reflect the meaning structures of its authors – that is to say the set of values they used to interpret the world.

3.2.2.2 Ethnography

The ethnographic observation was then used to study how Facebook users decode news posts on their newsfeed. The individual decoding experience of each participant was systematically described on the basis of a direct observation (Lichtman, 2014). Then, general themes were extracted from particular experiences (Creswell & Creswell, 2018) in order to observe decoding patterns.

The idea of individual decoding experience was considered from a dual perspective: as a process and as a product (Pickering, 2008). The experience of decoding news posts was first observed and described as a process, taking into account the flow of action as lived by the agent. Such a perspective aimed to identify patterns of decoding sequences. What was generated by the decoding experience – that is to say the outcomes of the decoding sequences and the choice of a dominant, negotiated or oppositional code – was then observed and analysed as a product. This second perspective aimed to single out the different decoding stances taken by the participants as the outcome of decoding.

3.2.3 Research methods

Among the possibilities offered by the chosen qualitative methodology combining ethnography and semiotic analysis, several research methods were selected to collect and analyse the specific data required to answer the research questions (see Figure 3.1).

In order to collect data, "semi-structured interviews" (Lichtman, 2014, p. 248) were combined with "guided tours" of the participants' newsfeeds (Mathieu & Pavlíčková, 2017, p. 430). The combination of those two methods presented the advantage of allowing the simultaneous collection of data regarding both the circulation and the decoding moments.

In order to collect those data, several analysis were used: a thematic analysis (Jensen, 2012), and a multimodal analysis (Bateman, 2008) associated with an automatic semantic tagging (Rayson 2008).

3.2.3.1 Data-gathering methods: semi-structured interviews and "guided tours"

Semi-structured interviews (Lichtman, 2014) are characterised by the fact that the interviewer uses a general set of questions, common to all the study participants, to conduct them. However, those questions may be adapted as the situation commands in order to get some additional information about a specific topic or to clarify a participant's answer. This individual format was chosen because it preserves the uniqueness of the user's experience. It can also generate richer data by encouraging participants to raise topics of their own based upon a list of prompts, and to explain what makes sense to them. However, those interviews are standardised enough in order to facilitate comparison between the participants' answers and to ease further coding.

During the "semi-structured interviews" phase, data regarding decoding were collected. Through the general set of questions, participants were asked some specific questions about their behaviours on Facebook, their news consumption habits on both social and mass media, their perceptions of the circulation process of news content on Facebook, their decoding agency on Facebook, and their ideological stance in regards to the news content provided to them by the newsfeed-generating algorithm. Those data were collected via audio-recording, in French.

The semi-structured interviews were associated with the "**guided tours**" of the participants' newsfeeds (Mathieu & Pavlíčková, 2017, p. 430). After answering the general set of questions prepared for the semi-structured interviews, participants were asked to connect to their Facebook account and to scroll down their newsfeed as they would usually do, while commenting on their actions. The "guided tour" is inspired by the "Think-aloud method" (Schaap, 2001, p. 447), which consists of making the participants perform an action – in this case, browsing their newsfeed – and verbally expressing the action and their current thoughts simultaneously. Such a method has proven to be efficient for capturing instant meaning interpretation. However, according to the original protocol, the researcher should not intervene in the process: this is to avoid orienting the questions. In the context

of this study, this was not feasible because this research focused on news and the participants were likely to go through non-news content when browsing their newsfeeds. To avoid out-of-scope digressions, a more flexible protocol was applied whereby the researcher could ask some questions while the participants were browsing their newsfeed. This possibility also allowed the researcher to focus on specific points if clarifications were needed about a participant's online behaviour. All interviews were conducted face-to-face to avoid any additional mediation during the "guided tour".

The "guided tour" presents some limits as it did not completely reflect how people usually browse their newsfeeds in real situations or account for the likelihood that people multitask when browsing and scrolling down their Facebook newsfeeds. Nevertheless, it appeared to be the only feasible way of asking participants specific questions about decoding. It allowed collecting both data regarding circulation and decoding (see Table 3.1). The 'circulation data' were collected under the form of the screen-recording of the participant's newsfeed. Those screen-recordings aimed to provide a snapshot of the output of the circulation process. The 'decoding data' were also collected via audio-recording of their comments and the researcher's observations regarding their behaviours when browsing.

Table 3.3. Summary of the data collected during the semi-structured interviews combined with "guided tours".

	'Circulation data'	**'Decoding Data'**
Semi-structured interviews	N. A.	Audio-recording of the participants answers during the semi-structured interviews
"Guided tours"	Screen-recording of the participants' newsfeed content	Researcher' observations Audio-recording of the participants' comments while browsing their newsfeed

3.2.3.2 Methods of analysis

As several types of data were collected in the context of this study, different analytical tools were used depending on the nature of the data. The audio data and the researcher observations (see Table 3.1) were processed via thematic analysis (Jensen, 2012), and the screen-recordings were also processed via "multimodal analysis" (Bateman, 2008), and automating semantic tagging via USAS (Rayson, 2008).

All the 'decoding data' were processed through an inductive **thematic analysis** (Jensen, 2012). An "in-depth and iterative categorisation" (Jensen, 2012, p. 279) of what the participants said during the semi-structured interviews and did during the "guided tours" was done. Everything that the participants said was systematically compared, contrasted, and organised in order to abstract their different conceptions of decoding and to understand their inferences.

This thematic categorisation was used to answer the second research question – To what extent does the circulation process affect how social media users decode news content and its outcomes? The categorisations of thematic analysis were used to reconstitute the set of processes constituting the decoding sequence of a news post in the context of Facebook newsfeed, and once established, the newsfeed decoding sequence deduced from the thematic analysis was compared to the set of processes constituting decoding conjectured by Morley (1992) in the context of mass. As explained in Section 2.3.3, decoding is unlikely to correspond to a unique action as theorised by Hall (1973b, 1980b). Instead, it could be assumed that decoding rather corresponds to a "set of processes" (Morley, 1992, p. 121). In the context of mass media, those processes may be: Paying attention to content, identifying a relevant message, comprehending the message, interpreting the message and generating a possible answer. This comparison aimed to highlight the specificities of decoding on Facebook newsfeed and how this can affect the ideological outcomes of decoding.

Multimodal analysis combined with automated semantic tagging. Among the 'circulation data', the screen-recording generated during the "guided tours" were processed via a multimodal analysis (Bateman, 2008) and via automated semantic tagging analysis with USAS (Rayson, 2008). The combination of these analytical tools aimed to provide an

answer to the first research question regarding what the process of circulation on Facebook newsfeed add in terms of meaning to news content, and to provide elements to discussing the third research question as to whether Facebook's peculiar circulation process affects the decoding autonomy of the users when decoding news posts on their newsfeed. As the first question focuses on the newsfeed-generating algorithm and the circulation process, the association of both tools was chosen to provide a technological approach in the analysis, to consider technology on its own terms and to preserve the "hybrid nature" of sense-making (Anderson, 2012, p. 1016).

Multimodal analysis focuses on the interaction and combination of different modes of communication within a single environment (Bateman, 2008) and how they are used by people to generate meaning. This analytical method therefore appeared to be the most appropriate tool to appraise Facebook's complex environment, as a product of "media convergence", combining several modes (Bateman et al., 2017).

Among the different approaches to multimodal analysis, social semiotics was preferred for its theoretical compatibility with Hall's Encoding/Decoding model. This approach, derived from Systematic Functional Linguistics (SFL), argues for the need to socially locate language as the context in which a message is constructed and how it influences which resources are available and how people use them (Halliday, 1985).

Within the different social semiotic multimodal analysis methods, the GeM model was adopted (Bateman, 2008). Two main reasons justified this choice. First, the GeM model, inspired from computational thinking, dissects multimodal compositions in a systematic manner. This characteristic is usually considered as its main limitation, because it produces a "somewhat mechanical analysis that fails to recognise the active and cognitively sophisticated potentials of the recipient/user of multimodal documents" (Gibbons, 2012, p. 19). However, in the context of this study, this characteristic appears on the contrary to be a valuable asset to understand the circulation process and to recreate the systematic logic of the newsfeed-generating algorithm.

What Bateman's (2008) GeM model proposes to do is breaking multimodal compositions, such as a Facebook newsfeed, into four layers of analysis: the "base" (the main elements of the composition)(p. 267), the "layout" (the spatial composition of the page) (p. 267), the

"rhetoric" (the interaction between the different elements of the composition) (p. 144) and the "genre" (semantic patterns used to see similarity between the elements of the composition) (p. 177). Once the layers are identified, they are analysed individually. Then, they are associated to understand how they interact to create meaning.

Such a choice aimed to avoid an issue raised by Morley (1992) about his own work; that is, the reduction of a whole unit of meaning into isolated elements. According to Morley (1992), the polysemy of a text may be quite different than the polysemy of a sign in itself. This is what Volosinov (1973) called " multi-accentuality", which means that meaning is not incorporated within language: it is reproduced, constructed, deconstructed and re-accented by different social groups in different historical contexts. Very different meanings can thus emerge from language depending on the social context. Consequently, this multimodal analysis took into account this variation and proposed a layered analysis from the sign level to the newsfeed as a whole.

However, multimodal analysis alone does not appear to be sufficient in order to recreate computational-thinking (Burrell, 2016) and to approach the logic behind algorithmic circulation. Therefore, the multimodal analysis was associated with a process of computational semantic tagging, via the automatic semantic tagger developed by the University of Lancaster: USAS[78].

USAS[9] is a system used to perform automatic semantic tagging of texts. Semantic tagging endeavours to detect semantic fields – that is to say the presence of words referring, at

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[7] http://ucrel.lancs.ac.uk/usas/tagger.html

[8] A beta version of USAS with a French corpus was used, with the autorisation of the University of Lancaster. As the corpus in French is still under development, the data of this study will be shared with the USAS team in order to enrich their corpus.

[9] In the first instance, instead of using the USAS, a "conventional content analysis" (Hsieh & Shannon, 2005, p. 1279) was performed manually, extracting coding categories deriving directly from the text. However, this approach of the textual elements was not satisfying. The "analytical lens" used for coding (Saldaña, 2016, p. 8) appeared to be very similar to a traditional journalistic way of thinking. It did not take into account the peculiarities of algorithmic reasoning. As a consequence, the textual elements of the news posts underwent a

some level of generality, to the same concept. USAS works on a semantic tagset (see Appendix A for the full semantic tagset) divided into 21 major discourse fields, and subdivisions and inspired by Tom McArthur's *Longman Lexicon of Contemporary English* (McArthur, 1981). The USAS was chosen over other semantic taggers for two main reasons. First, the USAS was developed for academic purposes, so, as opposed to commercial products, it works with transparency; its coding classifications and choices are explained and justified in a series of academic papers (Archer et al., 2002; Piao et.al, 2015).The process of coding classification and choices is then transparent. Second, the USAS is multi-lingual and can be used to code content in different languages.

USAS was used to tag the main elements of composition that constituted the base layer of the multimodal analysis - textual elements as well pictures, emojis and videos (via the use of descriptive keywords and captions)- in order to detect potential patterns of meaning.

3.3 Research design: participants' recruitment

After presenting the research approach used for this study, it is necessary to explain the research design. This section will document how this research was carried out by detailing the "purposeful" sampling strategy employed (Patton, 2002, p. 235), and by highlighting the ethical considerations linked to the conduct of the study.

3.3.1 Sampling strategy

The design of the sample reflected the purpose of gathering two types of data: 1) 'Decoding data' containing information regarding the experience of decoding news on Facebook newsfeeds to understand how Facebook users were making meaning out of news posts, and 2) 'Circulation data' regarding the news content selected by the newsfeed-generating algorithm for each participant in their newsfeed in order to ascertain how the

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second layer of analysis through an automatic semantic tagger. This process was chosen to avoid "internalist" bias (Anderson, 2012, p. 1007), which refers to a tendency to assess the issue from the point of view of a professional journalist as the researcher had worked as a journalist from 2009 to 2015.

circulation process generates meaning. The sampling strategy and the sampling size were then adapted to those objectives.

3.3.1.1 A purposeful sampling

Two sampling options were possible: either analyse a large study population of Facebook users who use social media to read news on Facebook; or target specific Facebook users. This study opted for the second option – targeting a specific population. The in-depth qualitative nature of this research justified the selection of informed participants, rather than just responsive ones (Russell Bernard, 2013).

Consequently, a "purposeful" sample of informed participants was constituted (Patton, 2002, p. 46). "Purposeful" refers in this context to the selection of information-rich participants who can provide extensive information about the focus of the research questions. From among the possible types of purposeful samples, an "intensity sampling" was chosen because it would be composed of "information-rich cases that manifest the phenomenon of interest intensively (but not extremely)" (Patton, 2002, p. 235). The logic behind this sampling was to select people who were both highly trained to use social media and very familiar with news consumption. The aim was thus to study each participant's enhanced experience of meaning-making and to obtain a large selection of the news offered to them.

The sampling process is shown diagrammatically in Figure 3.2.

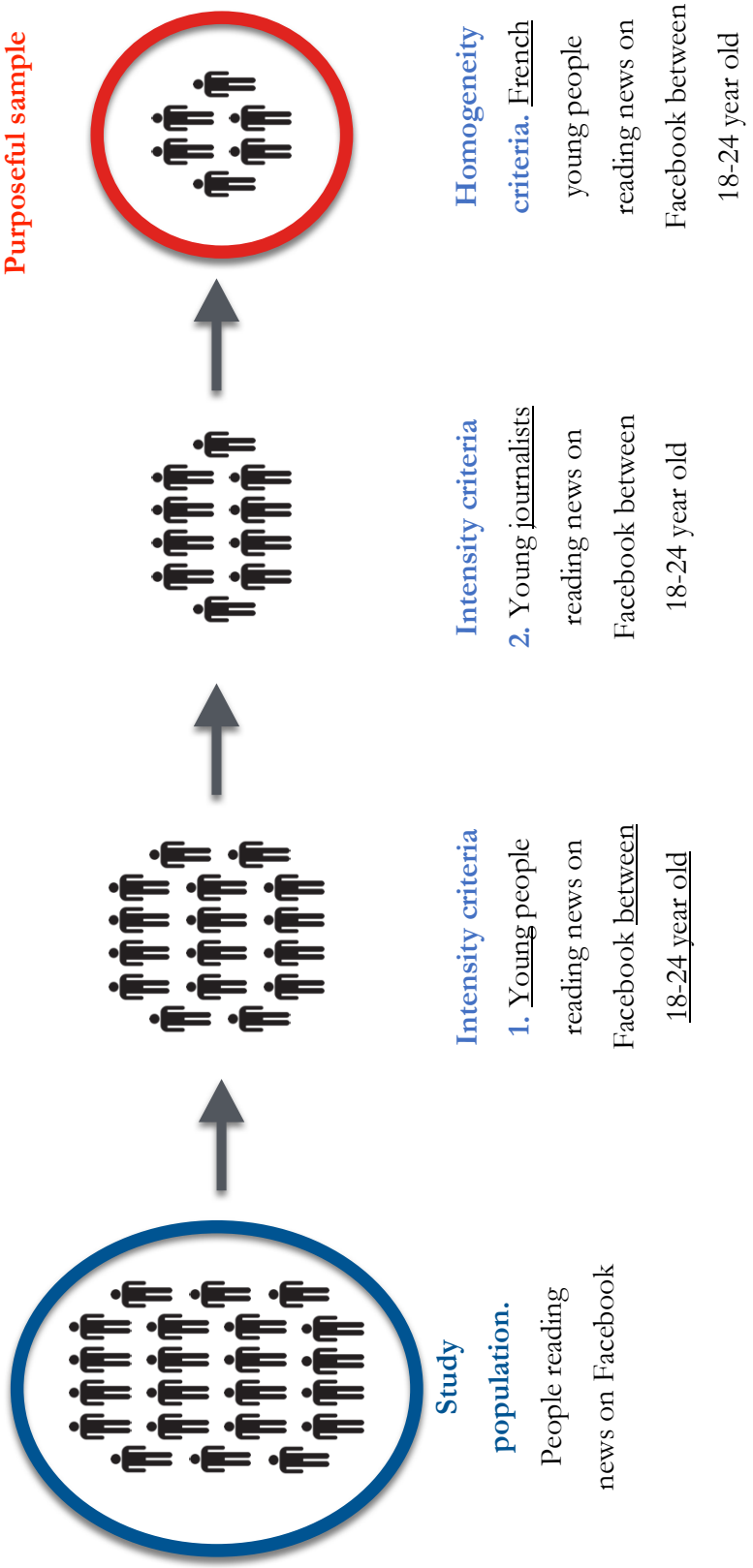

Figure 3.2. Sampling strategy – From a large study population to a reduced purposive sampling

Several criteria were applied to maximise the intensity of the sampling:

- **Application of a first intensity criterion: maximising digital literacy.** In order to ensure an enhanced digital literacy among the participants, young people between 18 and 24 years old were selected to participate. This age group corresponds to "digital natives" (Prensky, 2001, p. 1). Even if this concept has been highly criticised, the said digital natives were defined in this case as young people with a high "degree of inclusion" (Bijker, 1997, p. 174) within social media, meaning that they would be very familiar with the elements constituting the Facebook technological frame.

- **Application of a second intensity criterion: maximising news literacy.** To ensure an important news literacy and critical thinking regarding news consumption, only young journalists or journalism students were selected. the idea was to create a synergy between their news literacy and their supposed digital literacy as young people between 18 and 24 years old tend to consider social media as their main source of news (Newman et.al., 2016).

Application of a third intensity criterion: cultural homogeneity. Cultural considerations led to the application of a third criteria to define the sample: cultural homogeneity (Miles et al., 2014). All the participants were elected for their similar demographic and linguistic backgrounds. In this case, all the participants are native French speakers, living in France. The objective of this cultural delimitation was twofold. First, a homogeneous sample was coherent with the theoretical framework. Due to the importance of cultural background in meaning-making, a linguistic homogeneity was considered as favouring the emergence of decoding patterns. And second, interpreting ideology when studying the news offers on Facebook would be easier for the researcher, who is a native French speaker. Therefore, when the research was advertised, the volunteers were required to fulfil the following six criteria corresponding to two different categories: 1) technological criteria corresponding to the global study population induced by the formulation of the research questions, and 2) intensity and homogeneity criteria prompted by the sampling strategy.

1. **Technological criteria**
    a. Have a personal Facebook account.
    b. Browse Facebook newsfeed regularly (at least once a week).
    c. Follow at least one traditional media on Facebook such as a newspaper, a TV channel or a broadcasting station.

2. **Criteria prompted by the purposeful sample**
    a. Be between 18 and 24 years of age.
    b. Work as a journalist or to be a journalism student.
    c. Be a native speaker of French, living in France and to communicate mostly in French on the Facebook profile.

3.3.1.2 Sampling size

During the formal approval of this research project, the sampling size was estimated around 15 to 20 participants. This relatively small sampling was dictated by the in-depth qualitative nature of the study. As explained above, the "purposeful" sampling (Patton, 2002, p. 46) with a cultural homogeneity criterion was specifically designed to target information-rich participants able to provide a rich illustration of two phenomena: 1) how the circulation process on Facebook newsfeeds generates meaning, and 2) how people decode the news content they get on their Facebook newsfeed. Consequently, a large sample did not appear necessary. On the contrary, a large sample would have been counter-productive because less time would be allocated to each participant in order to understand their cultural practices (Gray, 2003).

As a counterpart, this small and "purposeful" sampling did not aim to reach a degree of generalisability for this study (Messenger Davies & Mosdell, 2006), and the findings were not viewed as representative of how a larger population might experience news decoding on Facebook, but rather to provide some precise description of the studied phenomenon.

3.3.2 Ethical concerns regarding participation

Prior to the recruitment of participants, a number of ethical considerations arose, linked to conducting "semi-structured interviews" with "guided tours" on the participants' Facebook newsfeed.

3.3.2.1 Ethical issues linked to the semi-structured interviews

Face-to-face, one-to-one semi-structured interviews correspond to a frequent configuration for qualitative research in social sciences, and this study did not present any specific risks linked to its particular topic. Consequently, only minimal ethical precautions were required and taken. Among those:

- Informed-consent was requested. The form detailing the research procedure and the consent form was sent to the participants via Facebook's Instant Messenger ahead of time to give them the time to read it carefully. In those documents, the modalities and the risks of this research were presented. The participants were also informed that they could withdraw from the project at any time.

- Despite the need of travelling to France, face-to-face interviews were preferred over Skype interviews in order to avoid an additional layer of mediatisation between the researcher and the participants and to be sure that the participants could give informed consent.

3.3.2.2 Ethical Issues Linked to the "Guided Tour"

No clear instructions regarding the ethics of qualitative data collection on Facebook currently exist and could be followed for the "guided tours". Consequently, the set of recommendations made by the Association of Internet Researchers (Association of Internet Researchers, 2012) served as a guideline for this study.

On the basis of the AoIR recommendations:

- Facebook was considered by default as a private space and informed-consent was requested prior to data collection.

- All the data collected in the context of this study were de-identified before publication in order to respect the participants' privacy.

- The Facebook comments at the bottom of the news posts or at the top of the news post when the latest was shared by a friend were not used as data in order to avoid cascade privacy issues.

3.4 Data Collection

After receiving the approval from University of Technology Sydney Human Research Ethics Committee in October 2017 (Approval reference: ETH17 -1684), the data collection began.

This section will first explain how the participants were recruited and second, how the interviews were conducted.

3.4.1 Recruitment of participants

The recruitment process began in October 2017, as soon as the ethics approval was granted, in order to conduct the interviews from December 2017 to January 2018, according to the provisional timetable. This will be described below and the adjustment made to the original sampling size will then by explained and justified.

3.4.1.1 Recruitment strategy

Initially, the main journalism schools in France were contacted in order to recruit participants from among their student population. This method was unsuccessful for two reasons. First, it happened to be very difficult to identify the right interlocutor to circulate the information within journalism schools. Second, even when a suitable contact person was identified, the response rate was poor. Only one student from L'Ecole Supérieure de Journalisme Paris responded to the invitation and actually became part of the final sample.

As an alternative, it was decided, at the end of October 2017, to advertise the recruitment of participants directly on Facebook. For this purpose, three Facebook groups for French journalists and journalism students were identified: Journalistes et Pigistes Francophones; Réseau Journalistes et Médias: offres d'emplois, de piges et de collaborations; and CELSA-PARIS IV. Their respective administrators were contacted by the researcher via her personal Facebook profile to get their approval before advertising the research. Once they had responded positively, a post was sent on those pages to advertise the research (See Appendix B).

This alternative appeared to be more efficient. Numerous users commented on the advertising post or directly contacted the researcher via inbox message. Among them, some were not fulfilling the criteria and some decided not to volunteer after being informed of the full protocol. Consequently, only nine people decided to volunteer and to participate to this study. At that time, a research information sheet and a consent form were sent to the participants via Facebook's Instant Messenger to allow them time to understand the implications of being a participant. An interview time was also settled.

To complete the sample, an additional snowballing method was used. During the interviews, the participants were asked if they could recommend other participants. Three additional participants were recruited that way.

3.4.1.2 Adjusting the sample

After a pre-analysis of the data collected from the 13 volunteers, only seven were kept as part of the final sample.

Three participants were excluded as they were neither journalists nor journalism students. They presented themselves as journalists but were actually community managers working for entertainment media. An initial misunderstanding happened with the first participant, linked to the definition of news media and journalist. This misunderstanding was repeated with the snowballing, as the participant recommended two of her Facebook friends, until the confusion was clarified. Initial pre-analysis of the data collected with those participants showed two particularities. First, they had a very acute sense of algorithmic curation that differed completely from the other participants. This first specificity would have biased the

results obtained as such an acute consciousness was necessarily impacting the way they decoded content on their Facebook newsfeed. Second, they happened not to receive a lot of news posts, despite following some news media on their newsfeed and the results of the "guided tour" were not exploitable. However, their interviews and their answers were kept aside for further research after the completion of this study.

Another two volunteers were also discarded because very few news posts appeared in their newsfeeds during the "guided tours". Both of them said during the interview that they were used to reading news on their newsfeed in the morning, while they were browsing mostly entertainment at night. Unfortunately, both interviews took place at night according to the participants' availabilities and the newsfeed-generating algorithm customised the offer according to the participants' evening preferences.

Another round of interviews was considered in order to reach the original sampling size target. However, the idea was discarded because saturation was reached and clear coding categories emerged from the data analysis of the seven participants.

3.4.2 Conducting interviews

A series of face-to-face individual interviews with "guided tours" were then conducted in Paris between December 2017 and January 2018. Each interview lasted between 60 and 90 minutes approximately and was divided into two parts: 1) a semi-structured interview (45/60 minutes) during which the participants partly answered questions about their use of Facebook and their perception of social media; and, 2) a "guided tour" (15/25 min), during which they live-shared their browsing experience with the researcher.

3.4.2.1 Individual semi-structured interviews

The interviews unfolded according to the following four-part interview guide (see Appendix C):

1) Part 1 – General questions regarding how the participants use Facebook. The first set of questions dealt with the participants' general use of Facebook. It aimed to gather elements such as the frequency with which they logged onto Facebook, and

when, where and on which devices (cellphones, tablets, computers) they were connecting to Facebook. The idea behind these questions was to describe how the participants were accessing news on Facebook.

2) Part 2 – Understanding why the participants use Facebook. The second set of questions dealt with the reasons the participants were using Facebook. This set of questions aimed to understand what image the newsfeed-generating algorithm could have of the participants. The first of these questions were concerned with what they were doing on Facebook and if they were using it for their personnal or professional purposes. Further questions were related to the composition of their network in order to appreciate the homogeneity of their network and their density. The final two questions of this part were aimed at analysing the images of themselves that the participants wanted to display through social media.

3) Part 3 – Regarding news consumption on their Facebook newsfeed. The third set of questions dealt with news consumption and Facebook. It began with several questions regarding the participants' news consumption in general, and aimed to clarify their main sources of news and their behaviour towards news. Next, each participant was asked specific questions regarding the personalised selection of news they get on their Facebook newsfeed. The intention here was to encourage them to talk about their perceptions of their newsfeed, whether they were satisfied with the selection, if it corresponded to their expectations, or if they had noticed any inappropriate news on their newsfeed.

4) Part 4 – Facebook and the creation of opinions. The fourth part of the interview dealt with where each participant stood ideologically in regard to the content proposed by Facebook, and whether Facebook could make them change their opinion.

All the interview content was audio-recorded and then transcribed for analysis.

3.4.2.2 The "guided tour"

During the second part of the interview process, each participant was requested to log on their Facebook profile and to lead a "guided tour" of their newsfeed (Mathieu & Pavlíčková, 2017, p. 420). Each "guided tour" lasted approximately 15 to 25 minutes. This relatively short length was decided because the exploration of meaning-making requires an intense investigation of meaning production rather than extended periods of observation (Gray, 2003).

Three layers of information were therefore collected during the "guided tour":

- the content of the newsfeed through screen-recording,
- the participant's interaction with their screen,
- the participant's perception or thought regarding their newsfeed via the interview questions and comments.

The content of each newsfeed and the participant's interactions with it were recorded via computer screen-recording using Apple QuickTime player. The thoughts of the participant were collected through comments and questions as in a traditional "guided tour". In contrast to the semi-structured interviews, questions during the "guided tours" were unstructured to achieve a sort of "informal conversation" (Lichtman, 2014, p. 248). The idea was to have each participant tell their newsfeed experience "on their own terms" (McCracken, 1988, p. 34).

3.5 Data analysis

3.5.1 Preparing data for analysis

All the data collected during the fieldwork underwent a process of preparation, including pre-analysis, in order to be exploitable for analysis. First, a database was created from the data collected during the "guided tours" Second, the interview data were transcribed.

3.5.1.1 Creation of a database from the "guided tour"

During the "guided tours", two types of data were gathered: screen-recording videos of the participants' newsfeeds, audio recordings of their comments, and the researcher's observations regarding the participants' behaviours. Those three datasets were first cleaned and then merged in order to create an exploitable database following the steps detailed below.

Step 1. Extracting news post from the participants' newsfeeds. The first step of the data preparation consisted in conserving only news posts from the participants' newsfeed recording as participants' newsfeed mixed news posts with other sorts of content such as entertainment, advertising material and personal posts. This initial step of data cleaning was much more complex than anticipated for three main reason:

- **News and entertainment content do look the same on Facebook**. The uniformity of Facebook post design makes it difficult to differentiate entertainment from news content at first glance. Consequently, differentiating a news post from other types of content by the format appeared to be impossible.

- **News producers are not distinguished from entertainment producers**. Facebook distinguishes pages into categories: Media/news company, Website, Magazine, News and media website, TV channel, Broadcasting & media production company, Video, Radio station. However, those are not a reliable categorisation as the categories do not correspond to any specific criteria and every page creator chooses its own page category. In addition, the blue or grey badge used by Facebook to certify the authenticity of a source does not refer only to news media.

Therefore, a definition of what is considered to be a news post in the context of this study was developed. As the study takes place within a French context, the definitions of news media and news source are based on French law. An article of French law n° 86-897 from

1 August 1986 provides a legal definition of what is a news media[10], but this has been modified by article 27of the law (n° 2009-669 of 12 June 2009) to integrate digital news media. This statute states that a news media is any service regularly producing and publishing original written material of general interest presenting a link with current affairs, and without any marketing intentions. Such an approach gave an inclusive conceptualisation, from 'hard' news (politics, international affairs) to 'soft' news (e. g. sports, culture or entertainment) (Vraga et al. 2016). For this study, the definition also included some media that were mentioned by the participants during the interviews as being of slightly more entertainment value.

Step 2. Decomposing the news posts. After 'cleaning' the video data set from its non-news contents and keeping only the news posts, the different elements of meaning composing the news posts were isolated as shown in Table 3.2, in order to underline possible patterns within the selection of news during the process of analysis.

[10] Original 1st article of French law n° 86-897 from August, 1st of 1986, modified by the article 27of the law n°2009-669 of June, 12th of 2009. "Au sens de la présente loi, l'expression "publication de presse" désigne tout service utilisant un mode écrit de diffusion de la pensée mis à la disposition du public en général ou de catégories de publics et paraissant à intervalles réguliers.

On entend par service de presse en ligne tout service de communication au public en ligne édité à titre professionnel par une personne physique ou morale qui a la maîtrise éditoriale de son contenu, consistant en la production et la mise à disposition du public d'un contenu original, d'intérêt général, renouvelé régulièrement, composé d'informations présentant un lien avec l'actualité et ayant fait l'objet d'un traitement à caractère journalistique, qui ne constitue pas un outil de promotion ou un accessoire d'une activité industrielle ou commerciale.

Un décret précise les conditions dans lesquelles un service de presse en ligne peut être reconnu, en vue notamment de bénéficier des avantages qui s'y attachent. Pour les services de presse en ligne présentant un caractère d'information politique et générale, cette reconnaissance implique l'emploi, à titre régulier, d'au moins un journaliste professionnel au sens de l'article L. 7111-3 du code du travail. »

Table 3.4. Detail of the database created from the unfolding "guided tour" data regarding the different information.

Category of content	Description of the content
Order of appearance	Order of appearance in the participant's newsfeed (from what was at the top of the newsfeed to what was browsed last)
Type of post	Indicates who has shared the news post. It could be 1) a media post posted directly by the media Facebook page, 2) A content shared or commented by a friend, or 3) a sponsored content.
Post mode	Dominant format used for the post (e.g.: text, picture, video, audio)
Language	Main language used in the post (excluding the comments)
Posting time	Original time of publication of the post on Facebook converted into minutes in order to facilitate automated comparison between the oldest and the more recent.
Author of the news content	Media which originally authored the news content (it can differ from who the entity that shared the news post).
Media followed by the participant on Facebook	If the participants follow the Facebook page of the media that authored the news content.
Number of likes	Number of likes obtained by the news post.
Number of comments	Number of comments obtained by the news post.
Number of shares	Number of shares obtained by the news post.
Number of views (videos only)	Number of views obtained by a news post (videos only).

Title of the article	Textual content of the title (if applicable).
Byline of the article	Textual byline of the article (if applicable).
Facebook publishing commentary	Textual content of the Facebook publishing commentary on the top of the article (if applicable).
Title within the video	Textual title embedded in the video (if applicable).

What was not integrated to this database was:

- The textual content of the comments beneath a news post: as mentioned in section 3.3, ethical concerns regarding privacy prevented collecting the textual content of the comments to analyse them.

- The audio content for videos or audio embedded in a news post. It was technically impossible on the basis of a screen-recording to extract that information

- The name of the person who shared, commented or liked the news post in the case of a content commented, liked or shared by a Facebook friend, for obvious ethical concerns.

Step 3. Integrating the audio content and the researcher's observations to the database. The participants' behavioural actions, annotated by the researcher during the "guided tour", as well as the specific comments made by participants during the "guided tours" regarding specific posts, have been integrated to the database under the forms shown in Table 3.3:

Table 3.5. Detail of the database regarding the description of participants' behaviours for each news post during the "guided tour".

Type of action	Description
Scrolled without stopping	Yes/No if the participant stopped to look at the news post.
Stopped a couple of second to view the publication	Yes/No if the participant has taken time to decipher the news post.
Turned the volume on (for video and audio only)	Yes/No if the participant had turned on the volume to watch the video.
Relevance of the news post	Yes/No if to the participant considered that the news post was relevant. Signs of relevance could be comments or actions during the "guided tour" such as opening a hyperlink, watching an embedded video, sharing, commenting or liking the news post.
Opened the link	Yes/No if the participant opened the hyperlink contained in the post
Content remembered after browsing	Yes/No. After the "guided tour", the participants were asked which news posts they remembered from the content they just browsed during the "guided tour".
Participant's comments during browsing	Textual transcription of the participant's comments related to a specific news post during the "guided tour".
Researcher's comment during guided tour	Researcher's comments made during the "guided tour" related to a specific news post.

Step 4. Creation of a visual database of a news posts picture. In addition to the breakdown of the news post and for the purpose of the multimodal analysis, a picture of each post was taken in order to consider the post not as a sum of individual elements but as an entity in itself. The visual database was not de-identified for practical reasons. Only news posts added to this dissertation were de-identified. This decision was justified by the fact that newsfeed contents are not considered as identifiable information, as they are not accessible to other people or indexed into research engines.

3.5.1.2 Preparation of the interview material

The data collected during the interviews were manually transcribed in French. However, they were not translated into English. The original language has been preserved in order to point out semantic similarities between the interviews.

In order to protect the participants' privacy, all the interview data were cleaned and de-identified before analysis, and any information that might allow identification was removed. In the context of this research, indications such as gender, race, ethnicity, hometown, visited places, etc., were not considered as personally identifiable information (Zimmer, 2010), as each participant was considered individually. Such indications were thus not sufficient to re-identify them.

3.5.2 Data analysis

After the creation of the "guided tour" database and the preparation of the data from the semi-structured interviews, a process of analysis comprising two steps began. First, the 'circulation data' obtained during the "guided tours" were subjected to a multimodal analysis combined with an automated semantic tagging process in order to study the circulation moment. Second, the semi-structured interview data were coded via thematic analysis to explain how participants decoded news on their newsfeeds.

3.5.2.1 Analysing the circulation moment via multimodal analysis and USAS semantic tagging

The data extracted from the participants' Facebook newsfeeds and recorded during the "guided tours" underwent a process of multimodal analysis. This analytical process was performed following the GeM systematic multimodal analysis protocol (Bateman, 2008) as explained in Section 3.2. First, the data was divided into canvases, subcanvases and individual signifiers – that is, into levels of perception, from the big picture to the smallest elements of meaning. All the elements were then analysed according their mode (e.g. textual, pictural, iconographic). Once all the elements were individually analysed, the different canvases of meaning were recreated in order to comprehend their meaning. Patterns and interconnections between canvases were then analysed in order to approach the algorithm rhetoric underpinning each newsfeed.

Step 1. Describing the "base" of the news posts. The "base" corresponds to the individual elements constituting a multimodal composition. In the case of the news post, this "base" can be composed of texts, pictures, icons, numbers and videos. The texts, pictures and videos were processed via the automated semantic tagger USAS, described in Section 3.2, as follows:

- **Textual elements.** The textual elements contained in the news posts - apart from the comments at the bottom of the news posts (see Section 3.3 for ethical justification) - were manually introduced into the corresponding USAS interface (see Figure 3.4), depending on the source language. Those elements were, among others: titles, bylines, publishing commentary at the top of the news posts, titles incorporated in a video, and media producers' names. Those textual elements were not modified before automated coding (see Figure 3.3), except if they contained emojis because those could not be processed by USAS.

Figure 3.3. Example of textual element selected for automated semantic tagging via USAS.

Figure 3.4. Example of USAS semantic tagging with textual elements.

- **Visual elements**. Visual elements have been considered in the context of this study from a social semiotic perspective. This meant that every picture and video was considered a meaningful message made of an ensemble of signifying elements (Kress & Van Leeuwen, 2006). In order to remain coherent with the textual analysis and to take into consideration the particularities of algorithmic reasoning, the visual elements therefore underwent a process of analysis similar to the textual elements. The visual elements were manually described with keywords (see Figure 3.5). The description took into account the denotative elements visible on the pictures or the video. It also took into account the possible connotative meaning of the "semiotic landscape" (Kress & Van Leeuwen, 2006, p. 35), which means how a visual makes sense in a given context, taking into account social, cultural and economic factors as well as the technical specificities of the media. Those descriptive words were then processed through the USAS automatic semantic tagger and associated with a semantic code (see Figure 3.6).

Figure 3.5. Example of image manually described and automatically coded with USAS.

Figure 3.6. Example of manual description of a picture processed via USAS.

- **Iconographic elements.** Iconographic elements such as newspaper logos or emojis were also manually described with keywords and processed via USAS.

USAS associated each element with one or several semantic tags (see Figure 3.7). Each semantic tag was composed of at least one of the following:

1) an upper-case letter referring to the main discursive field;

2) a digit indicating which subdivision of the field it referred to;

3) depending on the word, the automatic tag contained some additional information so that if the word belonged to a subcategory, the tag could have a decimal point followed by one digit;

4) in the case of words carrying a positive or a negative value on a semantic scale, the digits would be followed by 'pluses' or 'minuses'. In the case of words belonging to several categories, this double tagging was indicated by a slash followed by a second tag. The semantic tag may also carry a gender connotation, indicated in the tag by a "f" for female, a "m" for male or a "n" for neutral.

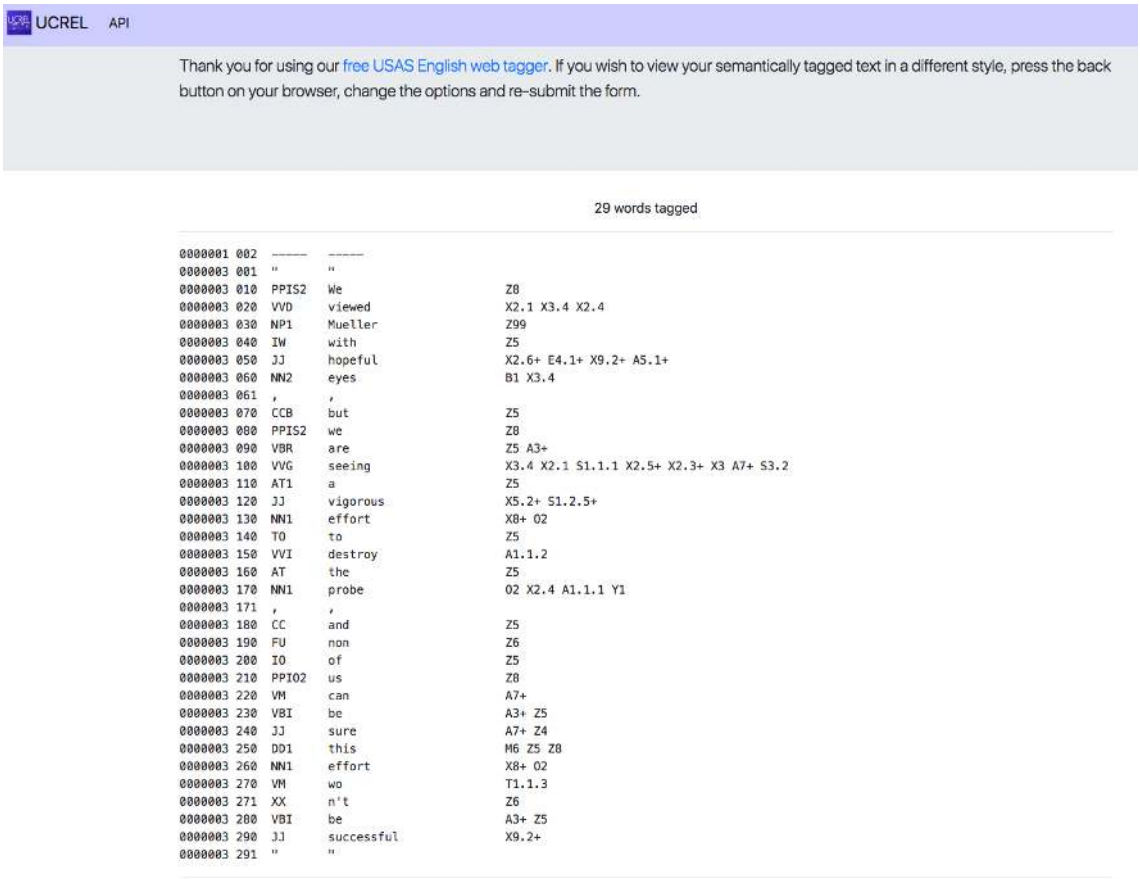

Figure 3.7. Example of coding output generated by USAS from the text extracted from Figure 3.3.

In addition, the elements that could not be processed via USAS automated coding, such as all the elements conveying information regarding the social situation of the post within the network: the number of likes, the number of shares, and the number of views, were studied manually.

Step 2. Analysing the "layout" and the "rhetoric". The layout corresponds to how a page is spatially composed while the 'rhetoric corresponds to how the elements communicate (Bateman, 2008). Analysing the "layout" refers to distinguishing the different "canvases" (Bateman et al., 2017, p. 89) or spaces of perception contained in a multimodal composition. Usually, canvases or major spaces of perception that carry meaning by themselves can be differentiated from "subcanvases" or minor spaces of perception (Bateman et al., 2017, p. 214). For example, the newsfeed constitutes a canvas, while news posts constitute subcanvases, which can themselves by redivided into small subcanvases.

On the other hand, the "rhetoric refers to how those different "canvases" (Bateman et al., 2017, p. 89) interact to create meaning.

In order to analyse the "layout" and the "rhetoric" (Bateman, 2008), the outcomes of the automatic semantic tagging were physically situated within the news posts via the software MAXQDA 18.1.0 to uncover patterns among the semantic tags (see Figure 3.8). MAXQDA was used as an alternative to NVivo 11.4.0 because it appeared to be much more stable for working on visual elements.

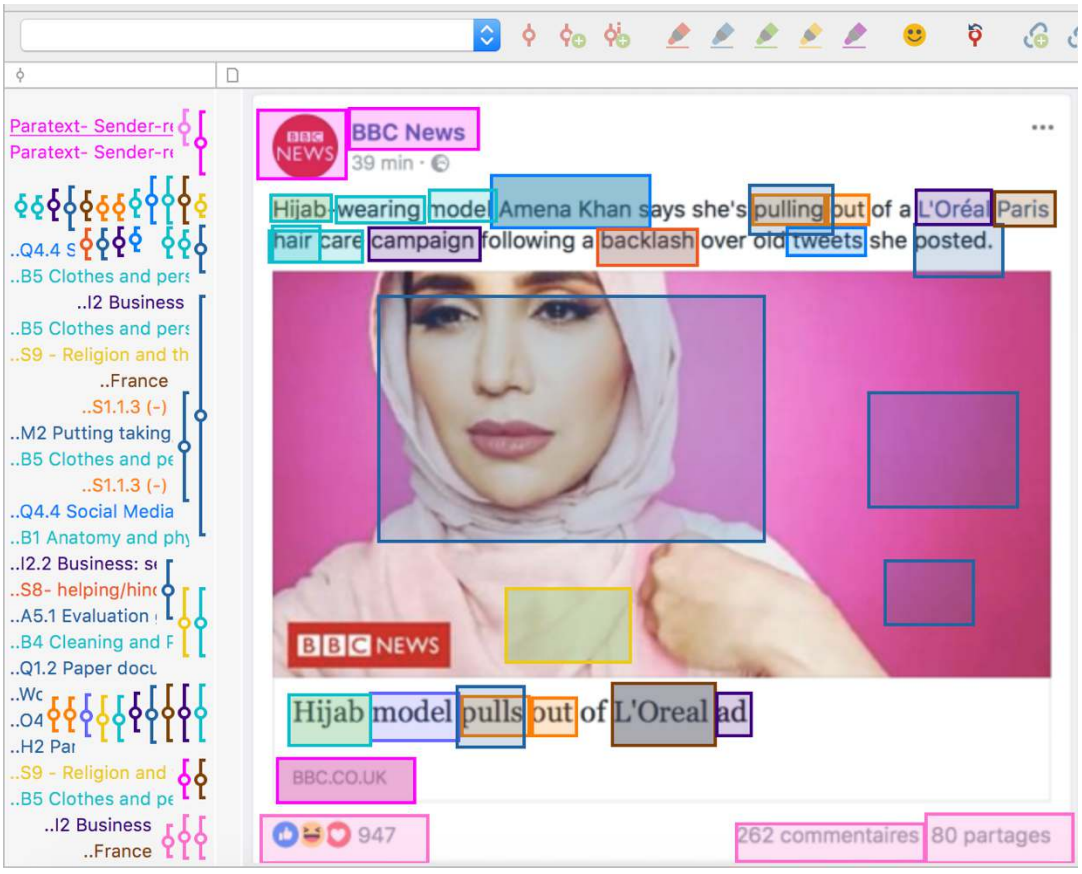

Figure 3.8. Example of transferring USAS coding output in MAXQDA to observe potential layouts.

The layouts of the different news posts were then compared in order to understand the articulation between the different news posts. The idea was to look into patterns that would explain how Facebook posts were selected for each participant and how their association generated additional meaning to answer the first question of this research: How

do production and algorithmic circulation articulate themselves in terms of meaning-making?

The fourth layer of description mentioned by Bateman – the Genre (the recurring semantic patterns that can be user to group texts into categories) – was not used in the context of this study because the research is only focusing on one genre: the news post.

3.5.2.2 Reconstituting the Decoding experience

The second moment of the data analysis consisted in reconstituting the decoding experience of the participants through the ethnographic observations made during the "guided tours" and through the thematic analysis of what the participants said about it during the qualitative interviews (Jensen, 2012). The interview data and the oral parts of the "guided tours" were coded in NVivo 11.4.0[11] to detect recurring patterns of decoding. When coding in NVivo, what the participants said in the interviews was compared to their actual behaviours during the "guided tour" in order to balance their perceptions of decoding online with what they actually did.

The categories that emerged from coding via NVivo 11.4.0 were then compared with the five processes likely of composing decoding defined by Morley (1992):

1) **Paying** attention to content
2) **Identifying** a relevant message
3) **Comprehending** the message
4) **Interpreting** the message
5) **Generating** a possible answer.

[11] The use of two different softwares for coding (as mentioned above, the news posts were coded with MAXQDA) was due to the instability of NVivo with graphic content. As the interviews were coded before the news post, this solution has been chosen in order to save time and to avoid coding back all the interviews with MAXQDA.

Finally, the results obtained from both processes of analysis were aggregated and discussed in order to reach the final goal of this research: adapting the Encoding/Decoding model defined by Stuart Hall to the news circulation and decoding on Facebook newsfeeds.

It is important to notice that the data analysed to reconstitute the decoding experience were collected at the same time as the data analysed to reconstitute the circulation moment. Therefore, the results of the multimodal analysis were not known, and thus could not be used, when interviewing the participants. Such a choice, even if it can appear to be a limitation of this methodology, was deliberately made in order to avoid orienting the participants' responses during the interviews and the guided tours, showing an algorithmic rhetoric which usually goes unnoticed to social media users (Eslami et al, 2015; Gillespie, 2014).

3.6 Conclusion

This chapter has described the qualitative research designed to reassess Hall's Encoding/Decoding model in the context of news circulation on Facebook's newsfeed. A constructionist epistemological stance and a theoretical framework combining cultural studies and structuralism was chosen in order to be coherent with the purpose of this study. On that basis, a qualitative methodology with inductive reasoning, mixing ethnography and semiotic analysis, was adopted. For consistency in methodological approach, two main tools were chosen to collect data: semi-structured interviews and "guided tours" of the participants' newsfeeds. The data collected via the semi-structured interviews as well as the audio part of the "guided tour" data were analysed via a thematic analysis (Jensen, 2012), while the remaining data collected during the "guided tours" underwent a multimodal analysis (Bateman, 2008) associated with an automated semantic coding via USAS (Rayson, 2008).

Part II will now present the outcomes of the multimodal analysis and discuss the conclusions which arose from it, while Part III will present the results of the thematic analysis and discuss decoding in the context of Facebook's newsfeed.

PART II

ENCODING & CIRCULATION

PART II - Introduction

In **Part I – Presenting the research project**, the genesis of this research, the research questions, the theoretical approach, and research methodology were described.

Chapter 1 – Introduction explained the emergence of social media over the past fifteen years, their role as key actor in news circulation, and the irreversible changes that rise has produced in the news media ecology. Those changes have been documented and studied by an extensive research scholarship. However, little is known about how news circulation on social media, by adding meaning to the original news content produced by media outlets, may impact users' decoding. The aim of this study therefore is to address that question, and to do it via a case study which focuses on the decoding of news posts on Facebook's newsfeed. The principal outcome expected from this study is a reassessment of Hall's Encoding/Decoding model in the context of social media (Hall, 1973b, 1980b). Reassessing Hall's conclusions regarding the importance of the interpretative work of the decoder to balance the structure in dominance created by media is important in order to tackle critical concernes regarding the risk of "Social industry" (Sandvig, 2015, p. 1).

In **Chapter 2 – Facebook's role in news circulation and meaning creation: A review,** the existing scholarship regarding news circulation and meaning creation was assessed. The traditional conception of news production and distribution in the context of mass media was first explained, followed by a discussion of how the emergence of social media as a circulation agent modified the traditional circuit production/distribution/consumption. On the basis of those observations, two research questions were formulated, as follows:

1) How do production and algorithmic circulation articulate themselves in terms of meaning generation? How does that affect the structure in dominance?
2) To what extent does the circulation process affect how social media users decode news content and its outcomes?

In **Chapter 3 – A qualitative research design to reassess the Encoding/Decoding model,** the research design developed to answer those questions was explained. Data regarding circulation and decoding were collected simultaneously through one-to-one semi-

structured interviews with a "guided tour" of the participants' newsfeeds (Mathieu & Pavlíčková, 2017, p. 430) with a "purposeful" sample of French journalism students and young journalists (Patton, 2002). The 'circulation data' were analysed via multimodal analysis (Bateman, 2008), combined with an automatic semantic tagging process with USAS (Rayson, 2008) to highlight meaning patterns, while the 'decoding data' were analysed via thematic analysis (Jensen, 2012). The final expected outcome of this study being the reassessment of the Encoding/Decoding model (Hall, 1973b, 1980b), a constructionist epistemological stance associated with a theoretical perspective combining culturalism and structuralism was chosen in order to maintain theoretical consistency.

Part II – Encoding & Circulation – here the focus is on the first research question: How do production and algorithmic circulation articulate themselves in terms of meaning generation? How does that affect the structure in dominance? In **Chapter 4 – Circulation and meaning-making**, the 'circulation data' gathered during the "guided tour" will be analysed in order to understand how meaning is created during the circulation process. In **Chapter 5 – Understanding Facebook's algorithmic rhetoric**, the results obtained in Chapter 4 will be discussed to understand the algorithmic rhetoric underpinning the circulation process on Facebook.

CHAPTER 4 - Analysing circulation and meaning-making

4.1 Introduction

As explained in Chapter 2, meaning is created during the process of circulation on Facebook and into newsfeeds, (Aronczyk & Craig, 2012; Lee & LiPuma, 2002), so this chapter will explore what kind of meaning is generated during the circulation moment. In order to do, the contents of the participants' newsfeeds, recorded during the "guided tour", will be analysed. The collected data consisted of a reproduction of the participants' newsfeeds at a specific instant in time. This content was cleaned up before analysis to conserve only news content, and it was then processed via the automatic semantic tagger USAS (Rayson, 2008) for automated coding to extract patterns of meaning. After the automated coding, a multimodal analysis (Bateman, 2008) was performed to highlight the canvases of meaning contained within the newsfeeds and news posts.

Section 4.2 will first break down the newsfeed in order to understand how the choices of the newsfeed-generating algorithm in selecting some news posts over others may be generating meaning. Section 4.3 will concentrate on the design of the news post as a complex ensemble of vertical intertextual paratexts and its impact in terms of meaning-making. Section 4.4 will conclude the chapter.

4.2 Breaking down the newsfeed as a unit of meaning

The first step of the analysis of meaning-making during the circulation on Facebook newsfeeds consists of breaking down the participants' newsfeeds in order to understand how the choices made by the newsfeed-generating algorithm when selecting content could generate meaning. The observation of the participants' newsfeeds showed that the newsfeed-generating algorithm tried to maximise the "horizontal intertextuality" (Fiske, 1987, p. 108) between the different news posts composing it. This highly intertextual

selection of news posts seems to orientate the way users decode news posts towards a "preferred meaning" (Hall, 1980b, p. 134).

The first part of this section will focus on defining the concept of horizontal intertextuality and observing how it is applicable to a newsfeed based upon the data collected during this study. The second part will deal with how horizontal intertextuality in the newsfeed seems to orient the user's decoding towards a preferred meaning by reducing the possible meanings of the news posts.

4.2.1 The newsfeed as horizontal intertextuality

The first part of this sub-section proposes a definition of horizontal intertextuality. The second part focuses on how the newsfeed-generating algorithm uses horizontal intertextuality and explains this pattern from the data via multimodal analysis.

4.2.1.1 What is horizontal intertextuality?

Horizontal intertextuality refers to the existence of more or less explicit "cross-references" (Jensen, 2011, p. 191) between texts from different authors and times. Those cross-references can be a common genre, the use of similar figures or equivalent content, etc. The existence of cross-references generates a dialogue between texts over time (Kristeva, 1980), which contributes to effectively attaching some connotative meanings to those textual messages.

As explained in Chapter 2, a text carries two kinds of meaning: denotational and connotational. While denotational meaning is relatively stable and unambiguous over time, connotational meaning constantly evolves over time through the uses in other texts. In other words, a text possesses a double meaning: the meaning of the text itself as a combination of signs, and a "historical and social text" (Kristeva, 1980, p. 37). Therefore, a text is not creating entirely new meaning in a vacuum; it is building over already existing meanings created by older texts. It is part of a network of texts, which collectively contribute to building connotative meanings and representations over time. Horizontal intertextuality, in terms of decoding, plays an important role as a text needs to be apprehended as part of this larger cultural and social textual environment in order to be

interpreted. Therefore, the receiver of the message unconsciously connects a message to others which are similar in form or/and in content in order to interpret the connotations it carries. In selecting specific intertextual links over others, receivers make choices. Those choices are significant because it means that receivers do not only activate a mere background for the interpretation of a text. On the contrary, receivers contribute, through their choices, to shape a constantly evolving intertextuality. In other words, a text is an intertextual "practice" (Kristeva, 1980, p. 37). The horizontal intertextual links connected to it evolve over time and their evolution embodies the ongoing struggle over the meaning in a society and its meaning is not stable; it is always interpreted as a transient adjustment of elements, taking into account pre-existing meanings (Kristeva, 1980).

While the original definition of intertextuality referred exclusively to language and texts, subsequent literature suggests that intertextuality applies to different semiotic systems: textual, visual and hyper-textual (Lemke, 2005). Intertextuality can thus be multimodal (Royce, 2013). Intertextual links may have various forms: related characters or figures, similar topics, earlier texts in the same series, discursive practices etc.

4.2.1.2 Observing horizontal intertextuality in the context of Facebook newsfeeds

During the analysis of the participants' newsfeeds, strong links between the news posts selected by each participant emerged. Each newsfeed selection appeared to be in itself highly intertextual and could be compared to a network of news posts, echoing each other in several aspects: authors, topics, modes and lexico-grammar. From the analysis, it appears that the Facebook newsfeed-generating algorithm was piling up several forms of intertextuality in order to select news posts for the participants (see Figure 4.1). Six forms of intertextuality have been identified: 1) language intertextuality, 2) network intertextuality, 3) mode intertextuality, 4) topical intertextuality, 5) semantic intertextuality, and 6) stylistic intertextuality. The three first forms of intertextuality were observed visually, while the remaining three appeared through automated semantic tagging via the USAS tool described in Chapter 3.

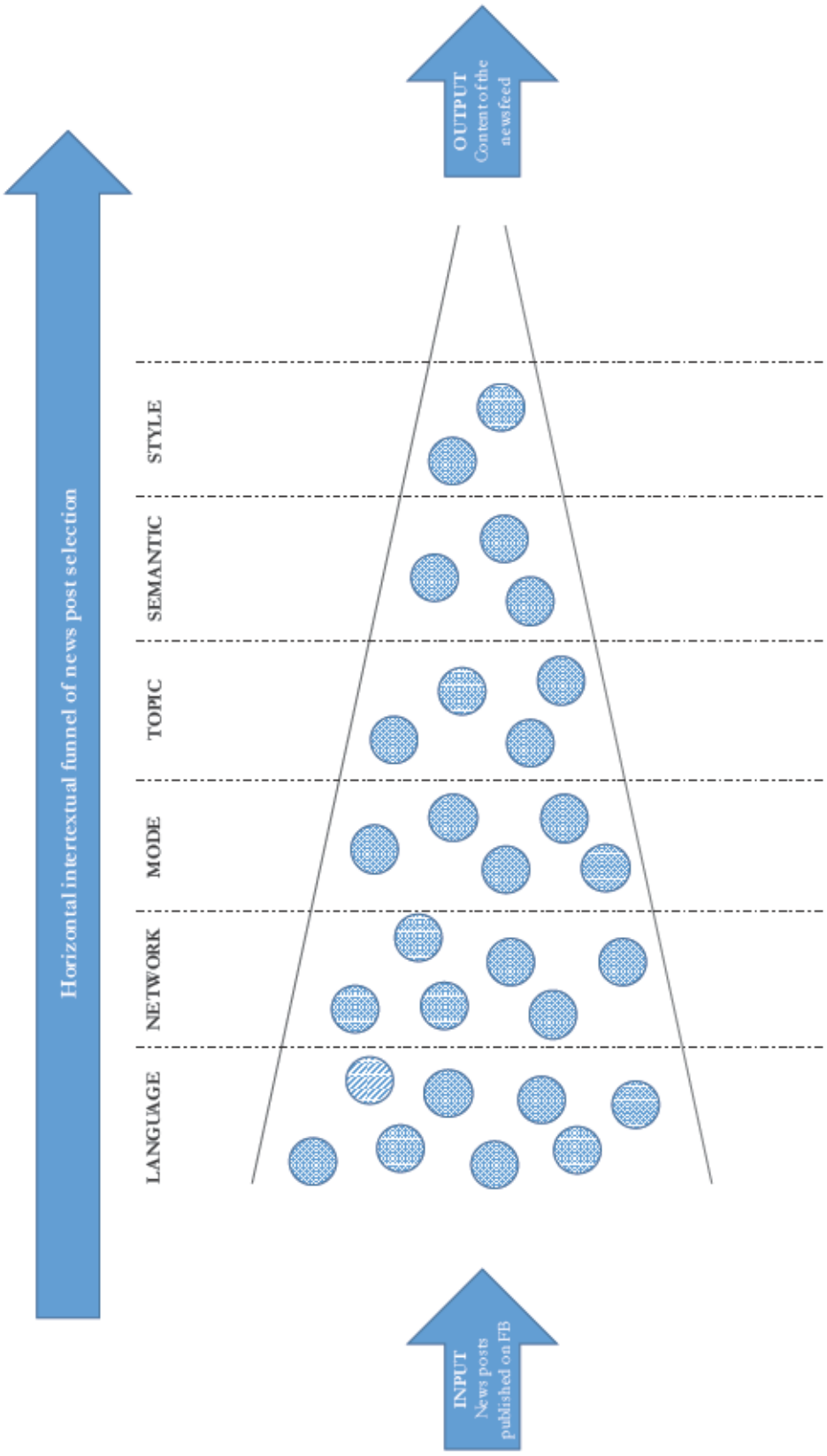

Figure 4.1. Intertextuality criteria applied by Facebook newsfeed-generating algorithm to select news for its users.

The first three intertextuality criteria – language, user's network, and mode – have been highlighted by the in-depth observation of the composition of the newsfeed of each participant.

1) **Language intertextuality.** The first intertextuality criterion that was observed during this study is the language. This corresponds to the language in which the news post is formulated. Language has been considered as the first criteria because it constitutes "a system of signs that express ideas" (Saussure, 1916 (1969), p. 16) which, to some extent, shapes perception and is used to construct a shared reality within a community (Sapir, 1958; Whorf, 1940)[12]. As such, a meaningful message for the newsfeed-generating algorithm is logically formulated in a language that the recipient understands.

   All the posts observed in the context of this study fulfilled this criterion and corresponded to a language spoken by the participants. Several participants received news posts in different languages. However, most of the news posts proposed within their newsfeeds corresponded to the native language of the participants: French, with the exception of the participant CR, who received a majority of news posts in English. Out of a total of 161 posts, 133 were formulated in French. Four participants received only posts in French. This appears to align with the fact that, in their expressed interests or in the content they posted in their timeline, the content was exclusively in French. Two other participants received a majority of posts in French and several in English. This could be explained by the fact they both follow several news media in English and may post content in English from time to time. As the only exception, CR received 25 posts in English out of a total of 40. The rest were in French (13) and in Spanish (3). This diversity could be explained by the fact that CR follows more news media in English than in

[12] In the context of this study, the lightest version of the so-called Sapir-Whorf hypothesis has been used, considering that language, somehow, shapes people's thinking and behaviours. However, the multimodality displayed on Facebook does not fit with a stronger version of the Sapir-Whorf hypothesis, assuming that all human perceptions are restrained by language.

French and also because his timeline is mostly in English, with occasional content in French and Spanish.

A common sign system is the necessary condition to transmit a message and to create an intertextual context, yet the meaning of a word also depends on other elements of context. Consequently, further filters aim to construct an intertextual context of interpretation.

2) **Network intertextuality.** The second intertextual criterion observed – the user's network intertextuality – corresponds to the fact that every post observed during this study had a direct link with its addressee. In terms of intertextuality, this means that users already had a substantial familiarity with the content offered to them in their newsfeeds. In the majority of cases, they knew the user who sent the post (except for sponsored content). This user can be either one of their Facebook friends, a group they are part of on Facebook, or social media they had chosen to follow. Network intertextuality means that users can use their already-existing knowledge to interpret the content proposed to them in their newsfeeds.

   Three categories of user's network intertextuality have been identified: 1) expressed interests, 2) personal ties, and 3) the absence of network ties (see Figure 4.2). The first kind of network tie refers to an expressed interest. This means that users have directly expressed an interest for a page (in the case of this study, a page related to a media) or a group. This category gathers three types of news posts: news posts containing news content authored and posted on Facebook platform by a news media whose page has been liked and followed by the participants; news posts authored and posted by one of the participants' 'favourite'[13] news media; and news posts shared on a Facebook group page which has been liked and followed by the participants. The second kind of network tie refers to personal ties, that is to say, when users of the news post are linked to one of the users' Facebook friends. This

[13] 'Favourite', in this case, refers to the news media that users have indicated they want to receive their publication first in their newsfeed.

category can also be divided into three sub-categories: 1) when the news post has been shared by a friend; 2) when the news post has been commented on by a friend, and 3) when the news post has been liked by a friend. Finally, the third category of user's network filter consists of the case where there is an absence of visible network ties between the user and the news post. This case corresponds to sponsored content. Those categories are porous and a news post may present several types of network.

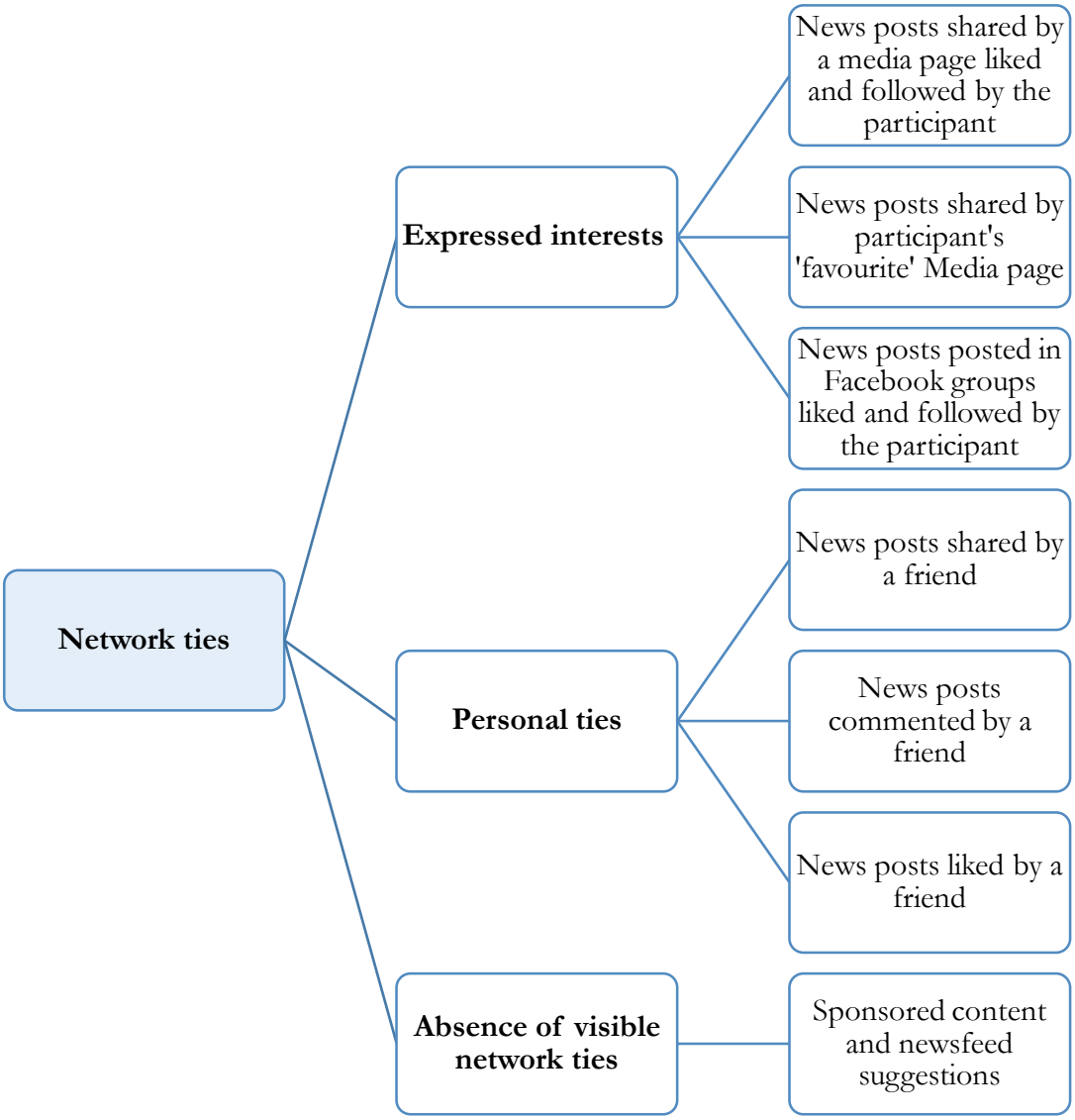

Figure 4.2. Identified categories of network intertextual links

In the context of this study, 161 news posts were taken into consideration, the majority (126 out of 161) of which corresponded to expressed interest. Among the news posts corresponding to an expressed interest, 123 were news posts coming from Facebook pages that the receiver was following. This filter showed that the newsfeed-generating algorithm tends to privilege news content for which the participants had directly expressed their interests. Among those, only 23 corresponded to news posts coming from Facebook pages considered as favourites. The subcategory of favourite is limited because only three participants activated and set parameters for this function. Although it shows a great difference among the participants, MI received 11 favourite news posts from six different sources, MA received seven favourites from two sources, and AB received five favourites from three sources. Finally, publications from groups were very limited, with only three news posts being offered to one participant, ML. She thus appeared to be more sensitive to this kind of news post than the other participants.

Regarding personal ties, these only represent 26 out of the 161 studied news posts. Within this category, news posts shared by a friend were dominant (20), followed by content commented by a friend (6), while no content liked by a friend appeared in the study sample. The distribution of the personal ties suggests that some participants were likely to be more receptive to personal ties than others. CR and ML, with respectively 12 out of 40 and 5 out of 20 news posts of their news selection composed of personal ties, had posts which were likely to pay more attention to personal ties, while MA (1/13) and LP (0/23) were probably not sensitive to personal ties. The remaining participants – AC (1/22), AB (2/22), and ML (3/20) – were probably moderately sensitive to personal ties when it comes to news.

Finally, the study sample counted only three sponsored news posts proposed to three participants. AC received two sponsored contents, but it appeared that she received the same advertisement twice. If sponsored content did not present any network intertextual link with the participants, its selection by the algorithm tended to suggest that those sources may integrate the participants' expressed interests.

Those results show that, in the context of this study, the newsfeed-generating algorithm provided more direct content, that is to say, news content posted directly by the news media rather than indirect (shared) content. In the majority of cases, the indirect content was drawn from media that the participants were not following (17 out of 21). However, those results were obtained before Facebook changed its algorithm in February 2018 to privilege personal ties over expressed interests privilege. Conducting a similar study now may generate a different result regarding the type of the network intertextual link put forward by Facebook, though the network intertextual filter would certainly remain.

A deeper look at the sources of the news posts also revealed interesting information. Most participants were following a lot of media pages on Facebook. However, it appears that they would not receive news posts from all those sources. The algorithm often seemed to select news posts from the same sources, well known by the participants, to favour intertextuality. This was confirmed during the interviews. When the participants were asked which news media they were following on Facebook, they could only remember a few among the multitudes of pages they were actually following; and the sources they mentioned usually matched the ones that appeared in the newsfeed during the "guided tour".

Nevertheless, the composition of the news offer was different for each participant. AC and MI did not have favourite sources and received a high number of news from a multitude of sources. AB, ML and MA had slightly dominant sources, respectively: *L'Equipe*, with 4 posts, *Le Parisien* (5) and *Konbini* (6). LP and CR had several, well-identifiable, dominating sources: for LP – *Le Monde* (7), *Mediapart*, (4) BBC news (3) and *Slate* (3); and HuffingtonPost.com (9), *L'Express* (7), Dazed Digital (6), *The New York Times* (5) for CR.

3) **Mode intertextuality.** After language and network intertextuality, the third intertextual criterion observed refers to the mode, that is to say, the supporting media (text, video, picture, etc). Several modes were observed among the studied news posts. Of the 161 news posts observed, 127 were hyperlinked textual articles; 35 were embedded videos, and the rest were pictures with or without embedded

texts, and simple textual news posts without hyperlinks. Among the embedded videos, only four contained an additional hyperlink.

The dominant mode for news in the newsfeeds of the participants appeared to be textual. This is reinforced by the fact that only textual news posts were selected by the algorithm in the participants' favourites, if they had chosen that option. As well, in terms of news posts containing embedded videos, some participants appeared to receive many while some received none. LP did not receive any of these and she confirmed during the interview that she was not interested in videos and was forcing herself to scroll down when she was offered one. CR and ML also appeared to be unlikely to receive news posts with embedded videos. CR received only three out of 40 news posts, and ML, two out of 15. Another group appeared more likely to receive a very small proportion of videos in their newsfeed: MI and AC received six and five respectively. MI confirmed in the interview that she was interested in the short videos of some media such as Brut and Loopsider, while AC confirmed that she might stop for a couple of seconds to watch of an entertainment video, food culture especially. AB and MA received respectively nine and 11 videos. The peculiarity of MA's newsfeed lies in the fact that he received only hyperlinked text articles in his favourites and only videos after the initial favourite selection. MA confirmed his strong interest for videos as he has been working previously for a website specialised in viral videos. A similar pattern was observable with MI; she first received only text articles and mostly videos in the last third of her newsfeed. Therefore, although the dominant mode for news post was textual, news posts with videos were also selected for participants who were already very familiar with videos.

The three first intertextual criteria outlined above showed that news posts were selected in a language that was understandable by the participants, from a source that was familiar to them under a modal form they appreciate. Three more criteria were observed: topical, semantic and stylistic. These, contrary to the previous types which appeared at a first glance, were uncovered by the automatic coding process done with the semantic tagger USAS. At first, the semantic tagging only aimed to detect recurrent topics among the news posts. However, the analysis of the coding results also clearly pointed out the semantic and stylistic similarities among the news posts.

4) **Topical intertextuality.** This topic criterion corresponds to the recurrent themes or topics present in the newsfeeds. All the participants appeared to have been attributed as having clear topic preferences by the newsfeed-generating algorithm. Topic preferences appeared to be very complex with a lot of categories and sub-categories. In order to approach this complexity, the topical composition of one of the participants, LP, has been detailed below. LP's newsfeed has been chosen because it shows an enhanced version of the topical criteria with very clear topical associations. The new posts selected for her by the algorithm appear to have a more complex combination of codes in comparison with other participants because the news posts composing her newsfeed appeared to have longer texts.

Identifying relevant topics for the user. The first step in the analysis of the topical criteria was to identify which topics were considered by the newsfeed-generating algorithm as relevant for the user. The frequency of occurrences of an appearing code was first considered to be a good indicator. Consequently, topics were divided into five categories: 1) topics with a very high probability of relevance, 2) topics with a high probability of relevance, 3) probably relevant topics, 4) occasionally relevant topics, and 5) accidentally relevant topics. Due to the fact that the total number of coded segments fluctuated significantly from one newsfeed to another, no absolute values were attributed to those categories.

LP appeared to have been attributed by the algorithm (see Figure 4.3):

- One topic with a very high probability of relevance: 'G1 - government politics, and elections' (61 coded segments). G1 clusters two subsets: G1.1 which refers to terms relating to government and governmental activities, and G1.2 which compiles politics terms relating to politics and political activities.
- Three topics with high probability of relevance 'G2 - crime, law and order' (39 coded segments), 'Z2[14] - France' (38 coded segments) and 'S9 - religion and the

[14] As explained in the methodology chapter, some of the USAS semantic categories were slightly adapted when they appeared to be too broad to generate a significant in the context of this study. For example, the

supernatural' (37 coded segments). G2 clusters two subsets 'G2.1 - crime, law and order/law & order' for terms relating to crime/criminal activities and the legal system, and 'G2.2 - general ethics' for terms relating to moral principles/accepted moral practices. 'Z2 - France' aggregates all the content related to France as a country. And finally, the third label, 'S9', refers to religion and the supernatural.

- Four topics with a probability of relevance: 'Z2 - USA' (24 coded segments), 'F1 - food' (19 coded segments), 'S2 - people/women' (15 coded segments), 'I1- money generally' (15). 'Z2 - USA' is aggregates all the content related to the United-States of America as a country. 'F1 - food' aggregates terms relating to food and food preparation. 'S2 - people/women' combines terms relating to females. In terms of news, it refers to articles where a woman is at the centre. 'I1 - money generally' aggregates terms relating to money-making, business or currency. Most of the economics news is in this category.
- Three topics with occasional probability of relevance: 'P1 - education in general' (13 coded segments), 'F3 - drugs and cigarettes' (11 segments) and 'Z2 - Middle-East' (11 coded segments).
- The rest of the labels, even if appearing several times in LP's newsfeed during the "guided tour", can be considered as accidentally relevant in relationship with other labels. It concerns the following themes: 'B3 - medicine and treatments', 'Q4.3 - mass media/TV, radio & cinema", 'I2 - business' and 'Z2 - United Kingdom' for all the matters concerning Great Britain

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original USAS 'Z2' category referring to geographical zones was subdivided into specific country categories such as France and United States of America for example and included people, business or web addresses from those countries.

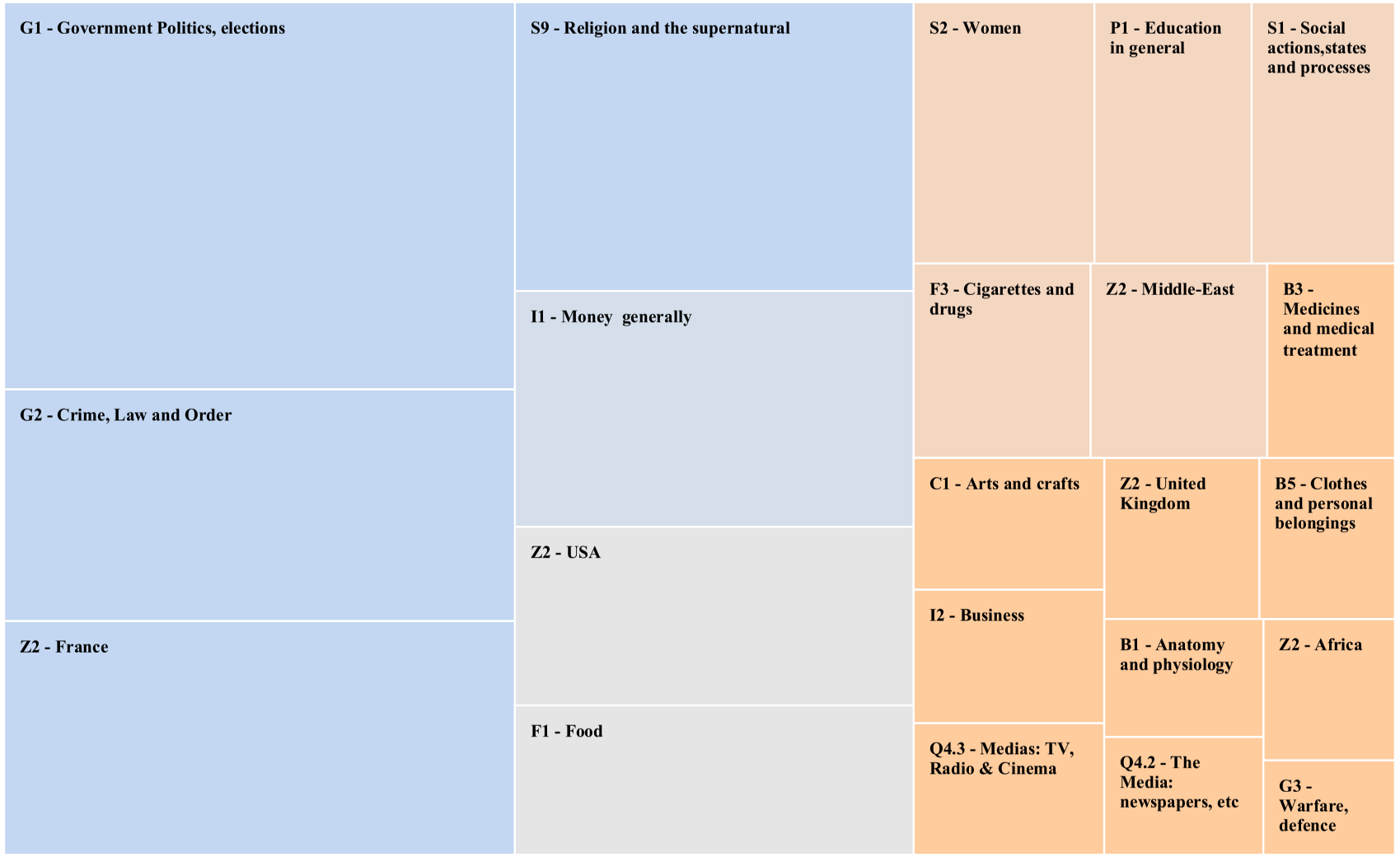

Figure 4.3. Relevance scale of codes according to the number of code occurrences in LP'S newsfeed.

However, interpretation of the results obtained when taking into account the total number of appearances of each label during the "guided tour" (see Figure 4.3) must be nuanced. Some posts appeared to have a very high number of coded segments. For example, news posts from French online investigative newspaper *Mediapart* had more than over 45 coded segments. This high number of labels is due to the fact that, in *Mediapart* posts, the Facebook comment is repeating the presentation of the article. Consequently, the number of coded segments as an indicator of relevance must be analysed with care.

In order to interpret the results illustrated in Figure 4.3, the number of news posts in which the most frequent codes were present were used to compare the differences (see Figure 4.4). In LP's case, such a perspective confirmed the strong relevance of the most frequent codes. Considering the number of news posts in which the most frequent labels appeared confirmed that the five most frequent codes were likely to be considered by Facebook algorithms as strongly relevant for LP. The five more frequent codes in absolute number were also the codes present in the highest number of posts. Some new codes also emerged from the perspectives of the number of documents. For example, 'S1 - social states, actions and processes' (the equivalent of psychology in news media), appeared to be present in many news posts despite a relatively low number of occurrences.

Apart from this, Figure 4.4 also shows that the importance order of the topic is different if the total number of occurences is considered in terms of the number of news posts. For example, the coding 'Z2 - France' stood in the first position as 20 news posts out of 23 deals with France in some aspect. Even one of the articles in English appeared to be related to France to some extent. LP thus seemed to be clearly identified by the newsfeed-generating algorithm as interested in French current affairs. This point raised the necessity to observe geographic label Z2 more in detail.

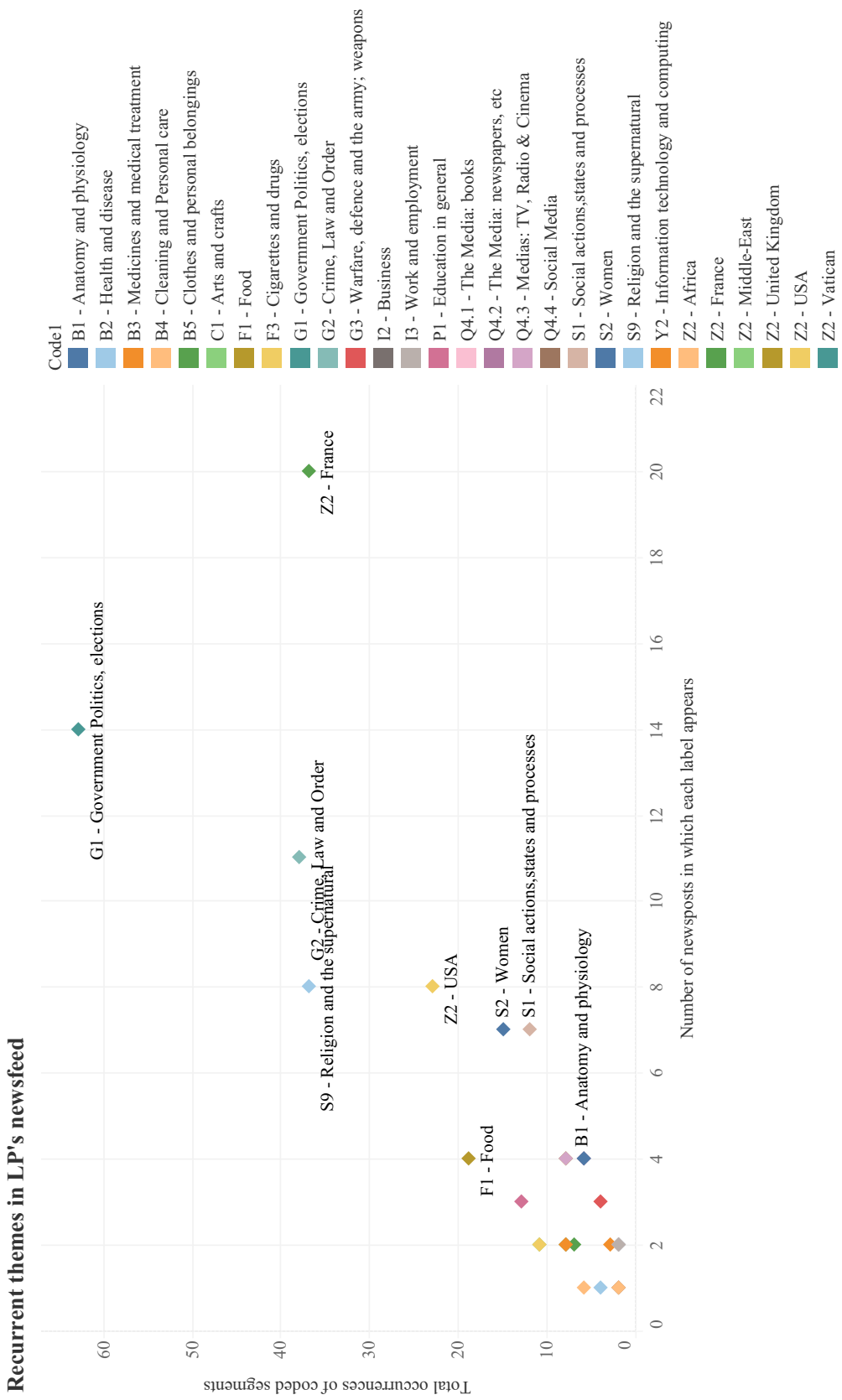

Figure 4.4. Relevance scale of codes according to the number of occurrences pondered by number of news posts in which each label appears.

The importance of the geographic label Z2. Geographical labelling seemed to have a specific importance and it was interesting to observe its peculiarities. For example, the label France refers to different scenarios: It can refer to articles which are not necessarily dealing with France but have been published by a French media. In this case, the label corresponds to information carried by the sender information. The reference to the French media was either done explicitly via the web extension ".fr" or just via the name of the media. This specific case represented 12 news posts out of the 20 related to France. Among those, only one news post actually dealt with French current affairs, yet it was not clearly mentioned in the text.

In other cases, the geographical location was clearly mentioned in the text such as "in France, …" or "the installation in Paris" was in the title. The link to France could also be made through a 'Z1' label referring to a personal name or company name. For example, in one of the studied news post, the French cosmetic company L'Oréal Paris, was mentioned. In other news posts, French personalities were mentioned, such as former Minister for Education Alain Devaquet, French actress Catherine Deneuve, deceased French chef Paul Bocuse, and deceased French historian Suzanne Citron. In those cases, the link to the French context was reinforced by the information regarding the sender, as most of those articles were published by French sources.

It is also interesting to notice that the geographical localisation was done up to the city level. In LP's case, a subdivision of the label 'Z2 - France' appeared to be Paris, the city where she was living in and working at the time of the interview. The 'city label' was certainly weighing heavily in the topical relevance. In contrast, other geographical labels did not present the same diversity. The majority of the 'Z2 - USA' were contained either in the title, subtitle or Facebook comment as texts, by referring to an American personality or firm. Only one American source was present in her newsfeed. Contrary to the label 'Z2 - France', only the last three articles of the newsfeed were dedicated to American politics and international affairs. Therefore, it seemed that the algorithm clearly distinguished the differences between the two geographical labels, and that geographical labelling plays an important role in the selection of news posts.

In LP's newsfeed, only two posts were not related to French or to French media at all. The first was linked to an article from the BBC relating in English the story of a woman in India. Despite not being related to France in any aspect, the news post had certainly been classified as interesting for LP, as it combined three of her main themes as identified by the semantic tagging: women (S2F), religion (S9) and politics (G1). The second post not related to France in any aspect dealt with a study of the religious points of views on abortion in the USA. This article also combined three relevant themes: religion (S9), politics (G1) and the United-States (Z2 - USA).

Main themes, sub-themes, and association of themes. An additional aspect of topical analysis emerged from the previous observation: codes seemed to work by association. A code by itself did not necessarily ensure that a news post would be selected for a user. On the contrary, the association of several codes of interest for the user seemed to maximise the possibility that a news post was selected to appear in a newsfeed. For example, a recurring topic association could be observed in LP's newsfeed: the label G1 was frequently associated with the geographical label of the USA and the geographical label of the Middle-East. The algorithm thus probably selected the intersecting news posts because it assumed that LP was interested in the association of the three topics.

These kinds of associations could also transform some occasionally relevant codes into possibly highly relevant codes. For example, the label 'F3 - cigarettes and drugs' was classified as occasionally relevant for LP, with only eight appearances in two posts. However, the algorithm selected a news post for LP about the conclusion of a French Parliament report on a possible legalisation of cannabis consumption in France. The algorithm might have considered that the combination of the semantic labels 'F3 - cigarettes and drugs' with 'G1 - government, politics and elections' and with the geographical label 'Z2 - France' would possibly be highly relevant for LP. The association here seemed to have played a major role. The association of the labels 'F3' and 'G1' with another geographical label would probably not have been considered as possibly highly relevant for LP by the algorithm. The interest of the participant was actually confirmed by the fact that she opened the article. Immediately, the algorithm selected a second article with the same association of codes.

The second article on the same topic selected by the newsfeed-generating algorithm was from the same source. It appeared to be the latest article published by *Mediapart* on the same topic. In this case, it seems that the association of codes was combined with the source and the time of publication in order to evaluate the relevance for the user. However, LP did not open the second article and no further articles containing this association of codes from other media appeared on her newsfeed.

When analysing the data, a hierarchic distinction between codes was applied. It was observed that each post had one or sometimes two major topics, that is to say, those more frequently coded in the news posts – and possibly one or more sub-topics – and those less frequently coded. However, this distinction was not necessarily important in terms of relevance. For example, in the third article which appeared in LP's newsfeed titled "Hijab model pulls out of L'Oréal Ad", the most recurrent topic the major topic was 'B5 - cosmetic'. B5 was only identified as one of LP's accidentally relevant topics but the news post was considered relevant enough to appear in LP's newsfeed. Therefore it can be guessed that the relevance probably emerged from the association of 'B5' with the subthemes 'S9 - religion' and 'Z2 - France' (both codes with very high probability of relevance) and 'S2 - people/women', with a probability of relevance.

The margin of error of the algorithms. The last point needs to be highlighted regarding topical intertextuality deals with the fact that the algorithm may make 'mistakes' when identifying topics. Some mistakes appeared in LP's newsfeed and they were mostly due to the use of rhetorical figures that were not detected by the coding algorithm. In most of these cases, the mistakes committed by the USAS algorithm were probably similar to the ones committed by the Facebook algorithm and could explain why a specific post was selected. In the first post (see Figure 4.5) appearing in LP's newsfeed during the "guided tour", the Facebook comment contained the expression "Oh my God" in English. The expression "Oh my God" referred, in that context, to a famous meme linked to the TV show *Friends*. However, the automated semantic labelling tagged the word "god" as 'S9 - religion and the supernatural'. The presence of an 'S9' label probably reinforced the perceived relevance of the news posts when it was selected for LP by the algorithms. A similar case appeared in the fourth post she received on her

newsfeed, which dealt with French chef Paul Bocuse (see Figure 4.6). He was denominated as "The pope of Cooking". The insertion of this rhetorical figure inserted a 'S9 - religion and the supernatural' tag, which was not justified from the meaning point of view. Another example would be the way the expressions "ruling the world", "defence" and "peace" in the second article proposed to LP generated 'G1' and 'G3' tags for an article that would enter the psychology rubric in a traditional newspaper and had nothing to do with politics and international affairs.

Figure 4.5. News posts selected for LP due to a possible tagging mistake (from Le Monde).

Figure 4.6. News posts selected for LP due to a possible tagging mistake (from Rue89).

5) **Semantic intertextuality.** The fifth intertextuality criterion which emerged from the automated semantic coding via USAS, deals with semantics. It refers to the recurring use of distinctive semantic fields within the participants' newsfeeds.

In the case of participant LP, a very clear semantic pattern emerged. A recurring use of oppositional vocabulary was observed in almost any kind of topic; for example, a post accumulated several terms referring to a very dissenting vocabulary such as "worse enemy", "giving up", "breaking". This post's main topic was 'S1' and corresponded to a magazine article on a psychology topic and did not openly present any political views. In the following post – about the paedophilia scandal in the Catholic church – the vocabulary was also very dissenting: "the message carried by the pope would backfire on him" or "Pope reprimanded by a Cardinal". In another news post relating the installation of Jeff Koons's piece of art, the *Bouquet of Tulips*, in Paris, the vocabulary appeared to be very critical, as many personalities "condemned" its installation and were "opposed to" it.

The dissenting vocabulary took a clear political orientation in further posts. *Mediapart* news posts about the rising income inequalities in the world clearly showed the political point of view taken by this journalist. The wording of the article was clearly pejorative and accusing. For example, "with the connivance of the states" clearly pointed to and condemned the responsibility of the states for the increase of inequalities. The idea was confirmed by the article on former French Education Minister Alain Devaquet, where it mentioned a "victory for the Left" obtained by "millions of students and high school pupils" protesting in the streets. The news post evoked "the nostalgia of a certain left". Besides, such a revolutionary discourse had also been completed by the recurring use of pictures of protests to illustrate the news posts (see Figures 4.7, 4.8 and 4.9). LP did confirm this political orientation during the interview. She also mentioned that she had many politically oriented friends in her Facebook friends who would send her a lot of political content, especially news from the far-left newspaper *Lundi Matin*.

Such patterns have not been observed in the other cases. However, this does not mean they do not exist. The "guided tours", of approximately 15 minutes each, may be too short to permit more subtle semantic intertextuality patterns to appear. A larger sample of news posts might expose such patterns.

Figure 4.7. News posts with protest pictures which appeared in LP's newsfeed (from Mediapart)

Figure 4.8. News posts with protest pictures which appeared in LP's newsfeed (from Le Monde).

Figure 4.9. News posts with protest pictures which appeared in LP's newsfeed (from Slate.fr).

6) **<u>Stylistic intertextuality.</u>** The last type of intertextuality did not fully emerge from coding the data with USAS. On the contrary, it first emerged from the elements that were left aside by the USAS, such as emojis or very colloquial language[15]. Observing those elements, it appears that in almost each newsfeed there was a dominant stylistic effect and that the newsfeed-generating algorithm was certainly taking into account a style element during its selection process. Three examples of very noticeable style effect will now be detailed.

   First, LP's newsfeed, which was used as an example to understand the semantic criteria of algorithmic selection, also presented some stylistic peculiarities. LP's

[15] Very colloquial language generated a 'Z99', meaning that those words were not recognised by USAS.

newsfeed coding did not generate many 'Z99' tags. This absence of 'Z99' tags appeared to be due to the fact that she received only very formal articles with very long descriptive approach texts composed of formal vocabulary (see Figure 4.10).

Figure 4.10. Example of news post received by LP with very long and descriptive formal texts (from Mediapart.fr).

This particularity is also combined with the repeated use of a traditional journalistic binary approach observable in three news posts. For example, in Figure 4.11, the opposition "best friend or worst enemy". In another news post, the comment on the article was formulated with a binary construction: "Would you be interested or would you be completely afraid?" (see Figure 4.12). LP confirmed her preference for that kind of traditional news articles. Besides, she mentioned that she was

herself, as a journalist, privileging a long and formal style, which her chief editor would sometimes complain about.

Figure 4.11. Example of traditional journalistic binary construction of argument (from Slate.fr).

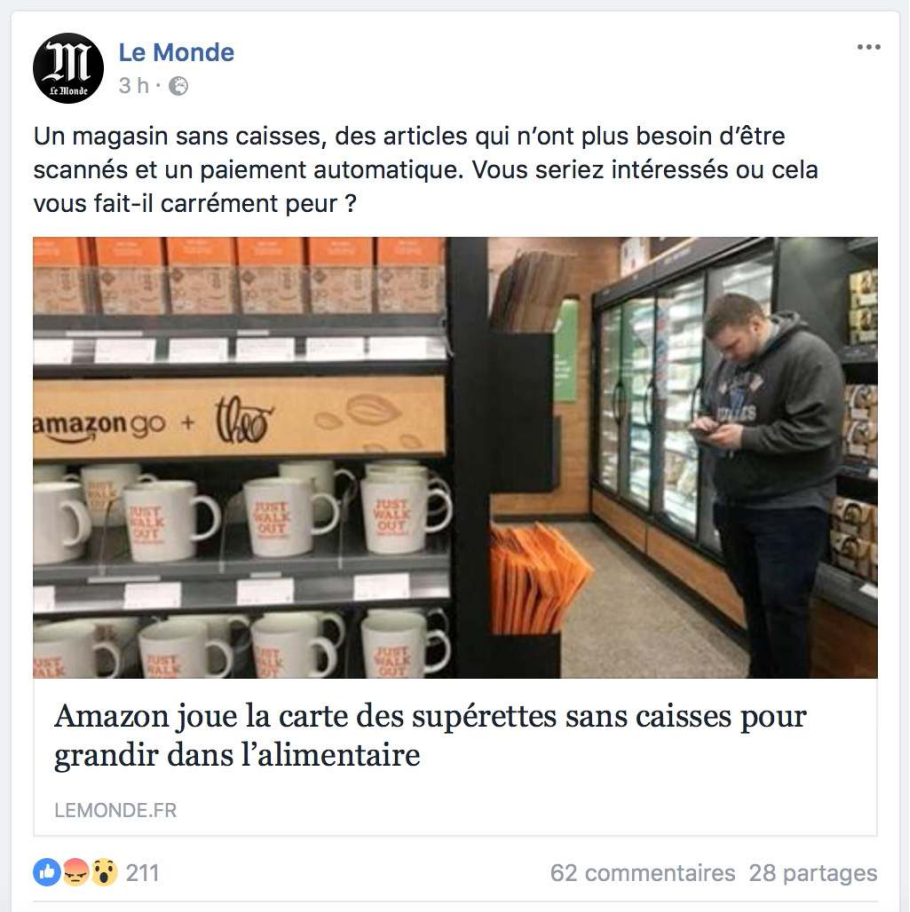

Figure 4.12. Example of binary construction with an opposition in the post status (from LeMonde.fr).

By contrast, ML mostly received news posts with very short sentences, titles only, no subtitles and limited comment (see Figure 4.13). She also said that this corresponded to what she was looking for. She said that as a sports journalist she was looking for short and efficient articles. However, the style remained formal and factual, such as "MPs voted the ban of cell phones in primary school" or "A man is held in custody after a fight in Lot area".

Figure 4.13. Example of formal but succinct news post received by ML (from Le Parisien).

AC, by contrast, received many posts written with informal language. Eleven of the news posts selected for her appeared to contain emojis and very informal language. Informal language in this context refers to, for example, the use of the onomatopoeia "AHAHAHA" in a post about French former minister Nadine Morano (see Figure 4.14). In another post, the use of "verlan", a French backwards slang, and the word "teuf", which means "party", appeared also to be very informal. In the same article, the use of the grammatical form "t'as prévu" instead of "As-tu prévu" was voluntarily incorrect, with an elision of the vowel of "tu" and the simplification of the grammatical subject inversion form traditionally used for questions in written language. In many cases, the informal language referred to a very oral and young form of expression. The orality of the language of her newsfeed was reinforced by the omnipresence of direct discourse. A majority of the

news posts selected for her used either the first person plural or the second person, you, (which may be formal "vous" or informal "tu" in French).

Figure 4.14. Example of informal language used in news post (from Cheek Magazine).

The use of such an informal vocabulary was not necessarily linked to the use of soft news (see Figure 4.15), thought in many cases it was. AC as a culture and music journalist has a preference for soft news. In this case, it can be associated to the fact she is a radio journalist and she said that she has an auditory memory. This could justify why she received news posts privileging an oral style of expression, even in writing.

Figure 4.15. Example of news posts received by AC with informal address to the reader via direct informal discourse and the use of emojis (from Nova).

To summarise, the deconstruction of the news posts seemed to indicate that the newsfeed-generating algorithm tends to pile up different types of horizontal intertextuality to select suitable news content for each user. The multimodal intertextuality analysis of the studied sample shows that at least six types of intertextuality were used to create a highly personalised intertextual set of news posts for each of its participants. In light of those observations, it appears necessary to understand what is at stake in the intertextuality generated by the newsfeed-generating algorithm.

4.2.2 The newsfeed as an intertextual contextualisation

The question that has emerged from the observation of multimodal horizontal intertextuality in the participants' newsfeeds is: What do those horizontal textual links

created by the newsfeed-generating algorithm between the selected news posts generate in terms of meaning? Those links, mostly invisible for the participants, seem to add meaning to existing messages by creating a context of interpretation. When selecting some news posts for a specific user, what Facebook's newsfeed-generating algorithm is actually doing can be compared to a "selective contextualisation" (Lemke, 1995, p. 86). This process corresponds to relocating the concerned news posts within an artificially generated context of interpretation. This contextualisation is done through the creation of intertextual links between the news posts. According to Lemke (1995), building intertextual links between texts is a "contextualizing practice, a making sense of texts, or portions of them, by placing them in the context of only some and no other texts or recurring discourse patterns" (p. 86).

This artificially generated context of interpretation emerging from the intertextual links between the news post corresponds to what Malinowski (1923) called a "context of culture" (p. 305). This concept refers to the broad cultural history in which a communication exchange takes place. The context of culture actually determines the meaning of a message, as meaning "is essentially rooted in the reality of the culture" (1923, p. 305). It means that the significance of a text cannot be explained without constant reference to its context of culture.

In terms of decoding, the context of situation serves to quickly identify the genre of the message. The concept of genre refers to social activity types which are easily recognisable in a given culture; and their recognition as such provides clues to the decoder regarding how to adequately interact in such a situation (Martin, 1984; Martin, 1985). In other words, the newsfeed-generating algorithm seems to select specific news posts, in order for them to be immediately recognised as such by users. Recognising a news post as news content allows users to understand the overall purpose or function of the message (in this case, to provide news material) and to react accordingly following their cultural habits (e.g. consider the content as a reliable piece of news based on facts, previously checked by a professional journalist).

4.3 Breaking down the news post as a unit of meaning

The second step of the analysis of meaning-making during the circulation on Facebook consists of breaking down the news post and observing how its design could generate meaning. From among the Facebook news posts, 161 were extracted from the participants' newsfeeds and analysed, and three main results arose concerning the design of the news posts. First, a Facebook news post is composed of an ensemble of vertical intertextual "paratexts" (Genette, 1997, p. 1) from different authors in a complex form, complementing the original news commodity. Second, this ensemble of paratexts appeared to create a "context of situation" (Malinowski, 1923, p. 307) that is likely to influence how the decoder would extract meaning out of the news posts. Third, the link between the news post and the original news commodity it refers to seemed to be weak.

The concept of 'paratext' will be first explained and the composition of news post will be dissected in section 4.3.1. The results from the previous break down of the news post will then show how the design of the news post provides additional elements of meaning that create a "context of situation" (Malinowski, 1923, p. 307) in subsection 4.3.2. In the light of those results, the fact that news posts tend to constitute a false gateway to the original news commodity will be highlighted in section 4.3.3

4.3.1 The news post as a complex ensemble of paratexts.

The Facebook news posts appeared to constitute a complex ensemble of multimodal units of meanings, originating from different authors, and all related and associated to a reference news content. Those units of meaning can be compared to paratexts, that is to say, a textual pathway to the news content it refers to. In order to apprehend the idea of the news post as a complex ensemble of paratexts, it is necessary to firstly define the concept of paratext, and then demonstrate why the concept of paratext is applicable to Facebook through the deconstruction of the news post design into paratextual elements. The status of the paratexts – that is to say, their spatial, temporal and physical characteristics – with respect to their referent text will then be examined.

4.3.1.1 What is a paratext?

As suggested above, a Facebook news post is comparable to what Genette (1997) has coined a "paratext" (p. 1). A paratext corresponds to the "threshold" (Genette, 1997, p. 2) of a text, that is to say its entry point. There are two types of paratext: "peritexts" and "epitexts" (Genette, 1997, p. 5). Peritexts concern elements of meaning around the text such as, among others, a title, the source or an abstract. Epitexts correspond to elements of meaning concerning the text such as comments, reviews. Those paratexts can be multimodal (verbal, iconographic, etc.). All these paratextual elements are related to a reference text. They are inseparable and subordinated to it. According to Genette (1997), "the paratext in all its form is a discourse that is fundamentally heteronomous, auxiliary, and dedicated to the service of something other than itself that constitutes its 'raison d'être'. This something is the text" (p. 12).

Paratexts have two main functions. They act as both a "transition" and a "transaction" (Genette, 1997, p. 2). On the one hand, the paratextual elements as transition offer to the user "the possibility of either stepping inside or turning back" (Genette, 1997, p. 2). It gives some additional information, such as: who has published the content, when the content was published, and why the content was published. On the other hand, paratextual elements are also a zone of transaction. This transaction corresponds to a kind of negotiation in which meaning should be privileged by the decoder when translating the message out of its message form.

The concept of paratext has already been applied to the field of journalism (Frandsen, 1991; Hagvar, 2012; Ledin, 2000) and to digital media (Seo et al., 2018; Simonsen, 2014), but it has not yet been specifically applied to Facebook news posts.

4.3.1.2 Why paratextual theory is applicable to Facebook news post

When breaking down the news posts into individual elements of meaning, it appears that they are actually composed of paratextual elements (see Figure 4.16) related to a reference text, the original news content (see Figure 4.17)- in this case, an article from *The New York Times*. Those paratextual elements can be subdivided into two categories: peritexts and epitexts. Peritextual elements – around the text – composing the news posts are usually the

title of the textual element and the subtitle, the author of the post and the logo, the time of publication, the picture of the news and the posts statistics. The epitextual elements – concerning the meaning of the text – are the post status and the 'likes', comments and shares.

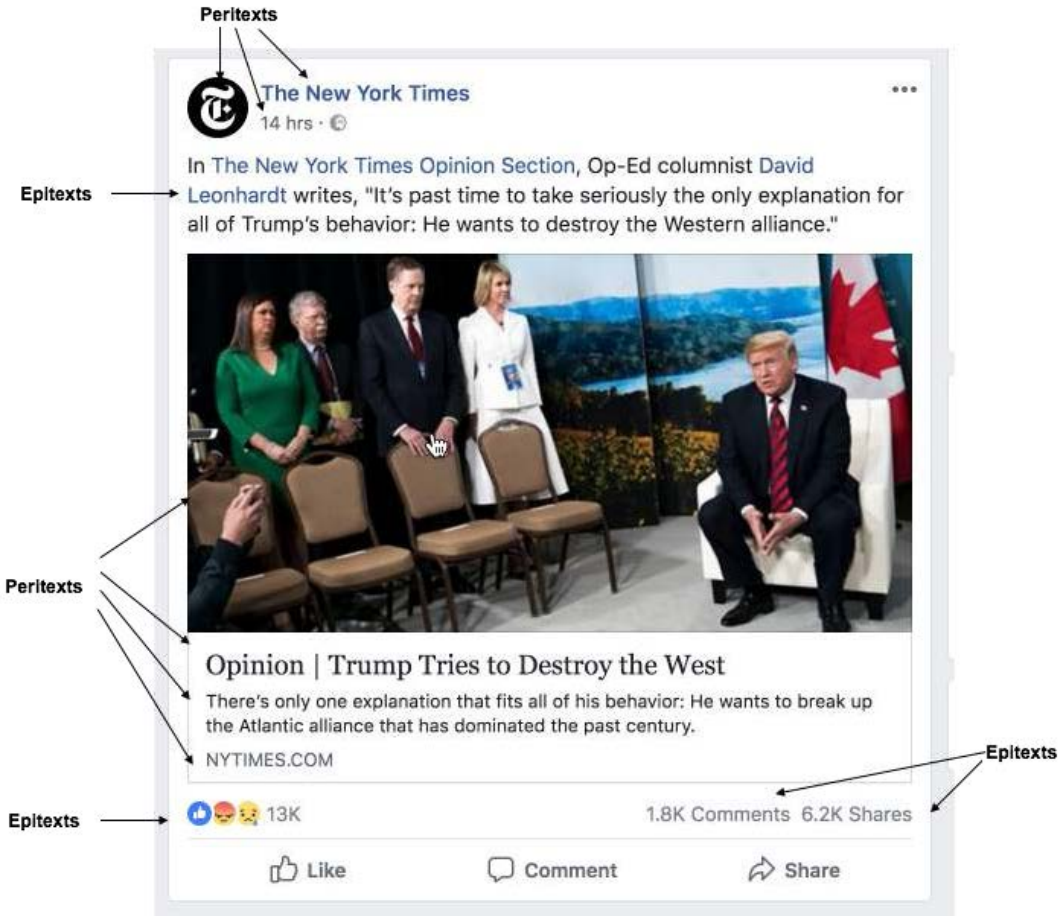

Figure 4.16. Example of news post composition with peritexts and epitexts (from The New York Times).

The New York Times

Opinion

DAVID LEONHARDT

Trump Tries to Destroy the West

By David Leonhardt
Opinion Columnist

June 10, 2018

President Trump at the Group of 7 summit meeting in Quebec on Friday. Doug Mills/The New York Times

The alliance between the United States and Western Europe has accomplished great things. It won two world wars in the first half of the 20th century. Then it expanded to include its former enemies and went on to win the Cold War, help spread democracy and build the highest living standards the world has ever known.

President Trump is trying to destroy that alliance.

Is that how he thinks about it? Who knows. It's impossible to get

Figure 4.17. Screenshot of the reference text linked to the news post presented in Figure 4.15: the original news article from The New York Times website[16].

4.3.1.3 Situating the news post in relation to its reference content

After observing the paratextual composition of the news post, it is necessary to define its situating features with regards to the referent text, that is, the news content they refer to. Genette (1997) mentions five 'situations' of paratexts: spatial, temporal, substantial, pragmatic, and functional. Each of these will now be defined and explained with regard to news posts.

1) **The spatial situation of the paratext.** The spatial situation refers to where paratexts are located with regards to their referent text. In the case of the news, two different spatial situations may be observed, depending on the mode of the original news commodity. The first spatial situation deals with when the original news content is external to the news post (see Figure 4.18). External, in this context, means that the only physical link between the news post and its original referent news content is a hyperlink. This is mostly the case for news articles.

[16] Screenshot taken on the 11/08/2019 from the following webpagehttps://www.nytimes.com/2018/06/10/opinion/g7-trump-quebec-trudeau.html

Figure 4.18. Example of a news post whose referent text is 'external' and without signalising paratext materialising its existence (from Le Monde).

In this scenario, the news post and the reference news article exist autonomously one from the other. If the original news content was deleted, the news post would not be affected, and, vice-versa, if the news post was deleted, the referent news content would not be affected. The existence of the hyperlink can be materialised within the news post. Several examples of "signalising" paratext (Ledin, 2000, p. 19) were observed in the collected data, such as the address of the hyperlink (see Figure 4.19), the use of a rhetorical figure such as a cropped title (see Figure 4.20), or the use of an emoji signalising an external content (see Figure 4.21). However, most of the time the physical link between the two entities is invisible as there is no signalising paratext to indicate the presence of the hyperlink and the hyperlink is tacitly contained within the primary paratexts such as the pictures or the title as was illustrated in Figure 4.18.

Figure 4.19. Example of a news post where the hyperlink towards the referent news content is materialised by its address (from L'Equipe).

Figure 4.20. Example of a news post where the existence of a hyperlink towards its referent news content is materialised by a rhetorical process (from L'Orient XXI).

Figure 4.21. Example of a news post where the link to an 'external' referent text is signalised by an emoji (from Slate.fr).

The second spatial configuration corresponds to when the reference content is 'internal' or embedded within the news post (see Figure 4.22). This is mostly the case for videos posted directly on Facebook. In this second case scenario, the physical link is very strong because the withdrawal of the news post necessarily signifies the withdrawal of the referent news content.

Figure 4.22. Example of a news post in which the referent news content is 'internal' under the form of an embedded video (from Franceinfo vidéos).

2) **The temporal situation of the paratext.** The temporal situation of the paratext refers to its date of appearance with regards to its referent text. In the case of a book for example, it refers to when the paratext has been created in comparison with the first publication of the volume. In the context of Facebook, the news post always seems to be subsequent to the production of its reference text, whether it be

hyperlinked or embedded on Facebook. However, this chronological posteriority is almost overshadowed by the publication time of the post itself. Every news post appeared to contain a paratext which indicated the publication time of the news post (see Figure 4.23), insisting on the "temporal situation" (Genette, 1997, p. 5) of the news post itself. However, in this study no reference to the time of publication of the original news content publication could be observed in the news posts collected during the "guided tour".

Figure 4.23. Example of the signalisation of the temporal situation of the paratext (from The New York Times).

3) **The substantial situation of the paratext.** The "substantial situation of the paratext" (Genette, 1997, p. 4) refers to its mode of existence. In the context of the news post, it is extremely rich, as it is inherently multimodal. Facebook news post are composed of elements of diverse nature, such as texts, pictures, emojis and pictograms. These elements have distinct paratextual values such as "illustration" (Genette, 1997, p. 7) for the pictures, while some are informational, providing comments on the text and possibly impacting how the text will be received. However, what is striking in the case of the news post is its density and diversity in terms of substance.

The two remaining situations of the paratexts – pragmatic and functional – appear to be particularly complex in the case of the news posts because they cannot be observed at the scale of the news post itself. On the contrary, it is necessary to observe all the paratexts composing the news post independently in order to understand what is at stake.

4) **The pragmatic situation of the paratext**. The "pragmatic situation" (Genette, 1997, p. 8) of the paratextual element corresponds to the characteristics of the communicational situation. It is composed of elements regarding the nature of the producer and the decoder. In the case of the news post, the pragmatic situation is particularly complex because most of the paratexts are authored by different entities. In order to deconstruct this complex entity, the concept of vertical interparatextuality has been developed. The latter combines Genette's (1997) paratext theory with Fiske's (1987) concept of "vertical intertextuality" (Fiske, 1987, p. 108). Vertical intertextuality focuses on the articulation between an original text and other contents alluding specifically to it. Fiske differentiated three types of text: "primary text", "secondary text" and "tertiary text" (1987, p. 108). Primary text refers to an original text (Fiske's example was an original TV show). Secondary text corresponds to all the content referring specifically to the primary text, such as criticism or publicity. Finally, tertiary text alludes to the responses or comments of other readers in reaction to secondary or primary texts.

   The same logic can be applied to the paratexts composing a Facebook news post. Primary paratexts are the elements that are simultaneously published with the primary text such as the title, the picture and the subtitles. Secondary paratexts of

elements appear when the post is shared on Facebook by somebody other than the original media who published the primary text. Finally, tertiary paratexts allude to comments and reactions via Facebook. Therefore, the news post appeared to be highly interparatextual, and the interparatextual distinction could be detailed up to the peritext and epitext levels. Facebook news posts aggregate primary, secondary and tertiary peritexts and epitexts (see Table 4.1).

- Primary peritexts correspond to the multimodal elements surrounding an article, such as its title, illustration picture, and source, as indicated next to the title and the bylines.

- Primary epitexts correspond to post statuses authored by the media that published the news. Despite the fact that the temporal status of the epitext is usually subsequent to the original text[17], in this study the post status is considered as "primary" rather than "secondary". This choice takes into consideration the fact that the post status had been published by the same media. The qualification of the post status as epitext answered to the fact that it usually comments on the content of the article.

- Secondary peritexts correspond to the elements of additional information provided directly by the Facebook format, such as the time of publication, the name and the picture of the author of the post, and the link between the author and the news content (authoring media, individual who shared the posts, etc.). Their classification as secondary peritexts is justified by the fact that they add meaning around the original text and orientate the interpretation of the primary text.

- Secondary epitexts concern only news posts that have been shared by an individual Facebook user. They do not concern news posts shared directly

[17] We expect this when the news is embedded on Facebook – meaning that there is no hyperlink to access the news text.

by the media which authored the original news content. In this specific case scenario, the post statuses are secondary epitexts because their author commented on the primary text.

- Tertiary peritexts refer to Facebook statistics such as the number of 'likes', comments and shares. They provide additional information about tertiary epitexts.

- Tertiary epitexts refer to the user's reactions: 'likes' via emojis, and comments via emojis, pictures, texts or shares. They provide a comment either on primary, secondary or tertiary elements.

Table 4.6. Vertical interparatextuality in Facebook news posts

Vertical intertextuality	Types of paratexts	Possible authors	Source in Facebook
Primary	Peritexts	Journalist Media producer	- Title of the news content - Picture of the article - Source of the article indicated next to the title - Bylines
	Epitexts	Journalist Media producer	- Post status

Secondary	Peritexts	Automatically-generated content	- Time of publication - Indication of the author of the post and what is the link of the author with the news content (Authoring media, individual who shared the news post, etc.) - If it is a sponsored content
	Epitexts	Facebook user	Post status: if the post has not been posted directly by the media
Tertiary	Peritexts	Automatically-generated content	Post statistics (number of likes, comments and shares)
	Epitexts	Facebook user	Likes comments shares

5) **<u>The 'functional' situation of paratext.</u>** Finally, the functional aspect of paratext "determines the essence of its appeal and its existence" (Genette, 1997, p. 12). In the context of literature, the function of a paratext is highly diversified and must be "brought into focus inductively" (Genette, 1997, p. 13). By contrast, in the context of Facebook news posts, observation of the paratextual functions shows that they are formatted and can correspond to existing typologies. Consequently, in order to analyse the function, this study combined the paratext typology developed by Ledin (2000) for newspapers with the classification developed by Seo et al. (2018) to study advertisements on Facebook. These are complementary as the first takes into

account the specificity of news while the second underlines the specificity of Facebook as a social medium.

Four main functions have been observed in the news posts (see Table 4.2):

- **Paratexts providing text-related information.** Text-related paratexts appear to provide information concerning the content of the news articles. They are what Ledin (2000) calls "topical" (p. 21); that is, their function is mainly descriptive. They tell what the article is about. The text-related paratexts are the pictures, titles and subtitles. In the context of Facebook news posts, the text-related paratexts also play the role of the "signalising" paratext (Ledin, 2000, p. 19). Its function is to indicate the existence of the text and its whereabouts via a visible hyperlink. Hyperlinks are often included within the topical paratext. However, as mentioned above in this subsection, their signalising function is mostly invisible (see Figure 4.17).

- **Paratexts referring to personal ties.** "Personal ties" paratexts refers to the paratexts which create a degree of proximity between the post and the reader (Seo et al., 2018, p. 85). They show how the network of the user is connected to the post. They refer to mentions of a Facebook friend 'liking', sharing, or tagging the user or commenting on a post.

- **Paratexts conveying sender-related information**. Paratexts providing sender-related information usually appear to correspond to the name of the sender, the picture of the sender, the byline, and information as to whether the content is sponsored or not. They are "positional" (Ledin, 2000, p. 19), that is to say, they mention the participants in the communication. In doing so, they provide information regarding the degree of reliability of the news.

- **Social proof paratexts.** Finally, paratexts conveying "social proof" (Seo et al., 2018, p. 86) provide evidence of the post's popularity. They can enhance the message's credibility. This information is given by the number of 'likes', shares, views (for a video) and comments.

Table 4.7. Categorisation of the paratextual elements contained in Facebook news posts

Type of paratext	Examples	Function
Text-related information – "Topical" (Ledin, 2000, p. 21)	Title, subtitles, Facebook subject-matter	Telling viewers what the text is about
"Personal ties" (Seo et al., 2018, p. 85)	Mention of a Facebook friend liking, sharing, tagging the user or commenting a post	Creating a degree of proximity between the post and the reader
Sender-related information – "Positional" (Ledin, 2000, p. 19)	Name and picture of the sender of a post and the mention if it is a sponsored content or not	Indication regarding the degree of reliability
"Social proof" (Seo et al., 2018, p. 86)	Number of likes, shares, views (for video) and number of comments.	Those paratexts provide evidence of the post popularity and can enhance the message credibility.

4.3.2 The news post as a "context of situation"

A question emerged from the deconstruction of the news post design and the observation that it consists of a complex ensemble of vertically intertextual paratexts bearing different functions: What does the complex aggregation of vertical intertextual paratexts generate in terms of meaning? At first glance, it seems obvious that analysing the individual function of the paratexts constituting a news post does not reveal the full picture. The paratexts must

be considered as an ensemble and the interaction between them must be studied in order to understand what is at stake in terms of meaning-making within the news post.

Two aspects of this question must be examined. The first aspect concerns the aggregation of paratexts with different functions When taken together, the different paratextual elements constituting the news post settles a "context of situation" (Malinowski, 1923, p. 307) for "transaction" (Genette, 1997, p. 2). In other words, the aggregation of paratexts provides information regarding the direct circumstances of the communication situation (e.g. what is going on, who is involved in the communication). The second aspect of the question concerns, more specifically, the use of vertical intertextuality. The echoes between paratexts from different authors tend to promote some interpretations over others.

4.3.2.1 Assembling paratexts and context of situation

Taken together, the different paratexts constituting a news post create a context of situation for the message contained in the news post. In other words, it settles "the semiotic environment of people and their activities" (Halliday, 1994, p. 175). The context of situation can usually be defined by three extra-linguistic elements: 1) Field (what is going on, the kind of activity, the topic or the subject area); 2) Tenor (who are the participants, what are their interactional roles in the creation of the text); and 3) Mode (the part that language is playing and the channel of transmission).

Each of those extralinguistic components are interactively correlated with what Halliday (1985) coined a "metafunction" (p. 53) (see Table 4.3). Three metafunctions form the base frame of the semantic organisation of all natural languages (Halliday, 1985):

1) **The ideational metafunction** is "the representation of experience. Our experience of the world that lies about us, and also inside us, the world of our imagination. It is meaning in the sense of 'content' " (Halliday, 1985, p. 53). Ideational meanings are activated (realised) by the Field.

2) **The interpersonal metafunction** is the origin of "meaning as a form of action: the speaker or writer doing something to the listener or reader by means of language" (Halliday, 1985, p. 53). Interpersonal meanings are realised by the Tenor.

3) **The textual metafunction** is used to highlight "the relevance to the context" (Halliday, 1985, p. 53). Textual meanings are realised by the Mode.

Table 4.8. The semiotics of the context of situation (Royce, 1999).

Contextual variable	Description	Metafunction	Description
FIELD	What is going on, the kind of activity, the topic or subject area	**IDEATIONAL**	The representation of our external and internal experience of the world. Meaning in the sense of 'content'.
TENOR	Who are the participants, what are their interacting roles in the creation of the text.	**INTERPERSONAL**	Meaning as form of (inter)action, where the speaker or writer is doing something to the listener or reader through language.
MODE	The part that the language is playing; and the channel of its transmission	**TEXTUAL**	The maintenance of relevance to the context, including both the preceding and following text, and those elements brought into the text from the surrounding context of situation.

A close observation of the paratextual elements composing the news posts shows that they can be interpreted in terms of Halliday's contextual elements and their associated

metafunctions (see Figure 4.24). The text-related information paratexts correspond to the Field and its ideational metafunction. The sender-related information paratexts, the social proof and the personal ties refer to the Tenor and its interpersonal metafunction. Finally, the news post as a whole constitutes the Mode and its textual function.

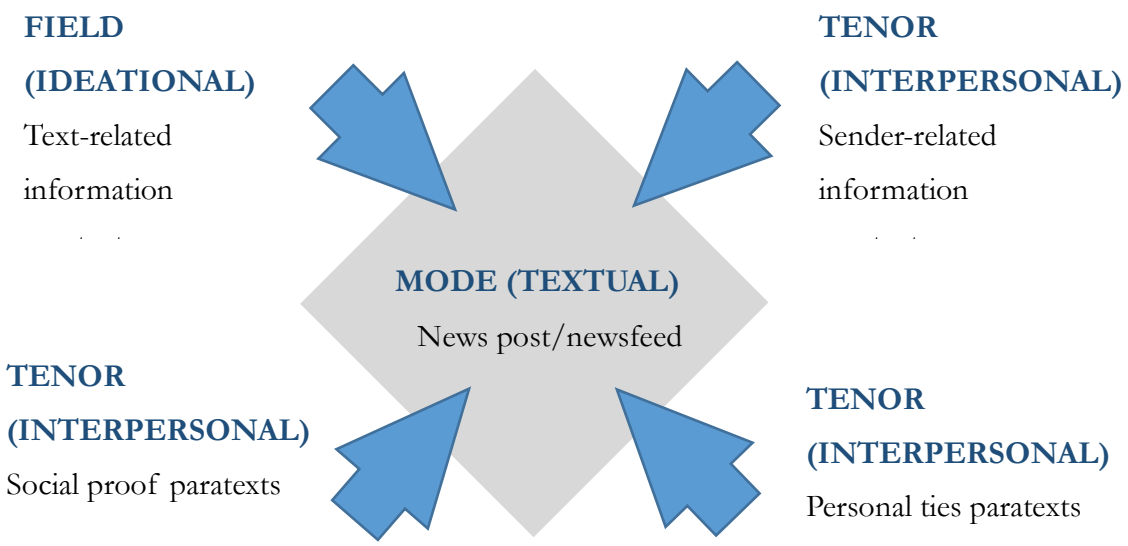

Figure 4.24. The metafunctions of paratexts in Facebook news posts.

For example, in Figure 4.23 above, the meaning of the paratexts can be decomposed as follows:

1) **Tenor**: Sender-related information- given by the name and the picture of the sender of a post- indicates that The *New York Times* is the sender of the message. Social-proof paratexts also show that the news post has generated more than 14K reactions online, 2.6K comments and 3.6K shares. However, in this news post, there are no personal ties paratexts.

2) **Field**: Text-related information - given by the title, the byline and Facebook subject-matter. This indicates that the news post deals with US Diplomacy and, more specifically, with US President Donald Trump who refused to sign a

statement with his allies and entered into a feud with Canadian Prime minister Justin Trudeau during a G7 meeting.

3) **Mode:** this deals with a multimodal communication mode that is written on the screen to be seen or read.

In terms of meaning-making, this paratextual information, constitutive of the context of situation, will be instantaneously resituated within the broader context of culture as defined in Section 4.2.2, in order to trigger an adequate response to the communication situation. For example, the information regarding the Tenor reveals, semantically, that the message is likely to be a news post because the message has been posted on the social media platforms by a news media outlet. It also reveals that the news post is likely to be written in English as *The New York Times* is an American newspaper; and it suggests that the content is probably trustworthy and respects professional news codes in terms of fact-checking as *The New York Times* is a highly respected newspaper. Therefore, the user will instantaneously recognise the post as news content and treat it a such (e.g. a non-fictional message based on real facts). The Tenor information will be completed by the nature of the Mode information that it is an embedded article. This means that the user will reflect on it, as part of a culturally expected social process (Martin, 1984).

4.3.2.2 Context of situation and 'interactive participants'

The context of situation created by the aggregation of paratexts in the context of the news post presents a specificity: the metafunctions appear to be distributed according the level of vertical intertextuality. The combination of the results illustrated in Tables 4.1 and 4.2 within Table 4.4 below clearly shows this repartition. Primary paratexts, which contain "topical" information (Ledin, 2000, p. 21), fulfil the ideational metafunction. Secondary paratexts, which provide either sender-related information or "personal ties" (Seo et al., 2018, p. 85), fulfil the interpersonal metafunction as well as tertiary paratexts, which provide "social proofs" (p. 86).

This repartition clearly shows the emphasis on the interpersonal metafunction of language through the use of secondary and tertiary paratexts. This characteric needs to be explored. The interpersonal metafunction of language refers to the "exchanging roles in rhetorical

interaction" (Halliday, 1985, p. 53). Consequently, it seems that the addition of several levels of vertical intertextuality, each providing interpersonal elements, contributes to locating the news content within a form of conversation with a multitude of what Kress and Van Leeuwen (2006) call "interactive participants" (p. 114). Those interactive participants may be the media producer through "positional" (Ledin, 2000, p. 19) paratexts, Facebook's friends through "personal ties" paratexts, and society in general through "social proof" paratexts.

Table 4.9. Observing the link between vertical intertextuality level and metafunctions.

Vertical intertextuality	Types of paratexts	Possible authors	Source in Facebook	Function	Metafunction
Primary	Peritexts	Journalist Media producer	- Title of the news content - Picture of the article - Source of the article indicated next to the title - Bylines	Topical	Ideational
	Epitexts	Journalist Media producer	- Post status	Topical	Ideational
Secondary	Peritexts	Automatically-generated content	- Time of publication - Indication of the author of the post and what is the link of the author with the news	Sender-related information or	Interpersonal

			content (Authoring media, individual who shared the news post, etc.) - If it is a sponsored content	Personal ties	
	Epitexts	Facebook user	Post status: if the post has not been posted directly by the media	Personal ties	Interpersonal
Tertiary	Peritexts	Automatically-generated content	Post statistics (number of likes, comments and shares)	Social proof	Interpersonal
	Epitexts	Facebook user	Likes comments shares	Social proof	Interpersonal

4.3.2.3 The position of the interactive participants

In order to understand the role of the interactive participants within the news post, the visual composition of the news posts and its meaning have been studied (Kress & Van Leeuwen, 2006). Due to the inherent multimodality of the Facebook newsfeed, the news post was treated as an "integrated text" (p. 177).

Studying the spatial composition of a news post showed that it is a centred composition (see Figure 4.25). The centre is occupied either by a picture or by a video in the case of a news post containing an embedded video. This centre seems to constitute the main point of "salience" (Kress & Van Leeuwen, 2006, p. 177) of the composition, which will attract the attention of the user.

Dividing the news post are central vertical and horizontal axes. Around this centre, we can see:

- The upper left corner contains the identity of the agent who published the news post and/or the name of the user who liked or commented the content, if they are different. The name of those two agents are written in blue in order to stand out while all the other textual elements are written in a black font.

- The lower left corner contains the title of the news articles and the bylines (if existent. This contrasts with traditional presentations in newspapers where titles and bylines tend to be positioned above the pictures in order to stand out.

- The upper right corner is left empty.

- The lower right corner contains the social proofs statistics. Those are physically separated from the rest of the news post by a horizontal line.

Such a spatial composition can be interpreted according to the traditional spatial symbolic in western culture. First, the news post design can be divided along a vertical axis. According to Kress and Van Leeuwen (2006):

> When pictures and layouts make significant use of the horizontal axis positioning some of their element left, and other, different one right of the centre …, the elements placed on the left are presented as Given. The elements placed on the right as New. For something to be Given means that it is presented as something the viewer already knows, as a familiar and agreed-upon point of departure for the message. For something to be New means that it is presented as something which is not yet know, or perhaps not yet agreed upon by the viewer, hence as something to which the viewer must pay special attention. (Kress & Van Leeuwen, 2006, p. 181)

The vertical division shows that most of the elements constituting a news post are placed on the left: the name of the agent who published the news post, possibly the name of the person or the group that shared, liked or commented on it, the Facebook status, the title and the bylines. Therefore, it seems that this design aims to reassure the user, insisting on its familiarity with the proposed content. On the right side of the news posts, the only 'new' elements provided to the decoder are social proofs statistics (number of likes, number of shares), that is to say how popular that content is with other users. Despite being 'new', this element can also be interpreted as comforting as its underlines the popularity of the content with other Facebook users.

The news post can also be divided along a vertical axis in order to interpret its composition. According to Kress and Van Leeuwen (2006):

> If, in a visual composition, some of the constituent elements are placed in the upper part, and other different elements in the lower part of the picture space or the page, then what has been placed on the top is presented as the Ideal, and what has been placed at the bottom is put forward as the Real. For something to be Ideal means that it is presented as the idealized or generalized essence of the information, hence also as its, ostensibly, most salient part. The Real is then opposed to this in that it presents more specific information (e.g. details), more 'down-to-earth' information. (Kress & Van Leeuwen, 2006, p. 187)

The upper part of the news post usually contains the name of the agent who published the news and a Facebook status. It may also contain the name of the Facebook friend who has

shared, commented or like the publication if applicable, as well as the name of the Facebook group in which it has been shared if applicable. The lower part usually contains the news content title, bylines, the name of the news producer, the social proof statistics and the comments.

The hierarchy of the different "interactive participants" (Kress & Van Leeuwen, 2006, p. 114) may be deduced from the composition of the news post along those two axes. It seems that the design of the news post aims to put forward the agent that published the news post; this can be either the media producer or a Facebook friend. In some cases, when applicable, it also puts forward the Facebook friend who has shared, commented or liked the publication or the Facebook group in which the news posts has been shared. Such figures, positioned in the left upper corner are familiar and give an 'idealised' interpretation. In the bottom left corner, if applicable, the title, the bylines and the name of the news provide additional informational elements but they are not constituting a point of salience, contrary to the elements placed in the upper part. The comments are also situated on the bottom left corner. However, they are really pushed towards the margins of the content and clearly separated from the centre by several horizontal lines, to show their lesser importance.

It is worth noticing that within this composition there is no specific place to materialise the gateway to the referent news content, except if it is embedded in the news post. If the video is embedded in the composition, it is at the centre of it and constitutes the major point of salience. However, hyperlinks are not taken into account by the design of the news post. When hyperlinks are materialised (see Subsection 4.3.1.3), it appears to be only because the author of the news post especially chose to materialise it (e.g. in Figure 4.24, the hyperlink is suggested by the addition of a visible hyperlink in blue within the Facebook status).

Figure 4.25. The spatial composition and dimensions of the visual space in Facebook news posts (Kress & Van Leeuwen, 2006) (Example of a news post from Le Monde).

4.3.3 The news post and weakness of the transition

In section 4.2 and in the previous subsections of section 4.3, the focus was on the transactional role of the design of both the newsfeed and the news post and how they generate contextual meaning. It has been shown that the design of the news post, as a complex aggregation of vertical intertextual paratexts, constitutes a context of situation, while the newsfeed design tends to resituate the message within a context of culture. However, a question arises from those observations: what do they actually contextualise?

This question consequently focuses on what Genette (1997) calls "transition" (p. 2). In its original meaning, transition corresponds to the 'thresholding' moment when the reader can decide to access the full text of a book or to move on. This role is usually played by paratexts, as a "vestibule" (Genette, 1997, p. 2) to the larger text they refer to. Therefore, in

the context of the news post, transition refers to accessing and decoding the original news commodity, whether it be an embedded video or hyperlinked.

This transitional role seems to be relatively insignificant. First, the complexity of the news post and the different layers of interparatextuality appear to render the transition blurry. Second, the examination of the different situations of the news posts seems to suggest that the news post tends to emancipate itself from its referent news content. Therefore, a news post appears to be a metaparatext, emancipated from its reference text.

4.3.3.1 The 'blurriness' of the transition

The complexity of the news post design appeared to make the transition blurry by multiplying the possibilities of transition through the use of vertical interparatextuality. In the complex ensemble of intertextual paratexts constituted by Facebook, it seemed to be difficult to understand the physical target of the transition. In other words, if taken as a whole, it can be assumed that the news post tends to propose a transition towards its referent news context, whether it be embedded or hyperlinked. However, if the different paratexts composing the news post are considered separately as vectors of transition, it is much more difficult to distinguish their physical target. This complexity appears to be due the existence of the interparatextual layers, which seem to create a sort of transition from one paratextual level to another. Therefore, it can be supposed that tertiary paratexts create a transition towards secondary paratexts, secondary paratexts towards primary paratexts, and primary paratexts towards the news article. If the secondary and tertiary paratexts create a threshold to other paratextual elements instead of towards the referent news article, it would mean, therefore, that the vestibule towards the referent news content is reduced to primary paratexts. Consequently, it can be supposed that the transitional power of the news post is extremely narrow and restricted.

However, a difference can be introduced here depending on whether the referent news content is internal, that is to say, a video embedded and thus playable within the Facebook post, or if it is external such as a hyperlinked article which requires a click to the news webpage to satisfy the viewer's curiosity. On the one hand, it may be assumed that the transition towards an internal referent text is easier because it requires a minimum effort from the decoder. In this case, the idea of transition may even be questioned because, as

mentioned earlier, the referent news content is bluntly embedded within the news post[18]. On the other hand, the transition towards an external content via the opening of a hyperlink seems to be weak due to the narrowness of the threshold. This weakness may be reinforced by the fact that in many cases the gateway to the referent text is not even materialised, as mentioned above in the description of the physical situation of the paratext (see Figure 4.17). Consequently, the process of transition appears to be blurry and weak. Such a conclusion seems logical from a business point of view, as transitioning to the referent news content would mean leaving the Facebook platform, which is contrary to Facebook's financial interests.

4.3.3.2 The emancipation of the news post

Besides the 'blurriness' of the transition, it seems that the news post, as a complex ensemble of intertextual paratexts, tends to unfetter or emancipate itself from the referent news content. This conclusion is fostered by the observations drawn from the different situations – spatial, temporal, substantial, pragmatic and functional – described at the beginning of this section.

The spatial situation has already been used to explain what has been called here the 'blurriness' of the transition. However, another of its aspects should be taken into account to consider the idea of emancipation of the news post from its referent news content: the fact that the news post can exist independently. The withdrawal of the original news content does not affect the existence of the news post. In the case of an embedded referent news, not only is the news post emancipated from its referent news content, but it seems to absorb it. The relationship seems to be inverted, as the reference content cannot exist without the news post. The reference content seems to be subordinated to the news post.

Such an emancipation seems to be also backed by the configuration of the temporal situation of the news post. As mentioned in the description of the situations of the

[18] This specific point will be taken into account in the next chapter when observing how the participants actually decoded the news posts selected for them during the "guided tour".

paratexts, what is put forward in the design of the news post is its own temporality, obfuscating the temporality of the referent news content.

The examination of the "substantial" situation and the richness of its multimodal design also tends to suggest that the news post is self-sufficient in terms of meaning in order to be interpreted as a unit of meaning of its own right. This assumption seems to be further supported by the "functional aspect" (Genette, 1997, p. 12) of the news post, which fulfils all the metafunctions of the language. Therefore, the news post seems to be self-sufficient in terms of meaning, and no referral to its referent news content seems to be needed.

Last, the observation of the "pragmatic status" (Genette, 1997, p. 8) suggests that what the aggregation of vertically intertextual paratexts seems to do is situate the primary paratexts with a mainly ideational function into a social conversation, thanks to secondary and tertiary paratexts. Consequently, it seems that the design of the news post incites the decoders to make their own interpretation on the basis of the elements contained in the news post, instead of inciting them to transition towards the referent news content to interpret it.

For all these reasons, it seems that the news post as a complex ensemble of vertically intertextual paratexts escapes its prerogative as a subordinated element to a reference text and emancipates itself from the original news content.

4.3.3.3 Facebook as a "bricoleur" of news rather than a gateway to news

This emancipation of the news post from the original news content appears to challenge the assumption that Facebook constitutes a major gateway, because the construction of the news post does not favour the transition towards the original news content. In other words, Facebook does not encourage users to leave its platform to read or see the original news content. Therefore, Facebook rather appears as a "Bricoleur" of news content (Genette, 1997) – as an agency which generates new news content on the basis of existing content" – rather than serving as a gateway towards original news content.

The first conceptualisation of the "bricoleur" was made by French anthropologist Claude Levi-Strauss in his essay The Savage Mind (1966) to describe the construction of

mythological narratives:"(the bricoleur) has to turn back to an already existent set made up of tools and materials, to consider or reconsider what it contains and, finally and above all, to engage in a sort of dialogue with it and, before choosing between them, to find the possible answers which the whole set can offer to his problem. He interrogates all the heterogeneous object of which his treasury is composed to discover what each of them could 'signify'" (p. 18). In other words, the idea of bricolage is a metaphor used to explain cognitive and creative process to create myths on the basis of already existing elements.

In the context of Facebook however, the bricoleur refers to the agent who possesses the skills of using existing available elements and combining them to create something new news content out of it.

4.4 Conclusion

In this chapter, it was observed how meaning was created during the process of news circulation on Facebook. It appeared that meaning is created through the contextualisation of the meaning via the creation of a context of situation that is situated in a wider context of culture. The breaking down of the participants' newsfeeds showed that the newsfeed-generating algorithm seemed to select horizontal intertextual news posts in order to recreate a context of culture. The observation of the news posts, however, showed that they were actually composed of an ensemble of vertical intertextual paratexts, and this ensemble tends to form a context of situation. However, that context does not seem to contextualise the referent news content as it appears that the transitional power of the news post towards its referent news content was rather weak and blurry. In Chapter 5, those results will be discussed in order to understand why the newsfeed-generating algorithm is recreating a context of culture and a context of situation and what those contextual elements actually contextualise.

CHAPTER 5 - Understanding Facebook's algorithmic rhetoric

5.1 Introduction

In Chapter 4, the analysis of the 'circulation data' collected during the "guided tour" confirmed that contextual meaning was created during the circulation process. First, the specific choices made by Facebook's newsfeed-generating algorithm when selecting news posts for each user tends to create a context of culture, which socially and culturally situates the message carried by the news post. Second, the design of the news post also seems to generate contextual meaning, via the aggregation of vertical intertextual paratexts that locate the message within a context of situation. However, the contextualisation does not seem to apply to the original news commodity if the latest is external – that is to say if it deals with an article accessible via a hyperlink.

In light of those results, two questions may be formulated, as follows:

- What is the purpose of creating contextual meaning?
- How may contextualisation impact users' decoding?

Chapter 5 will address those questions and discuss the results in Chapter 4 in order to understand the algorithmic rhetoric underpinning the circulation process of news posts on users' newsfeeds. Highlighting the logic behind the circulation process appears to be necessary in order to insert the circulation moment within Hall's original Encoding/Decoding model, and to assess how and what impact the circulation process may have on users' decoding.

Section 5.2 will define the concept of the algorithmic rhetoric and how it applies to circulation on Facebook's newsfeed. Section 5.3 will focus on the 'logos', that is to say the

output of the algorithmic rhetoric and will explain how the contextual meaning narrows down the polysemy of the news post to finally create a 'quaternary' metaparatext. Section 5.4 will describe the algorithmic rhetoric and will explain why the circulation process seems to correspond to a decoding/encoding moment, before integrating it to Hall's original Encoding/Decoding model. Section 5.5 will finally conclude the chapter

5.2 The algorithmic rhetoric approach

In order to understand the purpose behind the addition of contextual meaning via the circulation process, circulation has been approached in terms of Aristotelian rhetoric - that is to say the art of efficiently communicating a message. Rhetoric will be first explained in Aristotelian terms and then applied to the algorithmic circulation of Facebook newsfeeds. The choice of this approach will then be justified by the necessity to circumvent the black box protecting the circulation process and the advantage of such an approach will be detailed.

5.2.1 Defining Aristotelian rhetoric and adapting it to algorithms

A rhetorical approach has been taken to understand the purpose behind the creation of contextual meaning during the process of circulation. Here the key concepts of Aristotelian rhetoric will be explained, and then those will be applied to the context of news circulation on Facebook's newsfeeds.

5.2.1.1 From Aristotelian rhetoric to algorithmic rhetoric

In his *Rhetoric*, Aristotle established the basis of communication theory by defining the three elements constituting a communication process: Ethos, Logos and Pathos.

1) **Ethos.** Ethos corresponds to the speaker and his ability to convince listeners, based on his character and his credibility during the production of logos (Enos, 1996, p. 243).

2) **Logos.** Logos is a polysemous term which refers to a word, a speech or even a thought expressed through an argument. It refers to the message produced by the speaker to persuade the audience by the means of demonstration.

3) **Pathos.** Pathos refers to the emotional response of the audience. In *Rhetoric*, emotions are not irrational obstructions to decision-making but rational responses to ethos and logos (Fortenbaugh, 1975, p. 17).

In light of this triad, Aristotle defined rhetoric as "the faculty of discovering the possible means of persuasion in reference to any subject whatever" (Aristotle, trans. 1926, p. 15). This means that effective message producers (ethos) should understand the circumstances of a communication process and adapt the content of their message (logos) in order to generate a desired effect within a defined audience (pathos). To do so, the producer of a message must anticipate the audience, the context and the subject in order to find the adequate circumstantial "means of persuasion" (p .15).

5.2.1.2 Algorithmic rhetoric

The notion of rhetoric, as has already been applied to algorithms (Beck, 2018; Johnson, 2017; Reyman, 2017), is viewed as a rhetorical agent able to order information and to guide digital interactions. However, Facebook's algorithmic rhetoric regarding the circulation of news content has never been detailed. In the context of news circulation, algorithmic rhetoric may be defined as follows (see Figure 5.1).

Figure 5.1. The Aristotelian rhetoric applied to the circulation of news offer on Facebook newsfeed.

The newsfeed-generating algorithm seems to play the role of ethos as it carefully chooses what elements to post on the users' newsfeeds (logos) – that is to say what type of post, on which topic, under which form, from which source and at what time – in order to generate some unidentified effects (pathos).

5.2.2 Why use the algorithmic rhetoric approach

When trying to study Facebook's *modus operandi*, scholars face the "black box" (Latour, 1987, p. 13) challenge– that is to say the "opacity" surrounding how Facebook's algorithms work and circulate content (Burrell, 2016, p. 2). Therefore, the algorithmic rhetoric approach has been selected to circumvent or bypass this black box, and to draw on some further advantages in terms of generalisability.

5.2.2.1 Circumventing the Facebook black box

The black box surrounding Facebook's *modus operandi* constitutes a direct obstacle to this research, as Facebook operating modes may be considered as meaning-generating. Facebook's black box is linked to two main algorithmic factors: their inherent opacity and their instability. These algorithms are intrinsically non-transparent (Burrell, 2016), and while this inherent opacity is due to Facebook's business imperative and the "intentional corporate secrecy" (p. 3) of social media towards protecting the heart of their business, the lack of transparency is due to the technical specificities of algorithms in general.

Unravelling the logic behind algorithm programming within a complex software system or platform (such as Facebook) is inherently complex and requires a specific technical literacy to understand its coding. Another factor contributing to the black box issue is the fact that Facebook algorithms are constantly and imperceptibly changing. Therefore, it is almost impossible for academic research to fully untangle the parameters underpinning Facebook's circulation process. Even if untangling those parameters could be approximated, the fact that they are constantly and invisibly changing would limit the significance of any analysis by reducing it to a non-generalisable snapshot at a given moment.

However, switching perspective from studying Facebook's impenetrable black box to trying to understand the algorithmic rhetoric provides an unproblematic entry point to

studying the circulation process of news posts on users' newsfeeds: the logos. As a visible output of the circulation process, the logos has been studied in Chapter 4. It appeared to be characterised by the creation of a context of communication via the combined use of horizontal and vertical intertextuality. From this entry point, this chapter will try to deduce the pathos and the ethos of the algorithmic circulation. This implies two answers for the following two questions, regarding the pathos and the ethos respectively:

- What effect may the specific designs of Facebook's newsfeeds and news posts aim to generate on the users? What effect is sought after by the newsfeed-generating algorithm?

- What tools may be used by the newsfeed-generating algorithm in order to produce such a contextualised logos and to achieve a possible, yet to be defined effect?

5.2.2.2 Advantages and limits of researching algorithmic rhetoric.

In addition to providing an entry point to deal with Facebook's black box, the algorithmic rhetoric approach presents some clear advantages in terms of significance. The focus on algorithmic rhetoric provides a much greater degree of generalisation than if the focus was on the algorithm itself. The latter may be constantly and imperceptibly changing, whereas the algorithmic rhetoric is less likely to change as it deals with the core logic at the heart of Facebook's business instead of its *modus operandi*.

Besides, this perspective reduces the inherent limitations of the "purposeful" sampling strategy (Patton, 2002, p. 46) and the 'snapshot' aspect of the chosen methodology. As described in Chapter 3, the data was collected over the period of a month from December 2017 to January 2018 with a small sample of young French journalists. Consequently, some rhetorical tools used by Facebook may not be visible or even used in the logos collected in the context of this study, or those tools may have changed since the data collection. Nevertheless, this lack of exhaustiveness does not represent an issue as this study does not aim to be comprehensive regarding Facebook's concrete *modus operandi* but is instead focused on the algorithmic rhetoric underpinning it.

5.3 Approaching the logos: from contextual meaning to a 'quaternary' text

In Section 5.2, it was suggested that the easiest entry point to Facebook's algorithmic rhetoric was through the logos, that is to say the newsfeeds and the news posts composing them. This section will therefore focus on those in order to discuss and interpret the characteristics described in Chapter 4. The focus will be on firstly describing the contextual meaning as a tool to reduce the polysemy of the news post message, then discussing the apparent heteroglossia of the news post, and finally detailing how the newsfeed-generating process seems to use this heteroglossia to strengthen a 'preferred meaning'.

5.3.1 Contextualised logos and reduced polysemy

In Chapter 4, the analysis of the participants' newsfeeds and the news posts composing them showed that the circulation process tended to create some contextual meaning via the generation of horizontal and vertical intertextual links. Such a process of contextualisation seems to be aimed at reducing the polysemy of the news post message. While the context of situation aims to clarify the direct parameters of a situation of communication, the context of culture helps to interpret those parameters and to trigger an adequate reaction from the user.

5.3.1.1 Contextualising the logos to stabilise meaning

In Chapter 4, the analysis of the participants' newsfeeds showed that during the circulation process on the social media platform, contextual meaning was created.

On the one hand, the deconstruction of the participants' newsfeed revealed a clear pattern of horizontal intertextuality underpinning the choice of the news posts. Within each newsfeed, all news posts were interconnected around six intertextuality criteria: language, network, mode, topical, semantic, and stylistic (see Figure 4.1). The existence and prevalence of those intertextual links appeared to transform the newsfeed into a "context of culture" (Malinowski, 1935, p. 18). In other words, the highly intertextual newsfeed settles general historical, social and cultural settings in which further communication will take place.

On the other hand, the analysis of the news posts composing the participants' newsfeeds showed that those were composed of a complex ensemble of paratexts. Those paratexts appeared to carry either text-related information, sender-related information, information regarding the user's "personal ties" (Seo et al., 2018, p. 85), or "social proof" (p. 86). The aggregation of four types of information provides evidence regarding the three elements constituting a situation of communication – the Field, the Tenor and the Mode and, therefore fulfils the three metafunctions of language: ideational, interpersonal and textual. In other words, the specific design of the news post recreates a "context of situation" (Malinowski, 1923, p. 307), that is to say, the circumstantial context in which the communication process occurs.

Resituating news posts within an artificially-created context of communication seems to be used to stabilise the meaning of a message carried by the news post. According to Fiske (1987), if elements of stable meaning cannot be found in a text itself, they can be found in the "reading by a socially and historically situated viewer" (p. 117). Therefore, instead of focusing on the text as a meaning vehicle, Fiske would focus on the moment of reading, that is to say, when the receiver of message extracts meaning out of a text. At the specific moment of decoding, the meaning of a text can be temporarily stabilised for a specific reader, considering the cultural environment in which the text will be decoded. This temporary meaning is highly contextual and cannot be generalised; different readers can stabilise the meaning of the same text in different ways, and the same reader can also stabilise the meaning of a text differently in a different context at a different time.

However, it is necessary to understand how context of situation and the context of culture work together in order to stabilise meaning.

5.3.1.2. Context of situation and "context metafunction hook-up"

As described in Chapter 4, the context of situation is created by the aggregation of paratexts providing information regarding the Field (what is going on, the kind of activity, the epic or subject area), the Tenor (who are the participants, what are their interacting roles in the creation of the text), and the Mode (the part that the language is playing; and the channel of its transmission). Each of those contextual variables refers to a language metafunction (see Figure 4.3): the Field is associated with the Ideational metafunction or

the representation of the external and internal experience of the world, the Tenor plays the interpersonal metafunction and insists on the interactional aspect of the communication process, while the Mode refers to the textual metafunction and ensures the coherence of the message with the external context. In other words, those three metafunctions give information regarding the direct situation of communication: who is involved (Tenor), under which form (Mode), and what is going on (Field).

The association of those three metafunctions with the contextual variables triggers what Hasan (1995) coined as the "context - metafunction hook-up" (p. 222). In a situation of communication, the perception of the Field, Tenor and Mode activates the choice of certain meanings over others when users decode a message. It means that the direct context of communication is an "activational force" (Hasan, 1995, p. 222). This activational force of the context of situation has a probabilistic influence on decoding. It means that the influence the context of situation on the decoder is not certain. However, it increases the likelihood that a user would choose one meaning over another.

For example, in Figure 4.6 [see page 130], the context - metafunction hook-up is likely to occur as follows: Rue89 (Tenor) shared on Facebook a picture and a text (Mode) regarding the fact that Paul Bocuse (Field) 'has left us' (In French: 'nous a quittés'). At a first glance, the Field might appear ambiguous as 'has left us' may mean different things (e.g. has physically left the room, has left the company as a synonym of renounce to his job, has left as a romantic break up, has left as he is dead). However, in this case scenario, the fact that the Tenor is impersonal - not a friend with whom the user is directly interacting - and that the Mode is a report on a fact via language will help the reader/viewer to choose a specific meaning. Here, the absence of direct interaction between the receiver of the message and the Tenor discards as a potential meaning that Paul Bocuse physically left a common place. The absence of a common work place or love interest between Paul Bocuse, Rue89 and the user helps to turn down the other projected meanings. Therefore, the context - metafunction hook-up helps to interpret the text as meaning that Paul Bocuse is dead.

5.3.1.3 Understanding the link between context of culture and context of situation

However, the context of situation alone is usually not enough to understand a message. In order to make sense, the context of situation needs to be interpreted within a broader

context of culture. Both are used simultaneously when interpreting a news post. Therefore, it is necessary to understand how context of culture and context of situation work together to stabilise the meaning as described by Fiske (1987). In terms of a definition, a context of culture refers to the physical and social environment in which the language arises. Every communication act occurs within a determined context of culture. Meaning-making takes place within this global setting. Within this global context, meaning-making also takes place within a context of situation, that is to say, the sum of direct circumstances in which the communication process occurs. To Malinowski (1923), the primary function of the language is pragmatic and aims to produce an action. Accordingly, the context of situation is of utmost importance as the language is used for a defined purpose, in a specific situation, within a wider context of culture.

Both context of culture and context of situation are inherently linked. The context of culture encompasses the "potentialities" (Matthiessen, 1993, p. 272), that is, all the possible meanings for a message that a linguistic system offers, and the context of situation stands for all the possible instantiations of meanings that may arise in a defined situation (Halliday, 1999); that is to say, it indicates among all the available possible meanings within a context of culture those that are the most appropriate in that specific situation. In order to clarify this difference, Halliday (1992) used the analogy of the relationship between weather and climate, where the weather stands for the context of situation and the climate for the context of culture. Climate and weather are two different perspectives on the same meteorological phenomenon. Considering the weather gives a close look at the instances of temperature and precipitation, while considering climate equates to contemplating the weather from a distance, in an aggregated (or averaged) sense. The climate is the sum of all the potential weathers, and thus refers to systemic potentiality, while the weather corresponds to a specific situation – that is to say, an "instantiation" (Halliday, 1992, p. 26) of possible (potential) weathers in a specific climate.

For instance, in Figure 4.6, the context of situation was defined in the previous section as follows: Rue89 (Tenor) shared on Facebook a picture and a text (Mode) regarding the fact that Paul Bocuse (Field) has died. Resituating this situation within a broader context of culture will help to recognise that this message is a news content posted on a social media platform by a news company. Therefore, it should be treated as a news item and trigger an adequate and appropriate reaction depending on the cultural background of the user. In

addition, the context of culture will help to clarify some ambiguities. For example, French chef Paul Bocuse is named "The pope of cuisine" in Figure 4.6. From a denotational point of view, the Pope is the supreme chief of the Catholic Church. Consequently, in this context of situation, there is an incoherence between this definition and the rest of message. Therefore, unconsciously, users will use their cultural knowledge and activate the context of culture in order to understand that the word "Pope" is used here in a metaphorical way to refer to an official position, power, spirituality and leadership. The choice of this metaphor is highly cultural and aligns with a country with a Roman catholic tradition such as France.

5.3.2 From heteroglossia to a 'quaternary' text

If the co-occurence of a context of culture and a context of situation is inherent to any communication, those present unique characteristics in the context of Facebook: 1) they are generated by algorithm, and 2) on the basis of message created by different interlocutors. Therefore, the results of the previous section, regarding how contextualisation appears to reduce the polysemy of the message and to privilege certain meanings over others, seems at a first glance to contrast with the intrinsically heteroglossic nature of the news posts. As described in Chapter 4, those aggregate various levels of textuality and multiple authors. Therefore, a question naturally emerges from that observation: why multiplying the voices while narrowing down the set of possible meanings? This section will focus on this apparent contradiction. First, the heteroglossia of the news post will be examined. Second, how this heteroglossia is orchestrated by the newsfeed-generating algorithm will be explained. Finally, it will be demonstrated that, despite the apparent "heteroglossia" of the news post, a main interpretation seems to emerge from the news post, which may be called a 'quaternary' metaparatext.

5.3.2.1 News posts and heteroglossia

The analysis of the news posts in Chapter 4 showed that the different paratexts composing them featured vertical intertextuality. Those paratexts, often from different authors and generated at different times, correspond to different levels of textuality: primary, secondary and tertiary paratexts. Each of those three levels of textuality proposes an interpretation of the previous level. According to Fiske (1987), while primary texts carry an original message,

secondary texts offer an interpretation of the primary text and promotes a selected meaning of it. Tertiary texts, for their part, usually comment on primary or secondary texts and provide "access to the meanings that are in circulation at any one time" (p. 117). A similar logic may be applied to paratexts: primary paratexts authored by the news producer may put forward a preferred meaning equivalent to the one content in the referent news content, while secondary and tertiary paratexts provide interpretations of those primary paratexts.

News posts are therefore inherently heteroglossic – they carry the different voices of various "interactive participants" (Kress & Van Leeuwen, 2006, p. 114) proposing their interpretation of the news message: the media producer, personal ties to the decoder, and the society through social ties and comment. According to Bakhtin (1994), who first conceptualised heteroglossia, language is not only a system composed of abstract grammatical categories, it is also saturated with ideologies representing world views which constantly changes. This dichotomy generates a permanent tension between "centripetal forces" (p. 75) aiming to verbal and ideological unification to guarantee mutual understanding during the communication process and, "centrifugal forces" (p. 75) which consist of speech diversity that fall within a socio-ideological context of communication. Therefore, "every utterance participates in the unitary langue (in its centripetal forces and tendencies) and at the same time partakes of social and historical heteroglossia (the centrifugal straying forces)" (p. 75).

5.3.2.2 Orchestrating the heteroglossia

The visibility of the different layers of intertextuality gives the impression that both newsfeeds and news posts are inherently heteroglossic. However, a closer look may suggest that the heteroglossia within the news posts is strictly controlled.

In Chapter 4, the observation of the newsfeed suggested that the news posts are carefully selected by the newsfeed-generating algorithm. Therefore, the voices heard in the apparent heteroglossia of the news post are previously accepted by the newsfeed-generating algorithm, based on unknown criteria. Further, the heteroglossia within the news post is also closely supervised by physically organising the different levels of textuality within the news posts. In Section 4.3.2.3, the study of the spatial composition of the news posts

showed that a clear hierarchy exists between the different elements composing a news post. The dominant voice within the heteroglossia of the news posts clearly appeared to be the one situated in the upper left corner (see Figure 4.25). This can be either media producer in case of news posts published directly by them or it can be a Facebook friend. However, the voice of the media producer through the title and the by-lines appeared to be rather weak. A similar observation has been made for the tertiary text, which are relegated to the margins of the news posts and physically separated from the rest of the composition.

If the heteroglossia is so carefully orchestrated, why does the newsfeed-generating algorithm seem to stack different levels of textuality within the news posts? As mentioned in Chapter 2, the importance of this social environment on the reception and the interpretation of a mediated message has been demonstrated for a long time (Lazarsfeld et al., 1968). Therefore, it can be assumed that the interpersonal circulation of news via identified "interactive participants" (Kress & Van Leeuwen, 2006, p. 114) is more likely to impact the reader and to influence the user's interpretation. On Facebook, this interpersonal mediation of opinion leaders (Lazarsfeld et al., 1968) can easily be used due to the intrinsic nature of the context of Facebook as a "social network media" (Meikle & Young, 2012, p. 61). Users' networks are visible and "actual" (Hasan, 1999, p. 238). Consequently, possible opinion leaders may be easily identified through users' previous browsing histories.

5.3.2.3. Towards a 'quaternary' text

However, the use of opinion leaders does not seem to be used to put forward their own interpretation. Their news post and the content they shared on the social media platform is not selected by the newsfeed-generating algorithm to appear in other users' newsfeeds because of their content; they are selected because the content of a news post is considered by the newsfeed-generating algorithm to be a good match for a specific user. Therefore, the algorithmic mediation in the choice of promoting certain opinion leaders transforms them into simple carriers of the ideologies embedded in Facebook's own algorithms. Therefore, news posts seem to carry a 'quaternary' interpretation, dominating primary, secondary and tertiary texts. This 'quaternary' text would reflect the ideology of the newsfeed-algorithm itself, influencing its own meaning structures – that is to say, the "technological frame" (Bijker, 1997, p. 168) underpinning its programming.

This quaternary text would be achieved by the control of the heteroglossia via the activation and the hierarchisation of some selected intertextual links over others. According to Fiske (1999), "activating (intertextual relations) in some ways rather than others is one of the ways in which a viewer[19] exercises 'cultural authority' over his or her text by exploiting its producerly potential" (p. 67). In other words, part of the decoding autonomy of the users is about choosing how to link a message to other existing ones. However, in the context of Facebook's newsfeed and news posts, some horizontal and vertical intertextual links are already put forward during the circulation process. News posts are already linked horizontally to others within users' newsfeeds, and within those news posts all the elements of meaning are vertically linked together. Therefore, intertextuality does not seem to be any longer "a vast interlocking potential of elements than can be mobilized in an unpredictable number of ways" (Fiske, 1999, p. 58). In the context of Facebook's newsfeed however, it is intertextuality that seems to be a set of controlled interlocking links that are mobilised to put forward a quaternary preferred meaning.

News posts thus appear to be units of meaning in their own right, and no longer a paratext because the subordination relationship that traditionally exists between a paratext and its reference text seems to have been reversed. Therefore, it seems appropriate to qualify it as a quaternary metaparatext. Such a conclusion directly echoes Bødker's conclusions (2016) regarding how "the dominant cultural order" (Hall, 1980b, p.123) inscribed into the news commodity through the "professional code [of] journalism" (Hall, 1980b, p.126) is folded into a new form of governance, or an additional dominant order, linked to the industrial structures of big, commercial social media companies" (p. 416). However, it appears that not only the dominant cultural order is wrapped into Facebook's dominant order but also any kind of non-dominant voice. In practice, it may also mean that the dominant cultural order is dominant on the platform as long as Facebook considers it dominant.

[19] Fiske's work is specifically about television.

5.4 Understanding the algorithmic rhetoric

In Section 5.3., the logos was discussed. In light of what was learnt about the logos, the aim of the current section will be to deduce the rest of the algorithmic rhetoric. The hypothesis that came up from the observation of the results is the following: the newsfeed-generating algorithm aims to predict how users instantiate meaning in a defined context (ethos) in order to orientate their decoding towards the algorithm's "preferred meaning" (Hall, 1980b, p. 134). Therefore, the process of circulation may be compared to a true encoding moment.

5.4.1 Approaching ethos and pathos

In order to understand the algorithmic rhetoric underpinning the circulation process of news content on Facebook's newsfeeds, it is necessary to define the ethos and the pathos in this context. The ethos will be approached as a form of predicted instantiation of meaning, and the pathos expected from the predicted instantiation of meaning seems to be the orientation of the decoding towards a preferred meaning.

5.4.1.1 Ethos as predicted instantiation of meaning

The contextualised and little-polysemous logos may be used as the result of a predicted instantiation of meaning. The idea of predicted instantiation draws on the concept of "register" (Matthiessen, 1993, p. 272). A register corresponds to the sum of the possible meanings that a decoder may choose in a "situation type" (Matthiessen, 1993, p. 272). In order to understand Matthiessen's argument, it is necessary to describe his modelling presented in Figure 5.2.

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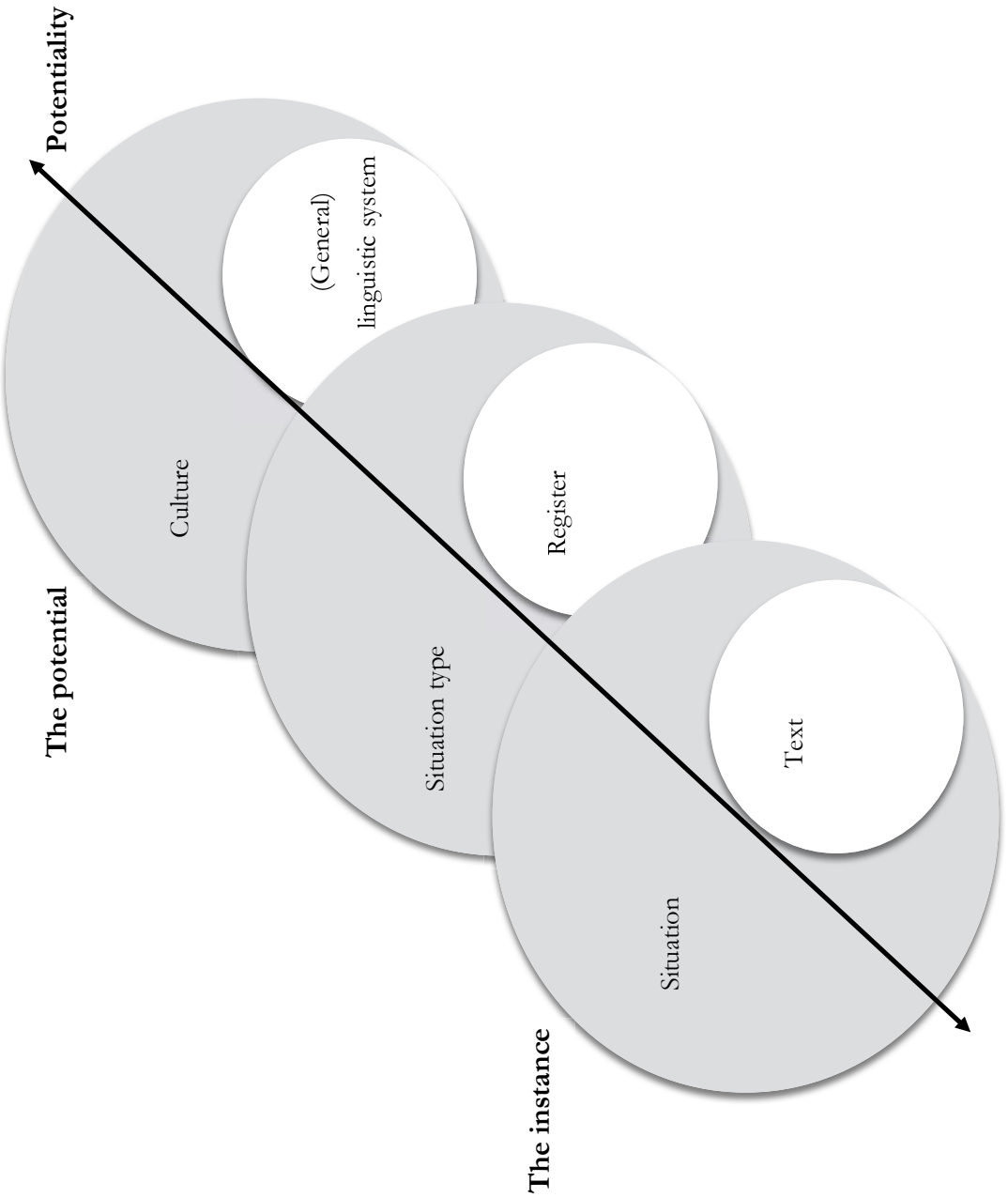

Figure 5.2. Context of culture and context of situation (Matthiessen, 1993, p. 272)[20].

[20] It is important to notice that the upper circle of Matthiessen's diagram (1993, p. 272) – that is to say culture and, within culture, the linguistic system – is in constant evolution (Halliday, 1992). For Halliday (1992), language is a "dynamic open system" (p. 26). It is "metastable" (p. 26), which means that it is constantly co-evolving with its environment. Every instantiation as well as every realisation of culture participates in the evolution of the language as a dynamic open system.

First, Matthiessen (1993) establishes a "continuum" (p. 271) between potentiality – that is to say, all the meanings available within a specific context of culture – and the concrete instantiation finally chosen by a decoder when extracting the meaning out of the message. Along this continuum, he introduced the idea of "situation type" (p. 272). A situation type corresponds to an eventual situation of communication at the confluence of an imagined context of culture and an imagined context of situation. To the situation type corresponds a "register", that is to say, a sum of meanings that a decoder may choose in those specific circumstances. According to Matthiessen (1993), the concept of register can be observed from two different perspectives: "Looked at from the point of view of the instantial, a register is thus a generalisation about recurrent patterns across instances; and looked at from the point of view of the general potential, it is variation within this potential" (Matthiessen, 1993, p. 271). In this regard, Matthiessen's register is an interesting predictive tool of what meaning a user would tend to use in a specified situation.

What Facebook's newsfeed-generating algorithm seems to do is to recreate situation types by controlling both the context of culture and the context of situation. The situation types would be characterised by an intertextual momentum, that is to say as a meaning-making synergy to minimise the polysemy of a message at the confluence of a defined context of situation generated via the aggregation of vertical intertextual paratexts and a determined context of culture created via horizontal intertextuality. Therefore, the newsfeed-generating algorithm may predict the register that users are susceptible to use to instantiate the meaning out of the message (see Figure 5.3).

The recreation of situation types by the newsfeed-generating algorithm is possible due to the "web-stigmergies" (Dipple, 2011, p. 411) left by Facebook users within the system, that is to say, the users' previous browsing history on the platform (Jensen & Helles, 2017). On the basis of this tangible data, the newsfeed-generating algorithm can recreate what can be called an "implied" (Rimmon-Kennan, 1983, p. 118) situation type. In other words, the situation type recreated by the newsfeed-generating algorithm mimics users' possible cultural environments, which are deduced from the hints provided by users' previous behaviours into the system.

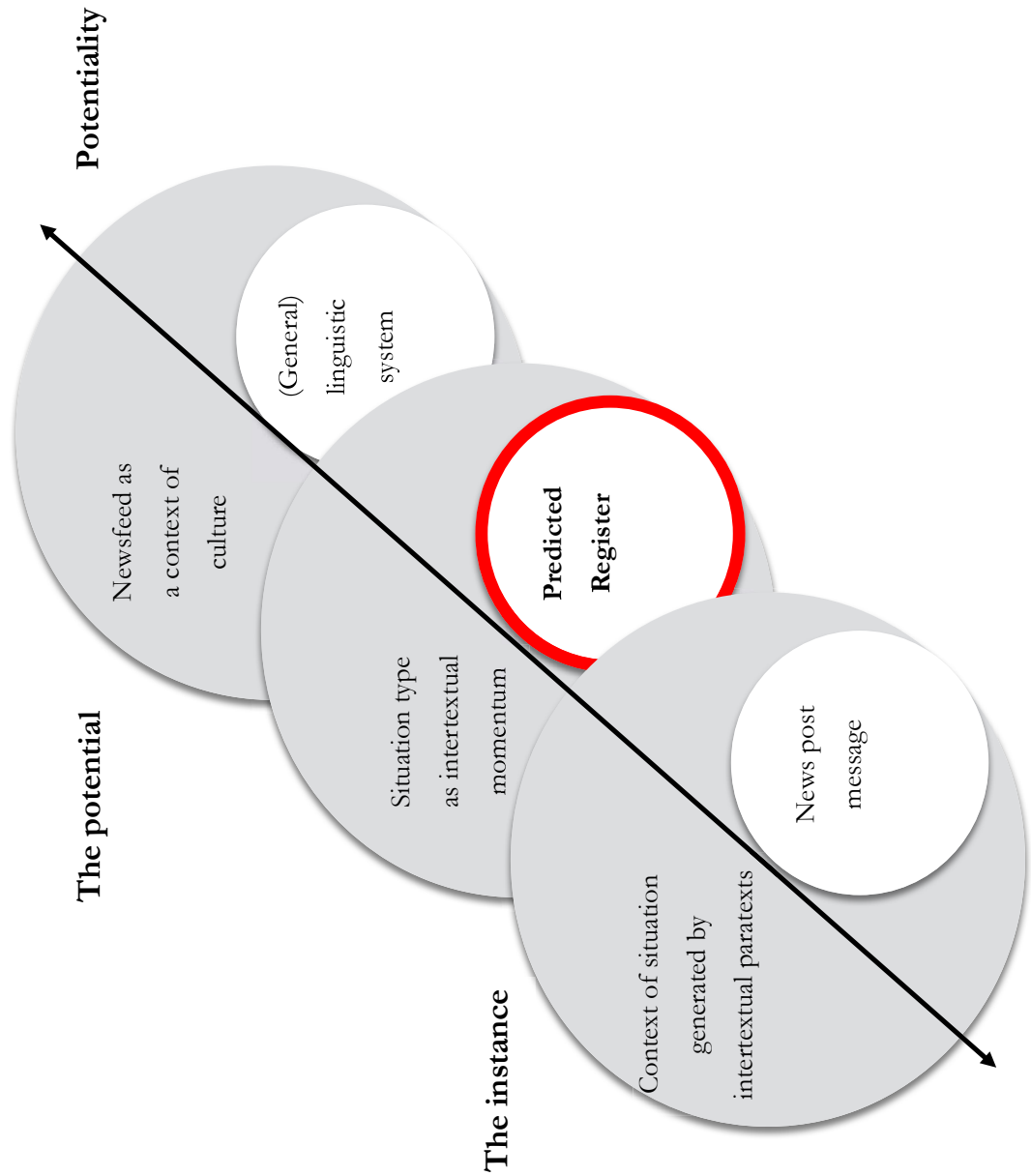

Figure 5.3. Adaptation of Matthiessen's (1992) Situation type and register modelling to predicted instantiation of meaning on Facebook.

5.4.1.2 Pathos as orientating the decoder towards a 'preferred meaning'

A question arises from the previous conjectures: What pathos or effect would the newsfeed-generating algorithm be programmed to achieve with the use of predicted instantiation via intertextual momentum? It seems that the newsfeed-generating algorithm aims to channel down the interpretative ability of its user in order to orientate their decoding towards a "preferred meaning" (Hall, 1980b, p. 134), in this case the quaternary interpretation defined in Section 5.3.2.3. This is, as stated, a reflection of the ideology of the newsfeed-algorithm and an influence on its own meaning structures.

If the newsfeed-generating algorithm can predict the instantiation of meaning in a situation type via the use of the register, it seems that by controlling the different parameters of the communication situation of each post, the newsfeed-generating algorithm can orientate their decoding to a preferred meaning.

This idea is supported by the idea of "textual recognition" (Hasan, 1999, p. 238) in the context of the newsfeed. Textual recognition – or, more specifically, paratextual recognition in this case – means that the addressee (the person for whom the message has been created and/or selected) is constitutive of the message. In other words, the producer (in this case, the newsfeed-generating algorithm that selects and assembles news posts for a specific user) anticipates which polysemous meaning may be at risk and how the context may influence the addressee's interpretation towards the preferred meaning endorsed by the producer. Consequently, the choice of both the original news commodity and its corresponding paratexts is made accordingly for the user. Besides, on Facebook, the addressee is not only constitutive of the text, but he or she is also "actual" (Hasan, 1999, p. 238). This means that the newsfeed-generating algorithm has an actualised knowledge of the user when producing the message. This actualised knowledge is provided by the constant recording of the user's browsing history by Facebook (Beam & Kosicki, 2014;

Boyd & Ellison, 2008; Jensen & Helles, 2017; Meikle & Young, 2012). Consequently, the algorithm may adjust its choice to activate some meanings rather than others[21].

5.4.1.3 Summing up the algorithmic rhetoric

In light of the conjectures presented in Sections 5.3 and 5.4.1, Facebook's algorithmic rhetoric triangle can be completed as follows (see Figure 5.4):

- **Ethos,** or the 'speaker' and his ability to convince 'listeners', was simply defined at the beginning of this chapter as the newsfeed-generating algorithm and its specific circulation process. The newsfeed-generating algorithm could clearly be identified as the speaker: in this case, the circulating agency. However, its 'ability to convince' process was characterised as opaque and constantly-changing because Facebook's *modus operandi* is protected by a black box (Burrell, 2016). A closer look at the logos and the pathos could nonetheless circumvent this black box and thus lead to the following definition. It may be said that Facebook's newsfeed-generating algorithm as a circulating agency observes how users decode in specific situations of communication, using the "web-stigmergies" (Dipple, 2011, p. 411) they have left behind them when navigating on the platforms. From those observations, the algorithm may predict the register a specific user may use to instantiate meaning out of a message in a determined situation. Therefore, the newsfeed-generating algorithm seems to reproduce observed situation types via the creation of a context of communication, drawing upon intertextuality, in order to generate a predicted instantiation.

[21] On the contrary, news articles are usually directed to a "virtual addressee"(Hasan, 1999, p. 238), that is to say, a stereotype built by the producer himself – the news post is directed to an "actual addressee"– of whom the Facebook algorithm has some actual experience. When the addressee is virtual, the characteristics of the interactant relationship – between the producer and the addressee – are built by the text.

- **Logos,** or the message produced by the ethos, was defined as users' customised newsfeed and the news posts composing them. The results obtained in Chapter 4 and their interpretation in section 5.3, showed that users' newsfeeds feature horizontal intertextuality and the news posts composing them, were a complex ensemble of paratexts featuring vertical intertextuality. The use of both forms of contextualisation seems to reduce the polysemy of the message carried by news posts and to put forward a 'preferred' interpretation of those news posts. This preferred interpretation has been called a quaternary text as it oversees primary, secondary and tertiary texts and paratexts.

- **Pathos**, or the expected outcomes of the rhetorical process, seems to consist of influencing users to decode the message out of a news post in alignment with the 'preferred meaning' defined by the newsfeed-generating algorithm; that is to say the quaternary interpretation.

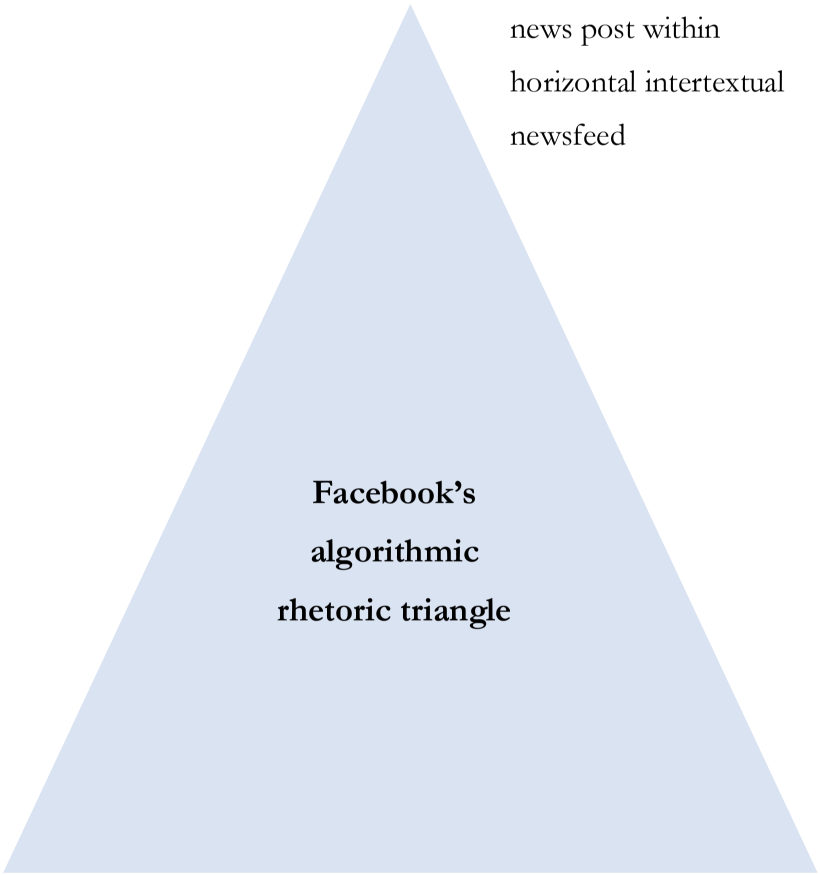

Figure 5.4. Facebook's algorithmic rhetoric triangle.

5.4.2 Algorithmic rhetoric as 'Circulation encoding'

The definition of algorithmic rhetoric suggests that the circulation process on Facebook constitutes what can be regarded as a form of algorithmic encoding. Therefore, the specificities of this algorithmic encoding will be compared to the traditional encoding carried out by media producers, and its potential impact on the decoding moment will be assessed.

5.4.2.1 Defining the 'Circulation Moment' as Decoding/Encoding

This definition of Facebook's algorithmic rhetoric tends to suggest that the circulation moment does not merely add meaning to an existing news commodity. Instead, it seems that during the circulation process, the newsfeed-generating algorithm create a new paratextual commodity that is either hyperlinked to the existing news commodity (when it deals with a hyperlinked news article) or encapsulates the original news commodity (when it deals with embedded video content).

The particularity of this new commodity is to be constituted from the aggregation of existing elements: the news commodity as a primary text, primary paratexts generated by the media producer, and secondary and tertiary paratexts composed of user-generated content. Therefore, what the newsfeed-generating algorithm generates is not properly a message in multimodal form. Instead, it creates intertextual links between already-existing multimodal units of meaning. In doing so, the newsfeed-generating algorithm does not generate denotative meaning, yet it does create connotative meaning.

Consequently, it seems that Facebook's algorithm system is actually 'decoding' existing meaning published in the platform and, then, 'encoding' some of these existing meanings on the basis of users' preferences in order to generate their newsfeeds and the news posts composing them. Both 'circulation decoding' and 'circulation encoding' reflect the opaque meaning structures of the algorithms, as algorithms are not neutral (Ananny, 2016; Bødker, 2016; DeVito, 2016; Gillepsie, 2014; Langlois, 2014). In doing so, the dominant original order carried by the original news commodity is then wrapped up in the algorithm values carried by the news post.

5.4.2.2 Comparing Production Encoding and Circulation Encoding/Decoding

In order to understand the possible impact of those modifications on how users decode the news content they access on their Facebook newsfeed, it is necessary to compare the traditional production encoding and the circulation decoding/encoding (see Table 5.1).

The first observation that may be made to compare them is that production encoding is human-made, while circulation decoding/encoding is automated (acknowledging that algorithms are usually written by humans). From this first observation, several other differences arise. The fact that production encoding is realised by humans makes it highly visible, while the circulation decoding/encoding, done by an algorithm, is almost invisible (Eslami et al., 2015). Despite one being visible and the other being almost imperceptible, both production encoding and circulation decoding/encoding are rooted within a social context which influences their world views. Consequently, the messages generated by news producers as well as Facebook's news posts carry ideologies reflecting their respective meaning structures. However, as the production encoding is highly visible, new producers tend to follow strict ethical guidelines when encoding news messages in order to appear accountable and to build trust. Such guidelines are non-existent for social media. Facebook's *modus operandi* and the ideology underpinning it are fundamentally opaque, and this opacity is justified by the protection of their economic and commercial interests (Burrell, 2016). Consequently, those first elements of comparison between production encoding and circulation decoding/encoding appear to justify the critical concerns mentioned in Chapter 1 (Section 1.3), regarding the risk of ideology being diffused without appearing to do so (Sandvig, 2015).

Further elements of comparison emerged from the results obtained in this chapter. In both cases, the process of production encoding and circulation decoding/encoding aims to generate an aligned decoding from the receiver. However, important differences regarding the way they proceed to reach that goal emerged. First, production encoding generates from new producers an impersonal meaningful message addressed to a global audience. This message is formulated on the basis of a hypothetical and static knowledge of the audience. On the contrary, the circulation decoding/encoding, automated via algorithm, personalises the message and the circulation of every news post down to the scale of the individual. In order to obtain an aligned decoding, the algorithm predicts the possible

instantiation of the message on the basis of tangible and evolving behavioural data concerning each user.

While the audience was free to interpret the news message outside of the dominant meaning after production encoding, the possible impact of circulation decoding/encoding on users' decoding is unknown. The rhetorical tools used to obtain an aligned decoding appeared to be so sophisticated, that it is logical to wonder if users choose a non-align code when decoding news posts in the context of Facebook.

Table 5.10. Comparison between production encoding and circulation encoding.

	Production encoding	**Circulation decoding/encoding**	**What is at stake**
Actor	Human-made	Computational algorithm	Large-scale invisible ideology diffusion
Actors ethics	Journalism ethics of production	Commercial interest remaining opaque and protected by a black box	
Meaning making	Influenced by social structures	Influenced by social structures	
Perception of the encoding process by the audience	High	Little or none	
Encoding aim	Obtaining an aligned decoding, following the producer's 'preferred meaning'	Obtaining an aligned decoding, following the algorithm's 'preferred meaning'	Possible limitation of the users' decoding autonomy
Imagined Audience targeted	Global audience	Personalisation to individual user	

Audience targeting	Based on a hypothetical knowledge of the audience	Predicted instantiation on the basis of tangible individual data	
Targeting	Reticent to evolution	Quickly and invisibly evolving according to the user's behaviour	
Output of the encoding process	Impersonal meaningful message	Personalised meaningful message	
Role of the audience in meaning making	The audience is free to interpret a message outside of the dominant meaning	Unknown	

5.4.2.3 The possible impact of the circulation moment on decoding

The characteristics of the Circulation encoding/decoding, defined in Subsection 5.4.2.2, raise some concrete issues regarding their potential impact on Decoding. The output of the Circulation encoding/decoding consists in a message that has been specifically encoded for a user, on the basis of concrete previous behaviours, in order to trigger an aligned decoding with the preferred meaning put forward by the algorithm. Therefore, one may ask:

1) Are Facebook users more susceptible to align with the preferred meaning defined by the algorithm when decoding a new post in their newsfeed that they were in the context of mass media? Or, do they still conserve the possibility to choose a "negotiated code" (Hall, 1980b, p. 136) or an "oppositional code" (Hall, 1980b, p. 138)?

2) If the choice of a negotiated or oppositional code is limited by the Circulation encoding/decoding, how do Facebook users contribute to the struggle over the meaning to make Facebook's dominant hegemonic code evolve over time?

Part III will attempt to answer those questions. First, Chapter 6 will focus on analysing the hermeneutical process of decoding in the context of Facebook's newsfeed. The different steps of decoding will be reconstituted via the observation of the participants' decoding experience during the guided tours and the content of the interviews. Then, in Chapter 7, the decoding sequence defined in Chapter 6 will be interpreted and discussed. This discussion will aim at defining and evaluating whether users conserve the possibility to choose a misaligned ideological position. It will also explore how they can contribute to the struggle over the meaning in the context of Facebook. The findings about (production) encoding/circulation/decoding will then be aggregated to propose an adaptation of the Encoding/Decoding model in the context of news circulation in Facebook.

5.5 Conclusion

This chapter highlighted the algorithmic rhetoric underpinning the circulation of news content on Facebook. The newsfeed-generating algorithm seems to predict the instantiation of meaning in defined situation types on the basis of users' previous behaviours on the platform. In light of those predictions, it generates a highly intertextual news post, which is likely to be decoded by the user according to the 'preferred meaning' selected by the algorithm.

The observations regarding the algorithmic rhetoric highlight how the news production moment and the circulation moment were articulated in the perspective of reassessing Hall Encoding/Decoding model in the context of news circulation on Facebook. After production, the news commodity circulation appeared to undergo a decoding phase, during which the newsfeed-generating algorithm decodes any news content published on the platform; then, it undergoes an encoding step, during which a new commodity is created. The latter aggregates the existing news commodities and comments about it from different levels of textuality. These new commodities, despite aggregating pieces from different authors, carry the ideological values underpinning the newsfeed-generating algorithm. The values of the dominant hegemonic order carried by the original news commodity appeared then to be bypassed by algorithmic values.

This circulation decoding/encoding was then compared to the original producer encoding in the context of mass media. First, the fact that it goes almost unnoticed because it is done by algorithms seemed to confirm the risk of large-scale ideological diffusion occurring without appearing to do so. Second, the fact that, in order to obtain an aligned decoding, the algorithm constructs a personalised message on the basis of a predicted instantiation of meaning obtained via the analysis of tangible behavioural data, clearly raises concerns regarding increased media effects.

Part III will therefore focus on the decoding moment, especially its processes and outcomes, in order to evaluate the impact of circulation on decoding. Chapter 6 will concentrate on the decoding moment and reconstitute the on-going hermeneutical process when users decode news post in their newsfeed via the data collected during the guided tours. Chapter 7 will synthetise and discuss the findings of this research in order to understand in which measure Hall's conclusion regarding Encoding/Decoding are disrupted by the introduction of a circulation moment.

PART III

CIRCULATION & DECODING

PART III – INTRODUCTION

In **Part II** – Encoding & Circulation, the process of circulation of news content in the Facebook newsfeed was analysed and then discussed in order to understand how the process of circulation transforms the news commodity after production encoding and before decoding. In **Chapter 4** – Analysing the circulation moment – the newsfeeds of the participants were unpacked and compared in order to highlight patterns of word use, topic choices, elements of style etc., and to observe their significance. Three main results appeared:

1) The deconstruction of the participants' newsfeed outlined how the newsfeed-generating algorithm proceeds to choose a personalised selection of the most relevant news content for each participant, using "horizontal intertextuality" (Fiske, 1987, p. 108). The choice of horizontal intertextual news posts appeared to create (and maintain) a "context of culture" (Malinowski, 1935, p. 18) which was familiar to the user.

2) The deconstruction also shed light on the composition of the news post made of vertical intertextual "paratexts" (Genette, 1997, p. 1). This complex design appeared to locate the news message within a "context of situation" (Malinowski, 1923, p. 307), explaining the direct circumstances of the elaboration of a message. The addition of both results appeared to give the news post a very strong transactional impact.

3) The transitional power of the news post, that is to say how the news post creates a gateway towards the original news content, appeared to be very limited.

In **Chapter 5** – Discussing the algorithmic rhetoric – the results obtained in Chapter 4 were discussed in order to understand why the newsfeed-generating algorithm was creating both a context of culture and a context of situation via the use of intertextuality. Three main conclusions could be drawn:

1) The contextualisation of content via intertextuality appeared to respond to a rhetorical logic. The newsfeed-generating algorithm seems to predict how users will instantiate the meaning out of a news post, using the hints previously left by those when browsing content on the platform. In light of those predictions, the algorithm then generates a highly intertextual news post, which is likely to be decoded by the user according to the 'preferred meaning' selected by the algorithm.

2) Those very intertextual news posts are the product of an algorithmic decoding/encoding sequence. After production, original news commodities posted on the platform circulation are decoded by the newsfeed-generating algorithm. The original news commodities then undergo a new encoding during which they are automatically transformed into a highly intertextual news post customised for a specific user.

3) The risk of "social industry" (Sandvig, 2015, p.1) seems to be confirmed as the preferred meaning (generated during the circulation encoding and carried by the news posts) appeared to reflect the values of the "additional dominant order" (Bødker, 2016, p. 417) created by social media companies instead of those of the traditional "dominant hegemonic order" (Hall, 1980b, p134), inscribed in the practice of journalism.

Those three conclusions clearly raise concerns regarding a potential increase of media effects on Facebook users.

Therefore, **Part III** – Circulation & decoding – will focus on assessing to what extent the algorithmic rhetoric may affect decoding and its outcomes. In **Chapter 6 -** Analysing the hermeneutical sequence of decoding, the data collected during the semi-structured interviews and part of the data collected during the "guided tours" will be analysed to reconstitute the hermeneutical sequence of decoding per se - that is, the different processes accomplished by users to decode a news post. In **Chapter 7** – Understanding the encoding/decoding circuit, the observations made in Chapter 6, regarding how participants decode news posts in their newsfeed will be discussed. The conclusions regarding decoding will be articulated with the conclusions regarding the circulation moment obtained in Chapter 5 in order to reconstitute and model the encoding/decoding circuit of news posts

in the context of Facebook's newsfeed. **Chapter 8** will finally propose some concluding remarks regarding the transformation of Hall's original Encoding/Decoding model and the future research that might be done.

CHAPTER 6 - Analysing the hermeneutical sequence of decoding

6.1 Introduction

Decoding, according to Hall (1973b), corresponds to the "relatively autonomous" yet "determinate moment" within the communication process, when the receiver of a message translates its content out of the "message-form" used to circulate it (p. 2) in order to extract meaning out of it. This moment is of utmost importance because, during this transposition process, "misreadings" may happen (p. 16). Decoders may understand what the message producer wanted to say but they may choose to give to the message a different ideological reading. In this case, the origin of the misreading is not communicational, otherwise it would affect the comprehension of the denotational meaning of the message. Instead, the misreading is structural, meaning that the decoder and the producer do not use the same sets of cultural, social and political values to understand the society.

However, the results obtained in Part II - Encoding & circulation - raised some concerns regarding the possible impact on the outcomes of decoding through the addition of a circulation moment within the Encoding/decoding sequence. It appeared that the specific algorithmic rhetoric deployed by Facebook may limit the possibility for users to choose a non-aligned ideological stance. Such a limitation would also modify their participation in the struggle over the meaning in the hegemonic order.

Therefore, this chapter will focus on the hermeneutical sequence of decoding news posts and the different steps composing it in order to tackle those concerns. The data collected during the semi-structured interviews and part of the data collected during the guided tours will be used to uncover participants' decoding practices. As explained in Chapter 3, the set of data was collected before obtaining the results described in Part II. Consequently, the participants did not comment on the algorithmic rhetoric and the rhetorical artifacts used by the algorithm but focused on their decoding experience per se. Such a perspective,

which may seem to be a methodological limitation, was deliberately chosen to avoid interfering with their usual decoding behaviours by revealing an algorithmic rhetoric, which usually goes unnoticed (Eslami et al., 2015).

Section 6.2 will propose a definition of decoding, using the set of processes proposed by Morley (1992) as a guide. The following sections will then detail the processes composing decoding in the context of social media. Section 6.3 will focus on 'appraising unmarkedness' as the first step of the news decoding process on Facebook. Section 6.4 will explain 'Comprehending the message' as the second step of the decoding process. Section 6.5 will examine 'Identifying relevance' as the third step and Section 6.6 will concentrate on post-decoding responses as the outcomes of decoding. Section 6.7 will conclude the chapter.

6.2 Explaining the approach to the hermeneutical process

Previous to analyse the hermeneutical sequence of decoding of news posts in the context of Facebook's newsfeed, it is necessary to provide a clear definition of decoding and to detail its outcomes. The original definition of decoding given by Stuart Hall will be reminded here and the limits of Hall's conception of decoding will be pointed out. On that basis, the approach taken in the context of this research will be explained.

As detailed in Chapter 2, according to Stuart Hall, the act of decoding corresponds to the moment when the receiver of a message extract the meaning out of it. This hermeneutic Hall's vision presents two main specificities. First, when decoding a message, decoders uses their meaning structures. Therefore, decoding is not the fruit of an invidual choice; it is dictated by structural factors. Second, decoding as an hermeneutical process during which "miunderstanding" can happen. In other words, decoders can apply a different ideological set of values to the message than the producer.

Hall's conceptualisation of decoding was criticised though for its over simplification. Instead of corresponding to a single act, the act of decoding is likely to encompass several processes (Morley, 1990), such as attentiveness to content elements, recognition of relevance, comprehension of the message, interpretation od the messag and responses (see Figure 6.1).

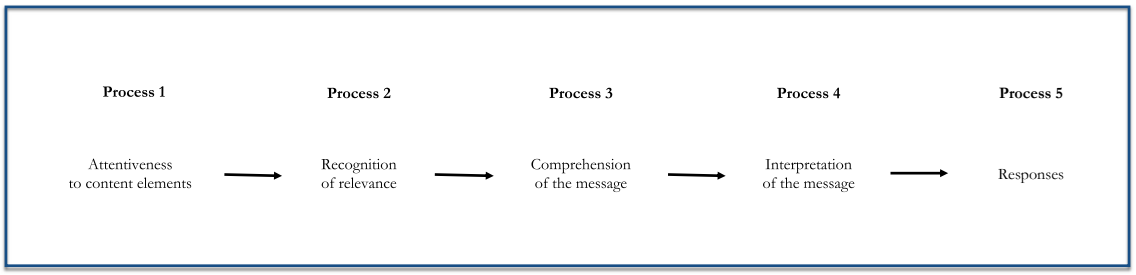

Figure 6.1. Mapping of decoding as a set of processes inspired from Morley (1992)

However, no clear definition of those suggested processes is provided. Therefore, in order to complete Morley's definition, linguistics and cognitive science scholarship can provide an interesting approach to those concepts (Goodman, 1967; Sperber & Wilson, 1986; Yus, 2011). Taking into account Goodman's (1967) "psycholinguistic guessing game" model (1967, p. 134), it appears that the five processes mentioned by Morley may be redistributed into the following three sequential steps as described below (see Figure 6.2):

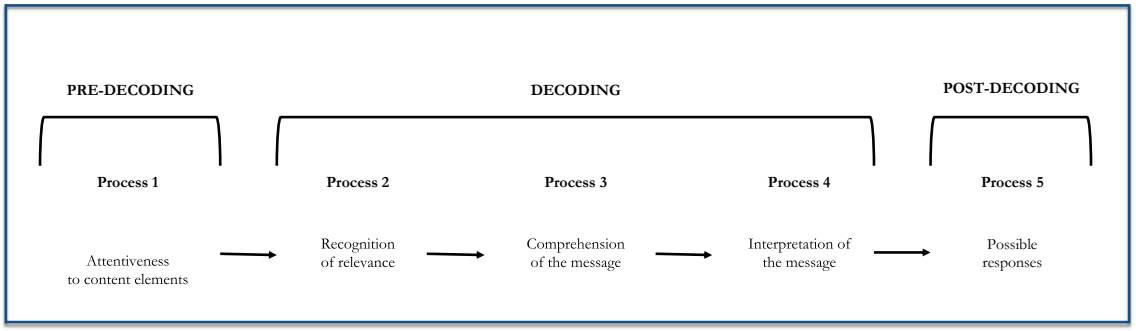

Figure 6.2. The three sequential steps of decoding in the context of mass media.

- **Pre-decoding**. Pre-decoding corresponds to the initial phase of the decoding sequence. At that stage, decoders discover the existence of a message but they do not know what this message is about. It refers to what Morley calls "attentiveness': the decoder allocates cognitive resources in order to acknowledge the existence of a message (Davelaar, 2012). Pre-decoding corresponds to the two initial steps of the psycholinguistic

guessing game: "scanning" the content of the message and "fixing at a point to permit eye focus" (Goodman, 1967, p. 134). Those are preliminary to begin the reading "selection process" (1967, p. 135).

- **Decoding**. Once pre-decoding is complete and decoders are paying attention to the message, decoding can begin. However, prior to the "recognition of relevance", the "comprehension", and the "interpretation" of the message (Morley, 1992, p. 121), decoders need to decipher the message via a "selection process" (Goodman, 1967, p. 135). Decoders first "pick up graphic cues" (p. 135) from the message. The choice of the graphics cues is influenced by their literacy and by their existing knowledge. Decoders then compare the cues they just gathered with what they expected to find in the message in order to "form a perceptual image" (p. 135). This perceptual image combines what they concretely see and what they expect to see. To complete this perceptual image, decoders then look for cues within their existing knowledge. Once the perpetual image is formed and completed with cues extracted from the decoders' knowledge backgrounds, the decoders evaluate between them if the cues they gathered are coherent and align with the "anticipated cues". If there is a misalignment, they pick some additional cues and try again, until the cues align. On the basis of that perpetual image, decoders can complete Morley's three processes – recognition of relevance, comprehension, and interpretation – almost simultaneously.

Relevance corresponds to the degree of familiarity between the content of the message and the decoder's previous knowledge (Yus, 2011). The cues gathered in the message by decoders are easily identifiable and recognisable. In any communication context, relevance is quickly evaluated by decoders in terms of cognitive effects (Yus, 2011). Decoders quickly appraise the value that a message will add to their existing knowledge. The addition may be of three types (Sperber & Wilson, 1986): it may reinforce an existing

assumption[22], it might add elements and slightly adjust an existing assumption or, it might challenge an existing assumption. This process must be quick and easy. The easiest the production of a cognitive effect is , the higher the degree of relevance is (Sperber & Wilson, 1986). The process of identifying relevance is idiosyncratic because it is based on decoders' knowledge backgrounds and "differences in life history necessarily lead to differences in memorized information" (p. 16). As an outcome, when decoders consider a message relevant, according the "cognitive principle of relevance" (Sperber & Wilson, 1986, p. 261), they allocate more cognitive resources and attention to process it.

Comprehension and interpretation must be defined simultaneously as two sides of the same coin: meaning-making. Separating meaning-making into two actions draws from the distinction between connotation and denotation (Barthes, 1982). As explained in Chapter 2, a sign carries two types of meaning: denotational and connotational. Denotational meaning refers to the literal reference to an existing object or event. When extracting this denotational meaning out of a message, decoders are comprehending a message. This process is literal and unambiguous. Connotational meaning refers to the extra meaning added to the denoted signified. Connotations are influenced by the social environment and constantly evolve in time. Therefore, they are ambiguous and highly polysemous. Interpreting a message relates to attributing a connotational meaning to a message. When interpreting a message, decoders are influenced by their meaning structures – that is to say, the ideology resulting from their position in a defined socio-cultural environment.

- **Post-decoding**. Finally, once a message is decoded, post-decoding responses may be generated. Those responses correspond to what Hall

[22] Sperber &Wilson (1986) define assumptions as "thoughts treated by the individual as representation of the actual world" (p. 2).

> (1973b) called the "skewed and structured feed-backs, back into the production process itself" (p. 3). The form of those responses is not specified. However, it can be supposed that those responses may include verbal responses but also non-verbal responses such as stopping to read a message. The peculiarity of those responses in mass media is to happen "into the air" (Peters, 1999, p. 200) – that is to say, there is no trace of those interactions. Therefore, many of them are lost and do not reach the producer.

This definition of decoding will be used during the following steps in order to compare with what was observed during the guided tour.

6.3 Process 1: Unmarkedness Appraisal

The analysis of the data collected during the interviews and the "guided tours" showed that attentiveness did not seem to be part of the decoding process but rather a prerequisite to it. Instead, the appraisal of unmarkedness appeared to be the first processes of news decoding in the context of Facebook's newsfeeds.

6.3.1 Attentiveness as a prerequisite to decoding

In Morley's (1992) set of decoding processes, "attentiveness", or the allocation of cognitive resources to existing message, appears first (see Figure 6.3). However, the interview data suggests that attentiveness was a prerequisite to decoding rather than part of decoding. The analysis also indicates that users tended to pay "hyper attention" (Hayles, 2012, p. 12) to news content.

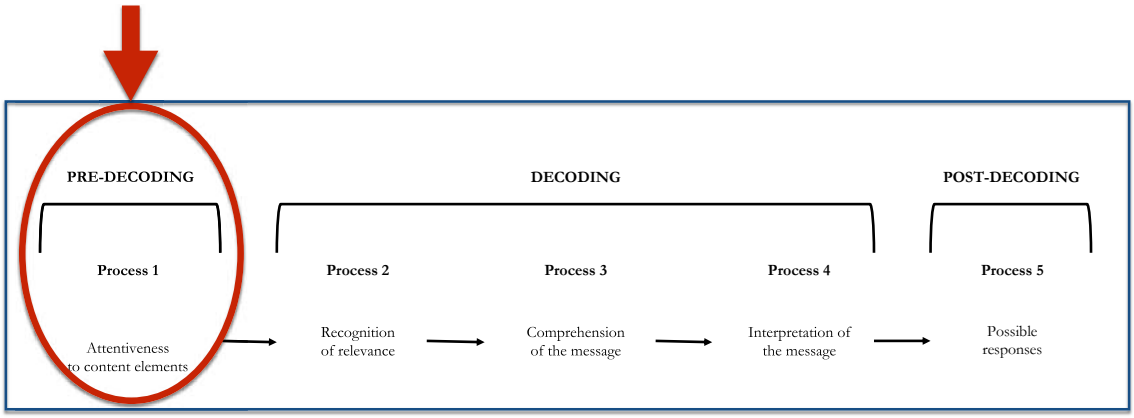

Figure 6.3. Focusing on the hypothetical Step 1 of decoding as a set of processes (Morley, 1992)

6.3.1.1 The impossibility to be involuntarily exposed to a Facebook newsfeed

Attention seems to be a prerequisite to the decoding sequence rather than part of it for two main reasons: the agency of the decoder to access the newsfeed; and the fact that the generation of newsfeed content is simultaneous to users' browsing. Users cannot pay attention to their newsfeed 'by accident', as they might on mass media such as TV, broadcasting, or newspaper. To access their newsfeed, users have to voluntarily connect to the platform. The vocabulary used by the participants underlined their strong agency regarding accessing their newsfeed. AB talked about "connecting himself [to] go and see watch's going on". In French, he combined the use of three verbs of actions ("*Je vais aller voir*") to insist on his active role. MA used exactly the same expression to describe his action. Additionally, in order to connect to his newsfeed, AB insisted on the fact that connecting to Facebook represents a "break" from other activities he is doing. CR, LP and MI also used the expression "going to Facebook", underlining their agency. LP also used the verb "consult", which may have the connotation of wanting to extract something from it. Such agency is also expressed to mention the end of the attentiveness period. LP mentioned closing up Facebook, while MA expressed this as disconnecting.

The absence of involuntary exposure to the newsfeed is reinforced by the fact that the newsfeed is simultaneously generated by browsing it, contrary to mass media in which the content is pre-existing and available previous to the decoder's attentiveness. The newsfeed-generating algorithms seemed to generate newsfeed content at the same time as the

participants were scrolling down their newsfeeds. This simultaneity was highlighted by the tendency of the newsfeed-generating algorithm to propose the ultimate version of an article, if existing, when a participant had opened a link. As mentioned in Chapter 5, this happened twice when LP was browsing her newsfeed: the first with an article about the paedophilia scandal concerning the Vatican, and the second with an article concerning the possible legalisation of cannabis in France.

6.3.1.2 Attention's quality: Observing users' hyper-attention

Attentiveness, in the context of Facebook, also presents an additional characteristic: the attention dedicated by users to their newsfeed corresponds to Hayles' definition of "hyper-attention" (2012, p. 12). To begin with, the default attention span is very short – usually several seconds ("3 seconds" for LP because "if there is nothing special, sometimes (she) can close it instantaneously" or "10/20 seconds" for AB) – yet very flexible. In case of high stimulation, this attention span can be extended. For example, AB mentioned spending 90 minutes watching the 50 first videos of *So Foot*, a ranking of the 100 best goals of football history. MA also confirmed that he could "watch a video, then another, then another", without stopping. AB summarised this pattern, confirmed by other participants, as: "from 10/20 second in an elevator or in the tube, to several minutes, to several tens of minutes if there is an interesting content".

However, the participants' attention spans appeared to be subject to external circumstances, and to be often discontinued by random life events such as the arrival of a public transportation, work or study. Participants appeared to 'fit' a glance at their Facebook newsfeed when they had a spare moment, be it short or long. For example, AB mentioned he does this when he has a "break" or when he feels "bored" during classes at university. MI said that she would connect when waiting for the bus, while LP said that she always connects to her newsfeed when "having breakfast".

When asked about their attention levels, they tended to consider it of poor quality. For example, AC said: "I have the impression that I don't care when I am on Facebook. I am just here to have a glance at what's going on [and] to scroll down without stopping". CR also said, "[I don't] especially pay attention." Among the participants, four repeated the

expression "*Je m'en fous*" (a familiar way of saying "I don't care" in French) several times (10 times for AB, 6 times for CR and MA and 2 for AC).

6.3.2 Appraising unmarkedness as the first process of decoding

As attentiveness appeared to be a prerequisite to decoding rather than its initiating process, the decoding sequence appeared to begin with a new first decoding process: the appraisal of unmarkedness (see Figure 6.4). During the latest, participants appeared to evaluate the choices of the algorithm and to consider if a news post was aligned with was they expected to see in their newsfeed. In order to understand this dichotomy, it is first necessary to give a clear definition of unmarkedness and markedness in the context of this study, and to explain why this theory is applicable to the context of the newsfeed. The experience of markedness will then be illustrated by concrete examples mentioned by the participants.

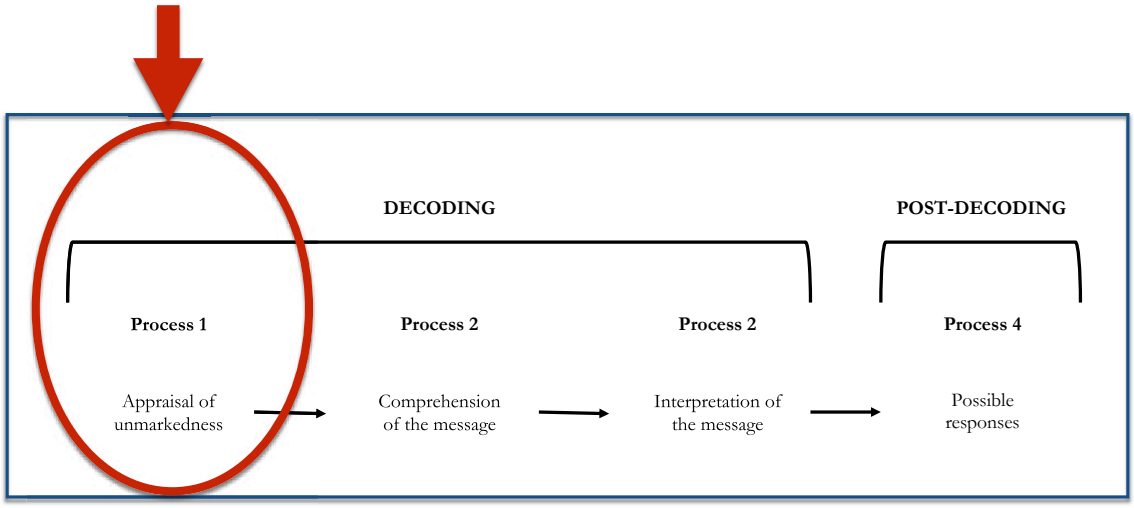

Figure 6.4. Appraisal of unmarkedness as the first step of the decoding process on Facebook newsfeed.

6.3.2.1 Defining markedness and explaining why it can be applied to decoding

The dichotomy unmarkedness/markedness was defined initially by linguists Trubetzkoy and Jakobson in 1930. Originally, Trubetzkoy, in his correspondence with Jakobson (1979), defined a binary correlation between unmarked and marked signs. Each sign has a basic form, the unmarked form, which carries an ideational content. The addition of a distinctive

phonological feature to this basic unmarked form modifies its original ideational content. The modified sign is thus "marked", or as bearing a distinctive feature. For example, the word 'lion' refers to a mammal, indistinctively either a male or a female, whereas the word 'lioness' carries the additional distinctive phoneme '-ess', which actively transforms the original meaning of the unmarked form lion by reducing its ideational meaning to a female lion. Consequently, the marked form is "conceived of as actively modified, as positively endowed" while the unmarked forms is "passively unmodified" (Trubetzkoy, 1985, p. 162).

Answering Trubetzkoy's correspondence, Jakobson (1979) extracted the concept out of its purely linguistic context and exposed its validity in the broader spectrum of anthropology and cultural studies. According to him, unmarked/marked binary correlations can be defined in terms of cultural oppositions where the unmarked element is considered as the cultural norm, while the marked element is unusual and by default, not expected until purposely specified (Kuipers, 1975, pp. 45-46). For example, life and death or sin and virtue can be seen as unmarked/marked correlations in a defined cultural context (Jakobson, 1979), as can male/female, white/black, sighted/blind or right/left (Waugh, 1982).

Consequently, positing markedness is highly contextual (Batistella, 1996), and defining which component of the correlation is unmarked and which one is marked depends on the context. Every context has its own peculiar unmarked assumptions (McCawley, 1985) and markedness can vary according to the timeframe, the place etc. For instance, in a given context A, life would be unmarked and death would be marked while, in another context B, it would be the contrary.

The cultural approach of unmarkedness/markedness does not seem to have been applied to the Facebook's newsfeed. However, it appears to be a pertinent notion to approach the decoding of news posts. First, the dichotomy unmarked/marked seems applicable to Facebook because it is inherent to any cultural context (Batistella, 1996; Jakobson, 1979) and the newsfeed can be considered as a cultural context. In Chapter 4, the observation of the newsfeed showed that the algorithm was selecting content that encompassed a high degree of horizontal intertextuality in order to create a "context of culture" (Malinowski, 1935, p. 18) – that is to say, a set of cultural habits. Consequently, it can be expected that, as in any specific context of culture, some contents offered in the newsfeed will be

unmarked, that is to say, culturally expected, whereas others will be marked, that is to say, made distinctive and unexpected.

6.3.2.2 Appraising unmarkedness/markedness as the first step of decoding

When decoding news posts on their newsfeed, the participants first appeared to scan through them and pick up some graphic cues, following the first steps of the "psycholinguistic guessing game" (Goodman, 1967) explored in Section 6.2. Once they had gathered a minimum set of cues, they associate it to what they expected to see to form a "perceptual image" (Goodman, 1967, p. 135). The perceptual image was then use to evaluate if the news post was aligned with what they expected to see in their newsfeed or not.

At this point, two scenarios are possible:

1) **Unmarkedness – when the cues gathered by users match with the cues they anticipated to find.** If the cues extracted from the news post are consistent with the cues anticipated by the user, the content of the news post can then be considered as unmarked because it answers the reader's expectations in this given context. Participants did not need to access the original news content in order to appraise that both the news post and its referent news content are unmarked. For example, when decoding the news post presented in Figure 6.5, AB identified three elements: its source *L'Equipe*[23]; the picture of a rally car; and the name of the French rally driver Sebastien Loeb. The cues instantaneously made sense to AB because he knew that *L'Equipe* is a sports newspaper that logically covers automobile sports. He also knew that Loeb is a famous French rally driver.

[23] *L'Equipe* is the biggest Sport daily newspaper in France, with over 250.000 print newspapers/day.

Figure 6.5. L'Equipe news post that appeared in AB's newsfeed during the guided tour (from L'Equipe).

In addition to forming a coherent ensemble, the selected cues also matched AB's anticipated cues. AB was not surprised to see a news post from *L'Equipe* about Sebastien Loeb in his newsfeed because he had chosen to receive news posts from *L'Equipe* in his favourites and most of his newsfeed deals with sport.

However, it is important to notice that the alignment is not always as evident as in the previous example. For example, AC received a news post from *Cheek Magazine* illustrated with the picture of French former minister, Nadine Morano (see Figure 6.6). Nadine Morano belongs to the right party Les Républicains, and she is well known in France for her outspoken style on social media and her conservative views on topics such as immigration and Islam. However, *Cheek Magazine* was

described by AC as a "feminist magazine" with progressive views. In this case, there are two major points at stake. It is necessary firstly to understand how the association of those two apparently ideologically opposed cues was interpreted by AC without provoking a cognitive dissonance episode. Secondly, the alignment of those two apparently opposing cues with AC's newsfeed expectations may also be problematic, given that she defined herself as politically left-leaning and there was the discrepancy between her political ideas and Nadine Morano's points of view.

Figure 6.6. Example of unmarked news post received by AC (from Cheek Magazine).

At the outset, the difference of political stance between the cues collected in the article may have created a cognitive misalignment. However, AC automatically accommodated the cues by anticipating that *Cheek Magazine* was "not the type of magazine to endorse what (Nadine Morano) said". In doing so, AC clearly established a hierarchy between the cues: *Cheek Magazine* was considered more important than Nadine Morano. Therefore, she assumed the content would certainly be aligned with her political stance and she could justify the presence of this news post in her newsfeed.

Unmarkedness should not be mistaken for relevance. For example, AC was "absolutely not interested in what Nadine Morano can say" and not in what *Cheek Magazine* could say about Nadine Morano. Likewise, AB also clearly considered the news post about Sebastien Loeb as unmarked, despite the fact that "automobile sports are not his cup of tea" and he would not read the article.

2) **<u>Markedness – When the gathered cues do not align with the expected cues.</u>**
In this case scenario, the graphic cues gathered by the decoder do not adjust with the anticipated cues. An interpretative dissonance results from a misalignment of the reader's expectations and the cues gathered. When such a misalignment occurs, the participants used the referent news content to validate their appraisal. If the cues gathered in the news content confirmed the markedness, both the news post and its referent news content were labelled as marked. Even if marked content appeared to be infrequent, two participants gave examples of how they experienced markedness on Facebook.

The first example was given by LP who sometimes receives some "viral videos about very anecdotic stories" from the BBC. LP did not understand why she frequently received "those videos that (were) coming from nowhere" and she did not feel comfortable with them, describing a feeling of "invasion". In this case, the perceptual image created by the interpretative cues she selected did not satisfy her. The discontent was created by the dissonance between the appearance of a piece of news and the content that did not fit her own definition of news. The source of the news post, the BBC, made her think at a first glance that it would be a news content. She had the image of the BBC as a famous British public broadcasting organisation producing some reliable news content. At some point, this perception was strong enough to make her follow the BBC on Facebook in order to internationalise her news offer. However, when "reading" BBC videos or articles on her newsfeed, the other cues she gathered at first glance did not match with what she was expecting from the BBC. Instead of news, she received some "viral videos" dealing with "edifying stories", such as a child who did something peculiar.

The misalignment triggered a reaction to "check the recalled input and to (try) again" (Goodman, 1967, p. 135). This attempt is done repeatedly until a satisfactory

interpretation is generated. In this case, no compromise could be found, as her prior perception of the BBC was not confirmed by the content she received. It can be thus supposed that LP watched entirely the first dissonant video in order to try to resolve the cognitive dissonance. However, it appears that she could not resolve it and the dissonance between what she expected from the BBC and what she actually received was confirmed.

After the first mismatch, LP was then aware of the possible dissonance. However, sometimes she also received "some interesting things", even if it was "minimal compared to all the content (she) received". Consequently, the misalignment could not be fully resolved. She labelled the BBC as both "able to produce good content" and "a click-bait specialist". While she was confronted by marked content from the BBC several more times, she was still tempted to click on them "one out of twenty times" because of this dual labelling. But most of the time she "tried to resist", anticipating that it may be click-bait. The use of the word "try to" revealed her inner struggle to situate the content at a glance.

When, coincidentally, she was confronted by such a marked news post during the 'guided tour' (see Figure 6.6), she looked at it and could clearly explain why this content was marked. At first glance, LP would have expected the news article to be linked to the post to deal with religious issues in India. However, instead of dealing with this "societal issue", the article only reported the particular story about a Hindu woman whose Muslim husband was murdered for loving her.

Figure 6.7. BBC news that appeared on LP's during the guided tour (from BBC News).

Despite the repeated misalignments between the image of the BBC as a potential provider of serious news content and the content she actually received, it is interesting to note that LP did not stop following the BBC on Facebook. It can be assumed that the dissonance between what she expected from the BBC and what she was provided was never fully overcome, because several times she received some "interesting articles". On the contrary, she mentioned that she stopped following *The Guardian* because its articles were "really trash". Her previous image of *The Guardian* as a good newspaper was completely modified by what she actually received on her newsfeed. In this case, all *The Guardian* news posts were identified as marked, and she appeared to not want any marked content in her newsfeed.

The second example, given by MA, was slightly different because he did not receive the marked content directly in his newsfeed but as a third or fourth video suggestion after

clicking on one video in his newsfeed. When he received the marked video, he decided to watch it after considering that it would be similar to those he had already watched. However, he quickly felt the misalignment between his expectations and the actual content of the video. He perceived that, despite using a similar mode and a similar style than the videos he had just watched, the ideology underpinning it was different. The video was promoting racism, anti-feminism and homophobia, which are values contrary to his political stance.

MA therefore watched the video until the end, endeavouring to re-align the content with his expectations; however, the full content of the video confirmed the cognitive dissonance. When it ended, he decided to check the origin of the publication in order to understand the mismatch. He then noticed that the video had been published on Facebook by a far-right page, even though he defined himself as left-leaning. This discovery justified the markedness and helped him to resolve the cognitive dissonance. Contrary to LP, who could not realign her expectation, MA was able to readjust his expectations of the video after seeing the additional information provided by the source. He then wondered: "How (was it) possible to get such a content on Facebook?".

6.4. Process 2: Comprehending the message

The second process constituting decoding that was observed in the data consisted of the comprehension of the message (see Figure 6.8). This process, also mentioned in the conjecture made by Morley (1992), consists of understanding the denotational meaning contained in a news post. However, in the context of the newsfeed, the metaparatextual nature of the news post seemed to complexify the comprehension process.

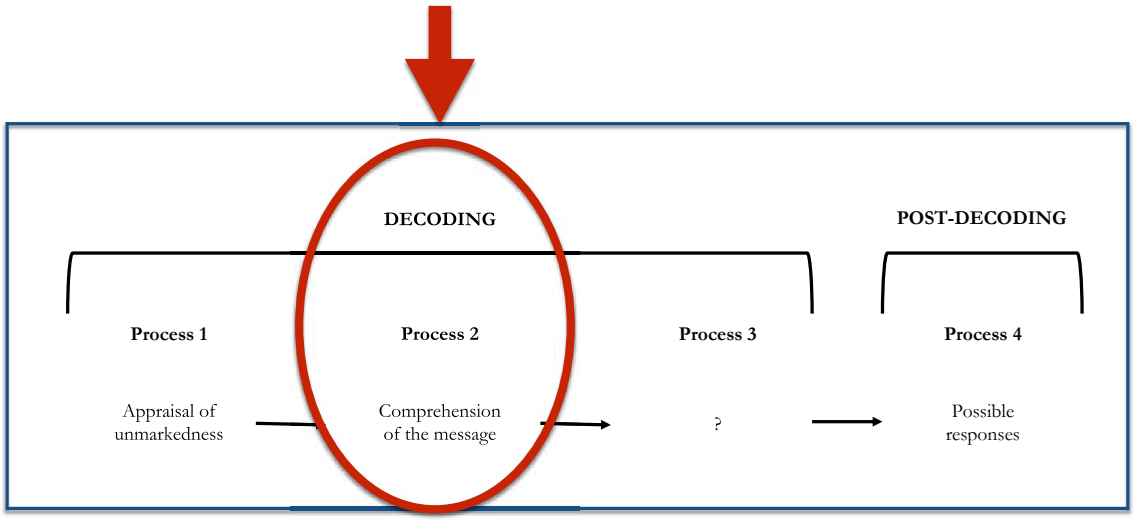

Figure 6.8. Observing the process of Comprehension of the message during Decoding.

Two case-scenarios of comprehension appeared during the guided tours:

1) **When the news post provided a consonant and complete meaning.** In most of the cases, the participant could comprehend the news post easily and quickly because the news post provided them consonant and complete cues to extract a complete and satisfying meaning out of the message.

2) When the news post provided a dissonant and/or incomplete message. In a minority of cases, the participants could not complete the comprehension of a news post on the basis of the cues it provided to them. They needed more information. In this case, if a hyperlinked referent news content was available, they tended to use it to reach a satisfying level of comprehension.

These two cases will be illustrated separately in Sections 6.4.1 and 6.4.2.

6.4.1 When the news post provided a consonant and complete meaning

When the cues of an unmarked news post appeared to be perfectly aligned and to match with the decoder's background, the comprehension appeared to be easy and quick. The news post appeared to be self-sufficient and the participants could extract its denotational

meaning at a first glance. However, in this case scenario, the comprehension process did not include the comprehension of the attached news post.

6.4.1.1 Comprehending a consonant news post

In most of the cases, the participants appeared to have enough information with the cues gathered at the first sight. This understanding can be 'very light', in terms of 'what the topic of the news post is', or 'a bit deeper' in terms of what the news contained in the news post is. The depth does not matter as long as the cues offered by the news posts are aligned between them and with the decoder's previous knowledge on the topic.

Figure 6.9 illustrates a case of very superficial understanding of the news post denotational message. When browsing the news post, MI got only two cues, the picture of French Prime Minister Edouard Philippe and the source, *Libération*. A careful observation of the post showed that only the picture itself offered a useful cue. There is no apparent link between the picture of Edouard Phillippe and the textual elements, either above or below the picture. In addition, the picture of the French Prime Minister does not provide any additional cue as it was a simple portrayal of him entering his car with no further contextualisation (the background is blurred and the face of the other man, most likely a bodyguard, is hidden). MI's knowledge background provided two additional cues she mentioned during the interview: Edouard Philippe is Prime Minister[24] and *Libération* is a prominent left-wing daily newspaper among her Facebook favourites. Therefore, MI could only understand that the news post was a trustworthy content about Edouard Philippe. She seemed satisfied with this level of comprehension and moved on to another news posts

[24] Edouard Philippe has been Prime Minister since the election of Emmanuel Macron in May 2017 and was still Prime Minister when this work was submitted at the end of August, 2018.

Figure 6.9. An example of a news post with few aligned cues easily comprehended by MI (from Libération).

By contrast, when AB found in his newsfeed a post about the French triathlete, Martin Fourcade (see Figure 6.10), the news post contained a deeper denotational meaning and provided more cues to AB. After comprehending it, AB could sum it up from the cues offered on the post as follows: according to *l'Equipe*, Martin Fourcade has won in 44'23"7 at Ruhpolding. His knowledge background provided him with complementary information such as the concerned discipline (triathlon), Fourcade's nationality and approximate track record, and the fact that the news is trustworthy because *l'Equipe* is a serious sports newspaper. Consequently, the cues perfectly aligned to provide him a satisfactory level of comprehension. As the cues perfectly aligned and the comprehension of the denotational message carried by the news post was straightforward, AB did not need to delve further into comprehension and did not click on the attached link to get more information. He "didn't even see the link" towards *L'Equipe* website labelled "more information".

Figure 6.10. Example of a news post easily comprehended by AB during the guided tour (from L'Equipe).

In some cases, the comprehension process is eased by the fact that the decoder already knows the information. Consequently, if there is no misalignment between what they know and what is contained in the news post, the comprehension is extremely quick. For example, ML said that she had already heard about the interdiction of using cell phones at school mentioned in one of the news post she received and she did not need any more information. Similarly, MA said that he might have opened the news post from Konbini about the participation of North Korea in the next Olympic Games in South Korea (see Figure 6.11) but he did not because he already knew about it. He had heard about it somewhere else.

Figure 6.11. News post easily comprehended by MA because he had already heard about the news (from Konbini).

6.4.2 When the news post provided a dissonant and/or incomplete message

However, on several occasions, it appeared that the comprehension the participants could get from the cues they gathered from the news post was not satisfying to them because either the cues were not completely aligned with their background knowledge or were not sufficient to make a guess. In those cases, they used the content of the hyperlinked article to either fill a cognitive gap or to repair a light cognitive dissonance[25]. In order to do so,

[25] In this case, the light cognitive dissonance refers to comprehension at the denotation level and not to a difference of ideological stance at the connotational level.

they did not read the attached content for the sake of it but they tended to skim it to gather the missing cues as quickly as possible.

6.4.2.1 Repairing a cognitive gap

When the participants gathered cues to understand the content of a news post, sometimes it appeared that the cues did not provide enough information to make a satisfying guess of the meaning and the participants could not fill the gaps with existing knowledge. A cognitive gap was then identified. For example, in the *Onze Mondial* news post below (see Figure 6.12), AB saw a video of smoke grenades sent by the public in a stadium during a football match. He appeared to be interested. However, he felt that information regarding where and when it happened was missing. On the basis of the video and the Facebook comments, he could not get the missing information and he could not fill the cognitive gap. He automatically looked for a hyperlink news content in which he could look for the missing information, but there was none.

Figure 6.12. News post missing some cues to be comprehended properly by AB (from Onze Mondial).

When hyperlinks were available, the participants tended to look for the missing information in the original news content as a complement to the information provided by the news post. As they knew exactly what information they were looking for to complete the information provided by the cues they gathered from the news post, they tended to skim the referent news article in search of what the missing cues. During the interview, CR confirmed this, saying that he usually opens a lot of links but he "skims through them" instead of reading them because it was enough "to get the essence of the information".

6.4.2.2 Using the original news content to repair cognitive dissonances

When confronted by a cognitive gap or dissonance, the participants tended to use the original news content in order to gather more cues and repair it. Sometimes the referent news content could repair the dissonance or the gap, and it could not. AB provided a concrete illustration of the attempt to fill a cognitive gap with the referent news article when he opened the hyperlink attached to the post from Planetfoot.net about soccer player Cédric Bakambu (see Figure 6.13). From the cues gathered in the news post, he learnt that Bakambu was likely to be transferred to a Chinese football club for 74 million Euros. However, from his previous knowledge, AB did not know if the transfer was confirmed and, as he did not consider the source very trustworthy, he wanted to be sure of it. In this case, the cognitive gap was clearly created by AB's important background knowledge on the topic; he knew Bakambu and his current team were about to play against his favourite football team and the information about his transfer might have had an impact on that football match. Besides, he had already heard about the fact that a Chinese football club could buy the player and wanted to confirm this information. Therefore, in order to fill this cognitive gap, AB opened the attached article. He did not properly read the article. Instead, he quickly scanned it to collect the following cues: "how much the future club will pay to buy the player", "the player's annual income of 18 million Euros" and "where he will go: Beijing". He did not pay attention to the rest of the content, and he stopped skimming as soon as he had extracted this information. He did not consider the rest as "important" because he was not sure that the source was reliable. However, he said that he might have read very carefully the same article from a reliable source such as *l'Equipe*.

Figure 6.13. A news post who needed the additional information provided by the hyperlinked news content in order to be interpreted by AB (from Temps Additionel).

Instead of a cognitive gap, a cognitive dissonance may happen, either between the cues contained in the news post or between the cues contained in the news post and the decoder's existing knowledge. In those cases, the participants intended to resolve it by consulting the hyperlinked article. For example, when AB decoded the news post about the "absolutely impressive statistic about Thomas Vermaelen" from *Onze Mondial* (see Figure 6.14), a misalignment occurred because AB perceived a slight incompatibility between the idea of statistics and the fact that he knew this football player was retired. Therefore, he opened the attached article. While he was skimming the article in order to find the statistic, his attention was caught by another piece of information: the name of a football player he did not know: Yerry Mina. The name was already mentioned in the news post as a Facebook comment over the picture but AB had not paid attention to it. Consequently, instead of skimming, he read and tried to understand the article "from the beginning". This

unexpected marked element overshadowed the other one. AB said that he just wanted to know who was that player, whom he never heard about. He felt a bit frustrated because, despite carefully reading the full article, he could not figure who Yerry Mina was. In this case, the browsing of the referent news content in addition to the news post not only contributed to filling up the cognitive gap created by the news post, but also to creating an additional one.

Figure 6.14. A news post that generated a cognitive dissonance with the participant's previous knowledge (from Onze Mondial).

6.5 Process 3: Identifying relevant content

The third step of decoding as a set of processes which emerged from the analysis of the interviews and the 'guided tour' corresponds to the identification of relevant content (see Figure 6.15). This process was also present in Morley's (1992) hypothetical

conceptualisation of decoding as a set of processes, though as the second step of decoding, just after attentiveness (see Figure 6.1).

In the context of decoding news on a Facebook newsfeed, identifying relevance is an important step of decoding as it appears to be the moment in which a decoder decides what needs to be done with the referent news content, if it has been consulted previously to ease unmarkedness appraisal or comprehension. However, relevance seems to be a generic word, concealing different nuances. Therefore, relevance will first be defined and analysed. The factors impacting the identification of relevance will then be highlighted.

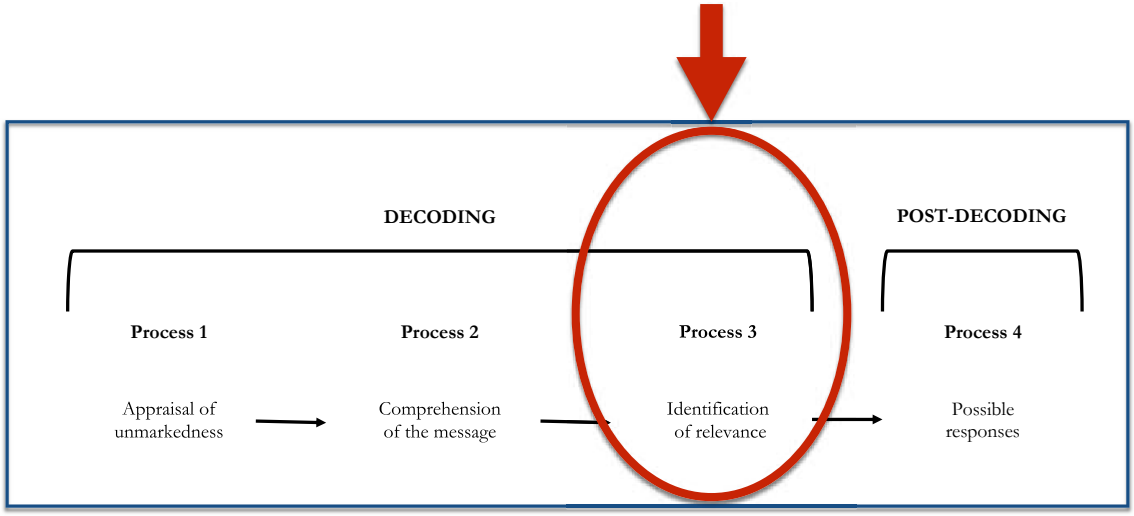

Figure 6.15. Focusing on the recognition of relevance (Morley, 1992).

6.5.1 Analysing Relevance

In order to understand what 'relevant' meant, Alfred Schutz's (1970) relevance classification was used. The differentiation Schutz made between topical, interpretative and motivational relevance helped to approach the polysemy of the concept of relevance in the context of decoding news posts in Facebook. Its application to the collected data tended to show that the participants unconsciously made a distinction between the different forms of relevance when they evaluated the relevance of the news posts in their newsfeed.

6.5.1.1 Approaching different forms of relevance

As explained in Section 6.2, relevance corresponds to the degree of familiarity between the proposed content and the reader's previous knowledge (Yus, 2011). It determines the actual level of interest of the receiver in allocating more cognitive resources to a specific content (Schutz, 1970). The relevance of a content varies from a reader to another because each reader's previous knowledge is highly idiosyncratic (Sperber & Wilson, 1986).

Philosopher Alfred Schutz, in his essay *Reflections on the problem of Relevance* (1970) distinguished three different forms of relevance :

1) **Topical relevance** refers to when the receiver presents a certain familiarity with a theme and wants to know more about it.

2) **Interpretative relevance** refers to when the message echoes the receiver's previous experiences

3) **Motivational relevance** occurs when the message matches with the receiver's personal goals.

This classification was used in this study because of its capacity to uncover the subtleties of the concept of relevance and its applicability to digital contexts. Schutz's work had already been applied to Facebook. Mathieu and Pavlickova (2017) used it to study how expatriated Facebook users develop strategies to tailor the content of their newsfeed. They give some interesting insights on users' agency in selecting and interpreting content on their Facebook newsfeed, similar to what this current study has tried to achieve. However, Schutz's classification has never been used to assess how people decode news content, either in a traditional news context (newspaper, broadcast or TV), or online.

6.5.1.2 Analysing the process of identifying relevance

In order to identify relevance, participants appeared to use the same cues they had previously used for appraising unmarkedness and comprehending the message, and to link these to their existing knowledge. Such cues, depending on their content, can refer to one

or several forms of relevance. A news post can combine several forms of relevance. The more the cues refer to familiar topics, experiences or goals, the higher the degree of relevance of the news post. Four examples of identification of relevance in the data will now be detailed.

The identification of relevance cues and how they can combine together has been very well detailed by AC. When she browsed the news post below (see Figure 6.16), she selected two major cues: the sender of the post, France Culture, a French public broadcaster specialised in culture, and the word "anxiety". On the one hand, the name France Culture carried two major sources of information for AC: it is certainly a podcast – her favourite source of news – and it is good quality news from a trustworthy source. This first cue thus ensures a high interpretative relevance. On the other hand, "anxiety" referred to a topical relevance. For AC, the word "anxiety" automatically made her think about the terrorist attack that took place in Paris in November 2015[26] because she has experienced anxiety since then. Consequently, this post presented both very high interpretative relevance and high topical relevance for AC. It also presented some motivational relevance, as AC said later that she was trying to overcome her constant anxiety.

[26] During the terrorist attacks of November 2015 in Paris, three places were targeted: Bataclan concert hall, a football stadium and the terrace of a café in the 10th arrondissement in Paris.

Figure 6.16. A news post identified by AC's as combining the three forms of relevance (from France Culture)

LP confirmed such a process of identification of relevance cues. When she saw the news post from *Le Monde* on Pope Francis (see Figure 6.17), she noticed "the title and the source". The source, *Le Monde*, created a positive interpretative relevance. However, the title created both topical relevance. Regarding the topical relevance, the article was about a recent paedophilia scandal at the Vatican, and religion counts among her favourite subjects. Motivational relevance was generated by the fact that she had vaguely heard about it. This previous and incomplete knowledge generated a form of motivation because she wanted to know exactly what was going on. She said that she just came back from China a day before and she could not follow the international news during her travels there. She knew that "there was something with the Pope" going on but did not know exactly what. She thus clearly explained her motivation to read this article: "According to my ultra-leftist sources, the Pope would have legitimised paedophilia. I do not think that it went this far but I

haven't read anything about it and I know I need to catch up". Her use of the verb "need" emphasised the motivational relevance: she felt compelled to get information about the topic. Her previous experience reading *le Monde* led her to conclude "This is *Le Monde*, it must certainly sum up the situation". Consequently, she opened the link within the news post. Furthermore, when Facebook sent her a second article from *Le Monde* about the same topic, she also opened it for similar reasons.

Figure 6.17. A news post identified as combinind the three forms of relevance by LP's (from Le Monde).

It is also interesting to notice that among the identification of a single form of relevance, the factors may be combined. For example, AC identified several factors of interpretative relevance in a news post (see Figure 6.18). She associated them in order to evaluate the global interpretative relevance of the post. In this case, AC identified both Konbini as the source of the video, and one of her Facebook friends who posted the news post. She also identified that the news post had been published on Facebook by one of her Facebook

friends who is a journalist specialising in hip-hop, and AC does not really like hip-hop. Consequently, the positive interpretive relevance of Konbini was nullified by the negative interpretive relevance of the sender, which made her anticipate the absence of topical relevance.

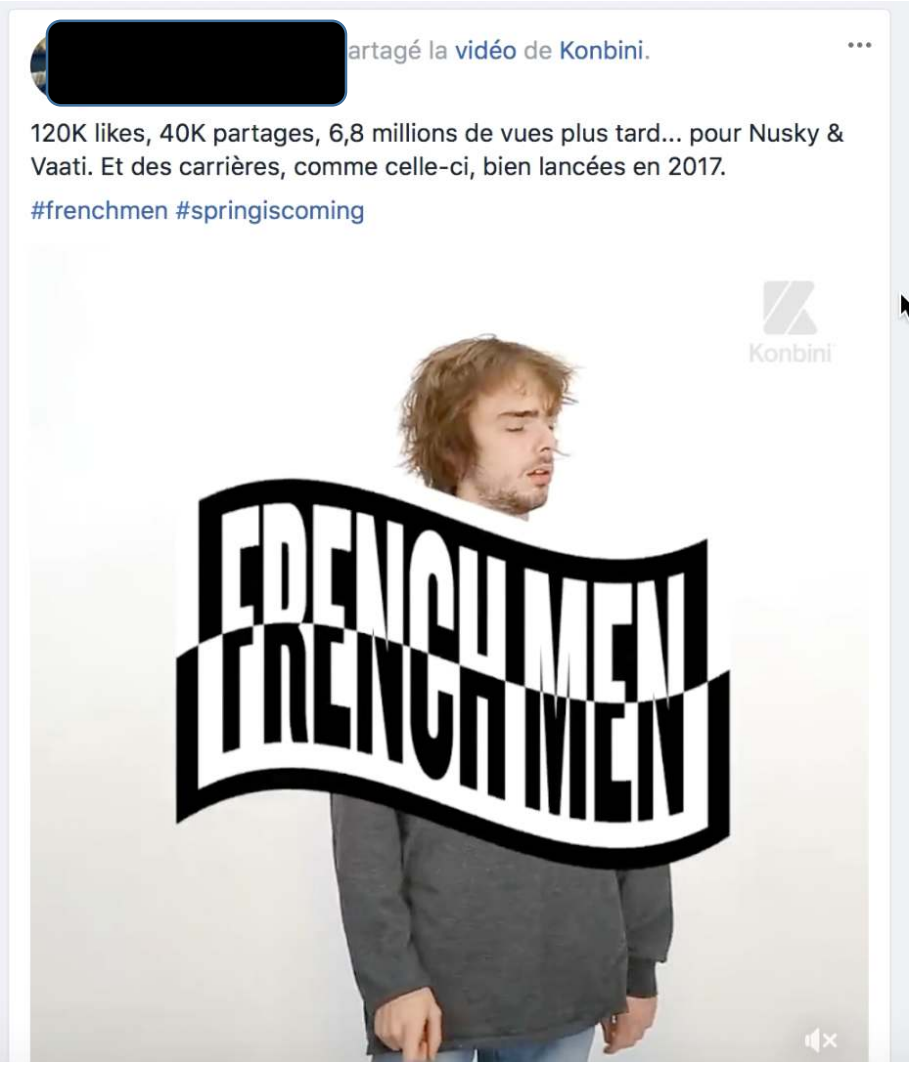

Figure 6.18. News posts containing several cues to evaluate interpretative relevance for AC (from Konbini)

In the three previous examples, the cues were perfectly interlocking in order for the news post to appear relevant. However, sometimes the cues provided by the news posts only appeared potentially relevant. For example, when MI saw the picture of current French

Prime Minister Edouard Philippe in a news post from the newspaper *Libération*[27] in her newsfeed (see Figure 6.9), she said that the post might be relevant and that she "might have opened the link". The very light understanding she got from the news post might have been too 'light' to trigger a genuine interest despite the fact that the *Libération* news post was combining topical relevance (politics is among MI's mains centres of interest) and interpretational relevance (*Libération* is among MI's Facebook favourites at the top of her newsfeed).

6.5.2 The factors impacting the identification of relevance

After understanding how participants individually identified relevance in news posts, it is necessary to observe general patterns of behaviour regarding the identification of relevance in order to understand the factors impacting the identification of relevance. In order to do so, a short list of the 41 news posts aggregating all the news posts identified as presenting some forms of relevant by the participants was established. The distribution according to the forms of relevance they presented was as follows (see Table 6.1):

Table 6.11. Distribution of the news posts according to their relevance and mode.

Relevance identified	Numbers of news posts by modes
Interpretative	2 video news post
Topical Interpretative	12 news posts containing a hyperlink
Interpretative Motivational	2 video news posts
Topical Interpretative Motivational	24 news posts containing a hyperlink

[27] *Libération* is a prominent left-wing daily newspaper

Two main observations can be made from Table 6.1. regarding the centrality of interpretative relevance as opposed to the difference of treatment between news containing an embedded video and news posts containing a hyperlink. These observations will now be explored.

6.5.2.1 The centrality of interpretative relevance

The first observation concerns interpretative relevance. Interpretative relevance is present in all the combinations of relevance forms identified by the participants. Two video news posts presented only interpretative relevance whereas no news post from the short list presented only motivational or topical relevance. A closer look at interpretative relevance allows a subdivision of this category into two subcategories of interpretative relevance:

1) **The familiarity with the media.** This deals with the fact that the participants are familiar with the media and its production. In a majority of cases, the interpretational relevance was due to the fact that the participants considered the media could offer trustful and reliable news. However, sometimes the participants were not necessarily looking for reliable news but were just enjoying the experience provided by reading the articles or watching the video of a specific media.

2) **Friend's sharing**. Another form of interpretational relevance lies in the nature of the 'friendship' between the sender of the post and the receiver. The degree of relevance depends on the nature of the friendship bond outside of Facebook. A Facebook friendship is not enough to make a post relevant.

Such findings are coherent with the results obtained in Part II regarding the fact that most of the paratexts constituting a news posts performed an interpersonal metafunction to provide information regarding the tenor of the message – that is to say who are the participants, what are their interacting roles in the creation of the message. It is also coherent with the results obtained by DeVito (2016) regarding the important of the network.

In the absence of positive interpretative relevance, it appears that topical relevance was not enough to be considered as relevant, even if the news post combines several topics of interest for the reader. In a similar way, without interpretative relevance, motivational

relevance alone did not suffice either. However, it appears that motivational relevance was very difficult to isolate from the other forms of relevance. The difference between them can be very subtle. For example, overcoming anxiety or insomnia were both identified as motivational. If the participants tried to overcome these, it can be assumed that they were also interested in the topic. Consequently, it seemed almost impossible to have news post qualifying as only with motivational relevance.

6.5.2.2 The impact of the news post mode on relevance

Relevance seems to be evaluated differently depending on the nature of the content (textual or video) of the news posts. It appears from Table 6.1 that news posts containing a video could be considered as relevant when they present a lesser degree of relevance than news post containing a hyperlink. For example, two categories of minor relevance – interpretative relevance only and motivational relevance – contained only video news posts.

Further, among those categories, the emergence of relevant news posts combining interpretative and motivational may be a bias of the "purposeful" sample (Patton, 2002, p. 235), composed of young journalists or journalism students. Their professional interest generated a motivational aspect for news posts that was not anticipated and was unlikely to appear with a sample of non-journalists. Therefore, it can be assumed that the combination of interpretational and motivational relevance is unlikely to have happened in other circumstances.

However, a news post containing a hyperlink appeared to be more relevant to the participants. The majority of the relevant news posts (24 news posts out of 41) combining the three forms of relevance contained a hyperlink. Nevertheless, before drawing conclusions, it is necessary to observe the reactions triggered by the different forms of relevance.

6.6 Process 4: Triggering post decoding responses

The fourth process of composing decoding is the generation of post-decoding responses (see Figure 6.18). In the context of Facebook, those post-decoding responses appeared to be systematic, varied and appeared to be triggered at each step of the decoding process.

Section 6.6.1 will present the characteristics of those post-decoding responses while Section 6.6.2 will emphasise especially on the post-decoding responses triggered after the identification of relevance.

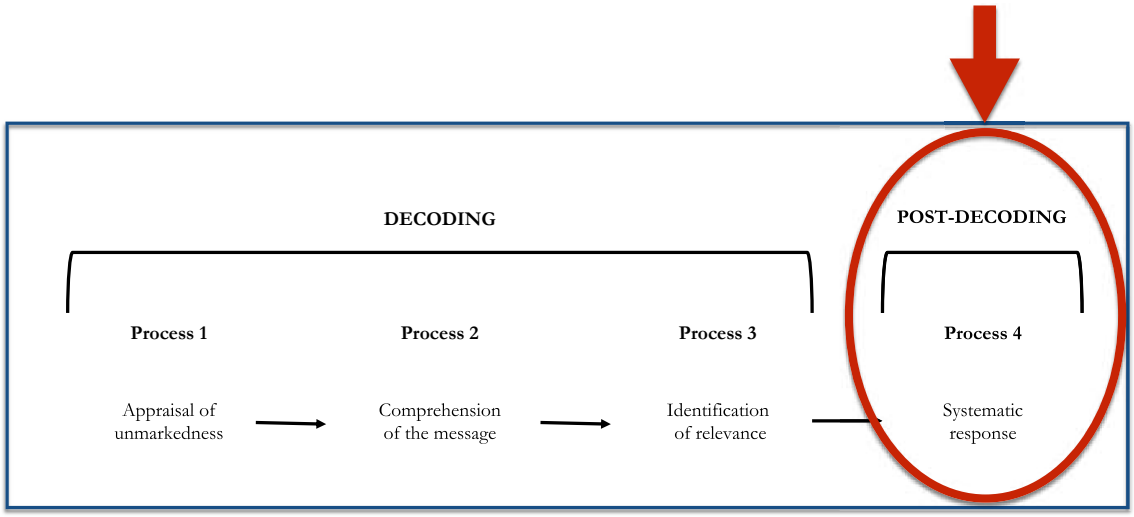

Figure 6.19. Observing post-decoding responses

6.6.1 The specificities of post-decoding responses on Facebook

Post-decoding responses appeared to be systematic and varied in the context of decoding news posts on Facebook's newsfeed. However, most of those post-decoding responses were not perceived as such by the participants, who only mentioned sharing, liking and commenting during the interviews.

6.6.1.1 The variety and systematic character of post-decoding responses on Facebook

All the post decoding responses observed during the guided tours were summarised in Figure 6.20. Such an overview shows the systematic character of post-decoding responses in the context of decoding news post in Facebooks newsfeed. In every case, decoding is followed by a post-decoding response.

Those post-decoding responses were not necessarily triggered when decoding was completed but as soon as a cognitive dissonance appeared to interrupt it. For example, when a news post was identified as marked, the traditional decoding sequence appeared to

be interrupted and a post-decoding response was triggered: the opening of hyperlink or the full watching of the video in order to confirm the markedness of the content. This first post-decoding response appeared to be followed by a second response: either a report of the content if possible when the content the markedness of the news post was confirmed or simply a disconnection or following browsing when the markedness was not confirmed.

The interruption of the comprehension process by the misalignment of the cues gathered in the news post also appeared to trigger an early post-decoding: the opening of the hyperlink when available. The additional elements of meaning contained in the hyperlinked article were used to repair the cognitive dissonance.

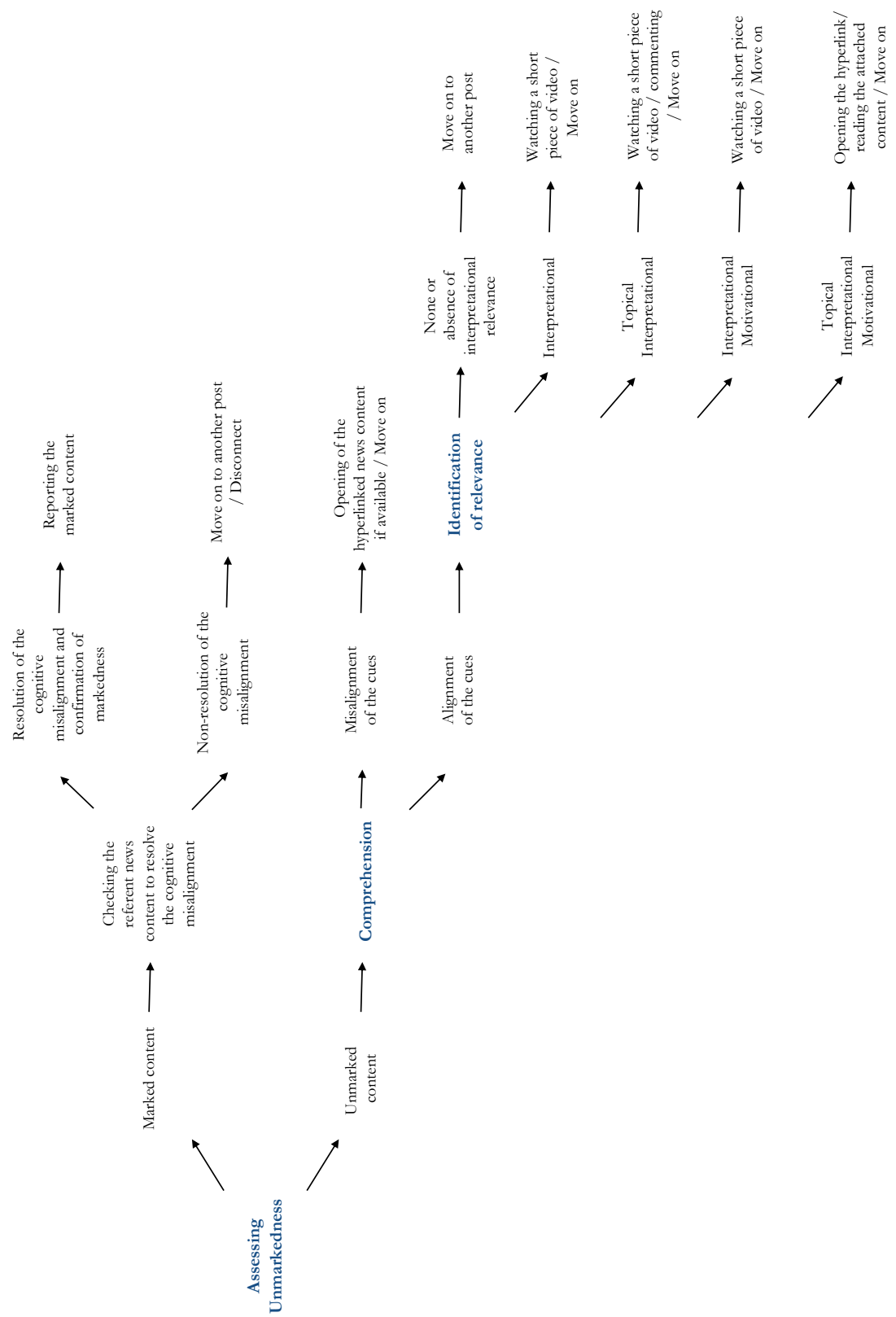

Figure 6.20. Overview of the different post-decoding possibles triggered at each stage of decoding

If the decoding sequence is not interrupted by a cognitive dissonance, the post-decoding response was generated after the identification of relevance. In this case, a great variety of responses could be triggered. Those could be divided into three main categories:

- **Verbal responses** refer to written responses. Those include commenting on a news post or sharing it with a status to the publication

- **Network responses** refer to non-written responses visible by the rest of the user's Facebook friends. They include liking, tagging a friend or sharing a news post on the wall.

- **Behavioural responses** correspond to responses that not be visible to others but that give an indication regarding the interest of the users. Those responses may be divided between positive, neutral or negative responses. Among positive responses are watching a video or opening a hyperlink. Among neutral responses are moving on the following posts without stopping while negative responses may be reporting a news post.

6.6.1.2 The invisibility of those responses

Most of those responses appeared not to be considered as such by the participants. Those only consider as responses, network responses, that is to say sharing, commenting or liking. For example, AC considered herself as globally « hyper passive », and sometimes « active only for (her) professional network », when sharing a link or writing a post. LP shared a similar view, describing her activity as "posting, sometimes". AB, who on the contrary, considers that he is very active on Facebook, said: "I talk a lot, I comment a lot, I share a lot, I don't settle for watching, I am doing a lot. When something catches my attention, I like. I share. I comment that I disagree with somebody I know or somebody I don't know". The construction of the sentence, in French is very interesting because AB used the verb "Je ne me contente pas de regarder", translated as "I don't settle for watching". There is a clearly opposition between watching as a very passive attitude, opposed to sharing, commenting and liking. Therefore, most of what has been considered as post-decoding responses in the context of this study are not perceived by the participants. Those are active on the system without knowing it.

Post-decoding responses may thus be classified according to two criteria, their visibility to other users and the degree of users' consciousness when generating (see Table 6.2).

Table 6.12. Classification of the post-decoding responses generated by the participants

	Invisible to other users	**Visible to other users**
Responses consciously made by the users	Opening of a hyperlink Watching a video Reading a hyperlink article Reporting a content Hiding a content from the newsfeed	Shares Likes Comments
Responses unconsciously made by the users	Time spent on each news posts Interruption when watching a video Disconnection from the news post	N.A.

6.6.2 Observing post-decoding responses after relevance

If post-decoding responses generated by cognitive dissonance at the early stages of decoding were respectively mentioned in Sections 6.3 and 6.4, the post-decoding responses generated by the identification of relevance were not observed yet. When the decoding sequence was not interrupted by a form of cognitive dissonance, the participants appeared to respond differently depending on the form of relevance they identified and the mode of the news posts. The post-decoding responses are summarised in Table 6.3.

Table 6.13. Link between the identified relevance of a news post and the decoding reaction of the participants.

Type of relevance	Triggered reaction for videos	Triggered reactions for textual news posts with attached article
Interpretational	Watching a short piece of the video	Maybe opening depending on the type of interpretative relevance
Topical Interpretational	Watching the beginning of the video	No opening of the link Like or comment on the post
Interpretational Motivational	Watching a short piece of the video	N. A.
Topical Interpretational Motivational	N. A.	Always opened the link attached to the news post

Four main observations about the link between post-decoding responses and relevance need to be explained. First, interpretational relevance appeared to be indispensable to trigger a response other than moving on to the next news post. Second, combining the combination of other forms of relevance with interpretational relevance, each triggered a different response, while only the combination of the three forms of relevance can trigger the opening of a hyperlinked news post. Finally, network responses were likely to be

triggered when no dissonance appeared during the decoding sequence and the reading of the referent news content did not appear to be necessary to trigger it.

6.6.2.1 Interpretational relevance. The indispensable element to trigger responses

Interpretational relevance appeared to be essential to trigger a post-decoding response other than moving on to the next news post. However, depending on the form of interpretational relevance, whether it's the familiarity with the media or the existence of personal ties (see Subsection 6.5.2.1), different reactions were triggered.

Interpretational relevance generated by the familiarity with the media appeared to be necessary to trigger a response that is different than moving on to the next news post. For example, LP received many articles related to religious matters, yet she only paid attention to two of them because they also presented interpretational relevance (in these cases, they were written by *Le Monde*). ML's newsfeed coding showed that she was interested in crime, yet she only paid attention to one news post related to crime and commented on it because it also presented interpretational relevance. However, if interpretational relevance linked to the familiarity with the media is the only form of relevance identified in the news post, only video watching may be triggered. For example, AC said that she would often watch Konbini's videos even if she is "not necessarily interested" because their videos are "very colourful, very dynamic" and "one wants to watch them". In other words, the interpretational relevance of Konbini appeared to very positive and, despite the lack of high topical relevance, AC may be interested in watching their videos. MI also found Loopsider's video relevant because she likes the way they present news.

On the contrary, in the case of a news post containing a hyperlink, interpretational relevance linked to the familiarity with the media does not trigger any reaction. During her 'guided tour', AC mentioned that *Brain Magazine* presents some interpretational relevance for her because "it makes (her) laugh". However, she did not open the following news post (see Figure 6.21) because it did not present any other form of relevance. Such a behaviour was also confirmed when she browsed *Cheek Magazine* news post without opening it (see Figure 6.6).

Figure 6.21. The interpretative relevance identified by AC was not enough to make her open the hyperlink (from Brain magazine).

In the case of a news post containing a hyperlink, if only interpretational relevance is identified, it needed to be generated by the existence of very strong personal ties outside Facebook in order to generate the opening of the hyperlink. For example, MI opened a link from *Sud-Ouest Landes* about a rugby match. She did so because she could identify from the source and the picture, and she knew the article had been written by her boyfriend, who is also a journalist. A similar case happened when MI browsed a news post from a friend she met at the university during her journalism studies (see Figure 6.22). She explained that her friend chose to work as a news editor for a newspaper after her degree, which she considered to be an uncommon choice for a young journalist. Consequently, she wanted to know more about her choice.

Figure 6.22. News post identified as relevant by MI (from Ebdo).

6.6.2.2 The different combinations of relevance and their outcomes

Most of the news posts, identified as relevant by the participants, appeared to combine several forms of relevance. Three possible combinations were observed: 1) topical and interpretative relevance, 2) motivational and interpretative relevance, and 3) topical, interpretative and motivational relevance. Depending on the combination of relevance, different reactions were triggered according to the mode of the news post. News posts containing an embedded video appeared to need a lesser level of relevance than news posts containing a hyperlink to generate a response.

The types of reaction depending on the combination of relevance identified were classified as follows:

- **The combination of topical relevance and interpretational relevance.**
  Twelve news posts out of the 41 relevant news posts combined topical and interpretational relevance. Among those, two were embedded videos while the rest were textual news posts with an attached link. None of the textual news posts triggered an opening of the attached link, while the two embedded videos were partially watched by the participants. The differences between these two needs to be explained.

  In most cases, it seems that the participants got enough information during the process of comprehension and, as the content was only combining topical and interpersonal relevance, they did not feel the need to get some additional information by opening the hyperlink news content. Among those were the first three news posts browsed by MA from Konbini. Konbini was registered on Facebook among his favourite publications and ensured a positive interpretative relevance. The three news posts also presented some sort of topical relevance as they were respectively about rappers Eminem and Kendrick Lamar and the participation of North Korea at the next Olympic Games. However, MA did not click, but he said "could have clicked" to open the link, emphasising the hypothetical aspect of it.

  However, for the two embedded videos, the case seemed to be similar to news posts presenting only interpretational relevance. The idea of having a nice video experience was enough to make the participant watch the video a couple of seconds but not to watch the video until the end.

- **The combination of interpretational and motivational relevance.** Two news posts out of the list of relevant news posts combined interpretational and motivational relevance, without any topical relevance. Those news posts contained embedded videos and the participant partly watched them. In the first example, MI saw the news post from Loopsider (see Figure 6.23), it immediately caught her eye and she began to watch the video. She explained that the video presented both interpretative and motivational relevance. The positive interpretative relevance was generated by the fact she knew Loopsider and liked the content they usually produced. She described their content earlier

in the interview as “attractive” because they were a “web-format with funny images and very dynamic edition, music and effect”. The interpretative relevance was coupled to a very high motivational relevance in this case because she said that she had applied for a job at Loopsider two days before and that she already had an interview. Therefore, the topical relevance was not needed in this context. The way she phrased her sentence emphasised the fact that the topical relevance is of minor importance: “after (identifying that the content was from Loopsider), I might have landed on the picture of the little robot”. She did not say that she was interested in that topic. Instead, she quickly switched back to the interpretive relevance mentioning that the topics chosen by Loopsider are often topics she has previously worked on.

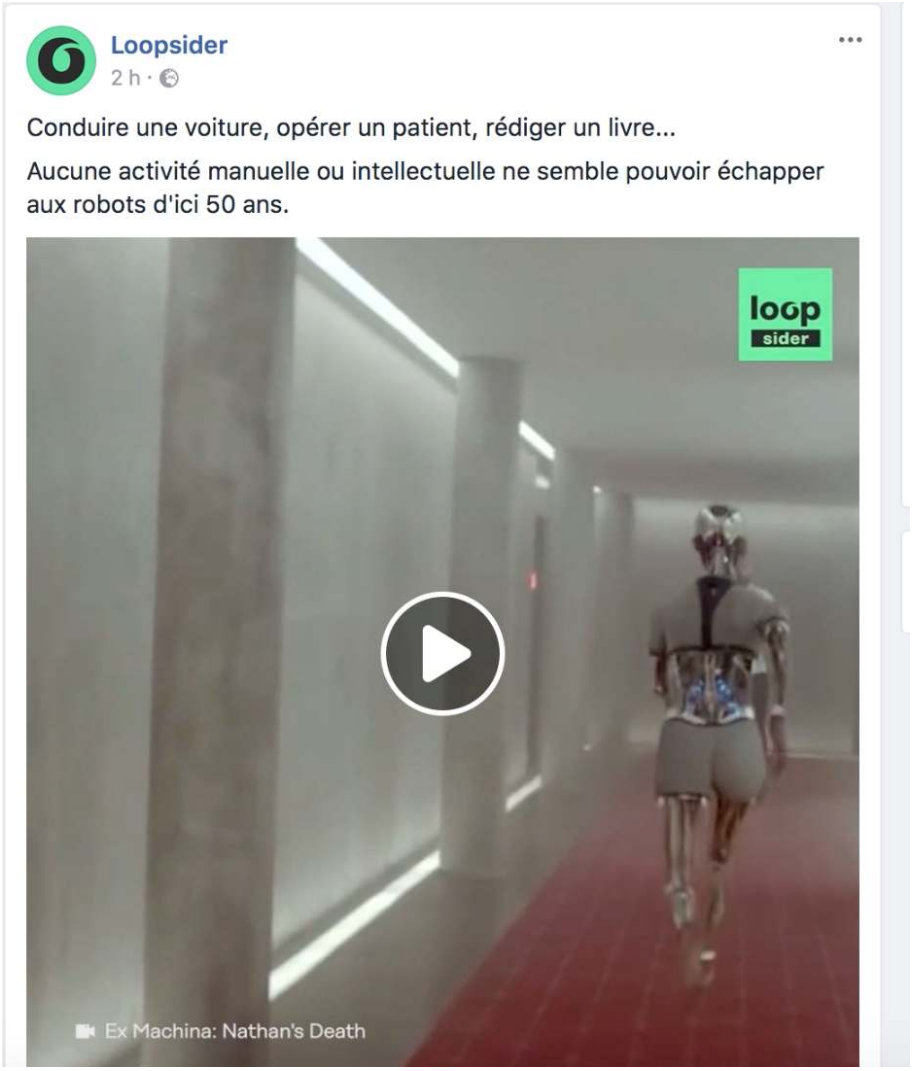

Figure 6.23. News post combining interpretational and motivational relevnce for MI (from Loopsider).

The second example (see Figure 6.24) is similar. It deals with a media she knows very well, *Midi Libre*, and with a video format. *Midi Libre* generated interpretative relevance while the video mode generated video format because, at the time of the interviews, she was watching a lot of videos in order to get the codes to find a job as a video reporter for a web service

Figure 6.24. New post combining motivational and interpretational relevance for MI (from Midi Libre).

In some cases, it appeared to be difficult to draw a strict line between motivational and interpretational because they might be intertwined. For example, the two cases labelled as presenting interpretational relevance illustrates this difficulty. When MI read the article written by her boyfriend, she said that she always reads her boyfriend's productions. It can be perceived as interpretational relevance yet it can also be assumed that they

often talk about their respective work, which would be a motivational relevance. A similar entanglement of interpretational and motivational relevance occurred when MI identified a news post from her former university friend who became a news editor. It can be assumed that as a young journalist, MI wanted to learn about her friend's experience to help fulfil her own professional goal. However, as it was explained in section 6.5.1.3, it is likely that the existence of news posts combining motivational and interpretational relevance is a bias created by the sampling strategy and it is unlikely to trigger any actions with a more general sample.

6.6.2.3 The three forms of relevance: towards a false transition

The only news posts triggering the opening of the hyperlink appeared to be those combining the three forms of relevance. However, different behaviours emerged while opening the attached link. Four case scenarios were observed as followed.

1) **When the participants just opened the hyperlink in a new tab and went back to decoding their newsfeed without having a look at the news articles they just opened**. Two participants did this during the guided tour: CR and LP. It seems to be the most common behaviour as all the participants mentioned doing that at some point in the interviews. However, what remains uncertain is if they would come back to those articles and decode them. Both CR and LP said that they would check the content of those articles after browsing their newsfeed. However, it is impossible to know if they would have done so. Further elements in the interviews seem to suggest that they would have browsed the set aside article, while some others suggested the contrary. CR described a typical Facebook browsing the following terms: "I go on Facebook, I see an article on the newsfeed, I click on it and I read it during 10 minutes", while AB said that that when he "finds an interesting article", he may "spend several tens of minutes on it". However, some elements suggesting the contrary also emerged from the interview, as several participants confessed that they tended to forget those articles and to rarely come back to them. For example, MI said that sometimes she set aside relevant articles to read later,

yet she admitted that she rarely retrieved them. Consequently, if the hyperlink was open in a new tab during the newsfeed decoding process, its future decoding remained unsure.

2) **When no reaction was triggered because they already browsed the hyperlink during the comprehension process.** For example, AB had opened all the hyperlinks and checked the content because he could not understand properly the message of the news post without the additional content of its referent news article. However, he may have opened one link because of the specific combination of an unsatisfactory comprehension process and the identification of the three forms of relevance when he opened it and had a look at the hyperlink contained in a new post from the Football magazine *So Foot* about a legendary goal scored by football player Antonin Panenka (see Figure 6.25). It seemed AB opened the hyperlink because he knew that the hyperlink would contain a video of Antonin Panenka's penalty and he wanted to see it to understand why his penalty was "legendary". AB had followed the *So Foot* Top 100 about the best penalties in the history of football and he knew in advance that the hyperlink would contain a video. Consequently, the fact that he directly opened the link could be interpreted in two ways: either he opened the hyperlink because he could not understand how legendary that penalty was, or he was very interested to follow the *So Foot* Top 100 of the best penalties. Another supposition that would be coherent with the other participants' behaviours is that he would have opened the link and kept it for later if there was only the relevance component, but the addition of the comprehension element made him check the link directly as he did for the news post presenting a cognitive gap.

Figure 6.25. News post who triggered an opening of the hyperlink by AB (from So Foot)

3) **<u>When the participant opened the hyperlink in a new tab and directly read it.</u>** In the context of this study, this behaviour was only observed once, when ML opened the hyperlink contained in news post from the daily newspaper *Le Parisien*, about the Feminine Football World Cup (see Figure 6.26). This behaviour seemed to be an exception due to the close links ML had with the news content. It seemed that ML was more interested by the news article in itself than by the news post because at the time of the interview she was doing an internship for the sport service at *Le Parisien*. Furthermore, ML is a specialist of feminine sport, and she wanted to see how her colleagues were working, rather than getting some new information about the Women's Football World Cup. A similar reaction was observed when MI said that she would read her boyfriend's article

about rugby because she wanted to keep informed of what he was writing, even if she confessed not being very interested in rugby.

Figure 6.26. News post that triggered the reading of the referent news article by ML (from Le Parisien)

4) **<u>No reaction was triggered because of external circumstances of decoding.</u>** This case was illustrated by the reaction of AC when identifying a relevant post from *France Culture* about anxiety (see Figure 6.16). She chose not to open the hyperlink, despite the combination of the three forms of relevance. In this case it could be assumed that, as she was familiar with *France Culture* content, she deduced it would be a long podcast and she would not have time to listen to it. MI also evaluated the external context and chose not to open the links either, but she said that she would go back to those posts to read them later. In this case, it is likely that the two news posts were engaging for MI because they were written by her boyfriend and her university friend, and she preferred to be on her own.

The rarity of the user transition towards the original news content seems to confirm the conclusion drawn in Subsection 4.3.3.3 regarding the fact that Facebook is barely a gateway to the original news commodity but rather a "bricoleur" (Genette, 1997) of news content, which is a standalone.

6.6.2.4 Triggering of network responses

Finally, during the guided tour, it could be observed that some network responses were triggered. As defined in Section 6.6.1, network responses refer to comments, tags, likes or shares. Those appeared to be triggered only when the full decoding sequence could be completed, without the emergence of any dissonance. In those conditions, the participants appeared to feel confident to like, to tag a friend or to comment on a post. They did not need to open the hyperlinked news content in order to do so. The contet of the news post appeared to be sufficient. For example, ML liked a news post about the theft of Panini stickers and tagged a friend without opening the hyperlinked article (see Figure 6.27). She also gave a like to another article about Rafael Nadal's victory against Del Potro at Roland Garros tennis open tournament (see Figure 6.28). Those cases were not observed very often because most of the participants said that they were "passive" and were not used to tagging, sharing or commenting news posts on Facebook.

Figure 6.27. News post in which ML tagged a friend and commented without opening the hyperlink (from Konbini).

Figure 6.28. News post liked by ML without reading the contentof the hyperlink (from Le Dauphiné libéré)

The combined analysis from the interview data and the 'guided tours' data highlighted how participants proceeded to decode their newsfeeds and the news posts composing it. As a result, it was possible to decompose the hermeneutical process performed to extract the meaning out of the message into a decoding sequence composed of the following processes: appraisal of unmarkedness, comprehension of the message, identification of relevance and post-decoding responses.

This hermeneutical process appeared to be characterised by four specificities. First, participants began the decoding sequence by appraising the unmarkedness of the news posts. In other words, during this phase, they seemed to assess the legitimacy of a news posts within their newsfeed. Second, when comprehending the denotational meaning carried by the news post, users tended to use the original news commodity as a complement if the news post could not be comprehended easily. Third, the identification

of relevant content appeared particularly complex as several forms of relevance were usually intertwined in the news post. Fourth, post-decoding responses appeared to be systematic and extremely varied. Among those responses, accessing the referent news posts, appeared to be relatively infrequent.

In light of those results, Chapter 7 will try to tackle the two concerns raised in Part II regarding the fact that the specific process of circulation of news content may limit the occurrence of non-aligned decoding, and consequently, restrict the struggle over the meaning between users and the algorithm.

CHAPTER 7 - Understanding the encoding/decoding circuit

7.1. Introduction

In Chapter 6, the 'decoding data' collected during the semi-structured interviews and the "guided tour" were analysed in order to uncover the hermeneutical sequence followed by the participants when decoding news posts in their Facebook newsfeeds. This hermeneutical sequence appeared to be constituted of four processes, as follows:

- **Process 1 - Appraising unmarkedness**. First, participants assessed whether the news posts selected by the newsfeed-generating algorithm was corresponding to what they were expecting to find in their newsfeed in terms of ideological content. In other words, they first evaluated if the news posts were ideologically aligned with their expectations.

- **Process 2 - Comprehending the message**. This second process refers to translating the denotational meaning out of the message form. In most cases, the participants could complete the comprehension with the cues available in the news posts. However, when these cues were not sufficient to lead to satisfying comprehension, participants tended to use the hyperlinked news content (if available).

- **Process 3 - Identifying relevant content.** After comprehending the message, the participants evaluated if the content was relevant to them. This process appeared to be complex as news posts could combine several forms of relevance.

- **Process 4 - Post-decoding responses**. At the end of each process involving decoding, depending on its outcomes, a post-decoding response was systematically triggered. Different forms of post-decoding responses were observed, such as likes,

shares, comments, reporting of marked content, opening of the hyperlink contained in the news post, etc.

In this chapter, these specificities will be interpreted and discussed in order to tackle the critical concerns raised in Part II regarding how circulation encoding/decoding may increase media effect on the users.

Section 7.2 will examine how decoding has been adapted to the context of Facebook's newsfeed and how systematic post-decoding responses are generated after decoding. In section 7.3, the decoding moment will be redefined as a prosumption decoding/encoding and inserted into the full encoding/decoding sequence in the context of decoding news posts in Facebook's newsfeed. The final Section 7.4 will conclude the chapter.

7.2 Assessing the effect of circulation on decoding

In Chapter 5, the outcomes obtained concerning the Circulation decoding/encoding and the algorithmic rhetoric underpinning it raised two mains questions regarding decoding. First, the freedom of the user to decode the message outside of the preferred meaning chosen by the algorithm appeared to be jeopardised; and, second, this potential limitation of non aligned decoding may impact the ability of the user to contribute to make meaning evolve within the algorithm's hegemonic order.

However, the results presented in Chapter 6, obtained from the reconstitution of the hermeneutical sequence followed by participants when decoding, nuance this risk. First, participants appeared to hyper-decode news posts, to filter cognitive dissonance and to discard news that are ideologically non-aligned with the users'views. Second, all those actions generate post-decoding answers into the system that may be compared to active contributions to the "struggles over the meaning". Third, the algorithmic rhetoric seems to reinforce existing believes rather than modifying existing ones.

7.2.1 Hyper-decoding as evaluating the algorithm's content selection

The conclusions drawn from the 'decoding data' discussed in Chapter 6 tended to suggest that participants hyper-read their newsfeed to hyper-decode the meaning out of it. In doing

so, they filter cognitive dissonance and tend to discard content that are not aligned with their own ideological views.

7.2.1.1 Hyper-decoding news post as filtering the newsfeed content

When decoding news posts in their newsfeeds, participants appeared to hyper-read, as they quickly filtered a huge amount of information in a very short period of time and focussed only on limited segments of the messages they were reading (e. g. Sosnoski, 1999; Hayles, 2007; Hayles, 2012). Hyper-reading constitutes a dynamic and constructive way of approaching textual elements and is usually adopted in order to maintain attention in multimodal and information-intensive digital environments (Hayles, 2012).

According to Sosnoski (1999), hyper-reading is characterised by:

1) Filtering: a higher degree of selectivity in reading [and therefore]
2) Skimming: less text actually read
3) Pecking: a less linear sequencing of passages read
4) Imposing: less contextualisation derived from the text and more from readerly intention
5) Filming: the "…but I saw the film" response which implies that significant meaning is derived more from graphical elements than from verbal elements of the text
6) Trespassing: loosening of textual boundaries
7) De-authorising: a lessening sense of authorship and authorly intention
8) Fragmenting: breaking text into notes rather than reading them as essays, articles, or books. (Sosnoski, 1999, p. 163)

In the context of decoding news posts, the participants seemed to fulfil Sosnoski's characteristics, although in a different order. Initially, participants appeared to 'skim' (2) the content in order to select and gather meaning cues within the news posts. When gathering those cues, participants did not follow a linear sequence of reading. On the contrary, they pecked (3) within the different multimodal elements composing the news posts without following a linear order. When pecking, they often 'filmed' (5), focusing on the graphical elements at the centre of the news posts, which constituted the main point of salience of

the composition (see Subsection 4.3.2.3). Therefore, they 'trespassed' (6) the boundaries between the different paratexts and 'de-authorised' (7) by considering them all as the paratexts composing a news post and acting as parts of the same unit of meaning, despite the fact that they are not necessarily authored by the same message producer. Once they had gathered the necessary cues, they appeared to begin to apply the decoding process, which consisted of 'filtering' (1) and 'imposing' their users' intention (4). The only characteristic which logically did not seem to apply to news posts is 'fragmenting' (8) – breaking texts into notes – because the newsfeed is already fragmented into news posts.

Following the logic of hyper-reading, the hermeneutical sequence of decoding followed by the participants be coined as hyper-decoding - that is to say, applying a sequence of filtering processes used to extract the meaning out of its message form, from meaning cues carefully selected via hyper-reading. The hyper-decoding sequence is composed of the three processes detailed in Chapter 6: appraisal of unmarkedness, comprehension of the message, and identification of the relevance (see Figure 7.1 below).

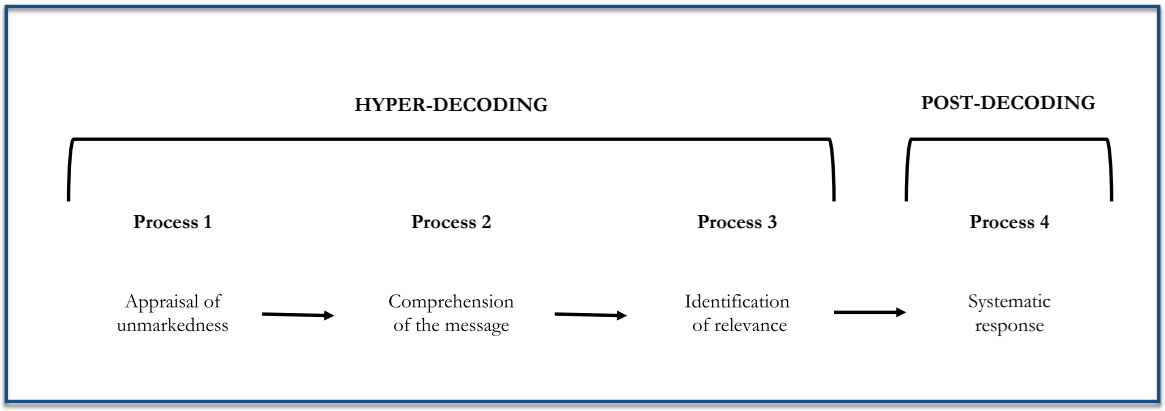

Figure 7.1. Hyper-decoding sequence in the context of Facebook's newsfeed

Most of the participants did not perceive their active filtering and interpretative work though. On the contrary, they characterised hyper-decoding in rather negative terms. AC for example described this as "scrolling without really stopping" until her attention was captured by a Konbini video because they "instantaneously snatch her eye" even if "they are not really interesting". CR also said that he was "scrolling very quickly" and "choosing to read (a news post) or not" because he anticipated that there will be many things that "(he) will not be interested in".

Nevertheless, despite the negative descriptions made by the participants, hyper-reading associated with hyper attention is not necessarily of inferior quality to the more traditional combination of close-reading and "deep attention"[28] (Hayles, 2012, p. 12). Hyper-reading and hyper attention appear to be very useful for grabbing bits of texts and adapting quickly to different kinds of texts. During the guided tours, the participants effectively appeared to be very efficient at grabbing bits of texts and switching between very different post genres such as news, personal posts, and advertising.

7.2.1.2 Hyper-decoding as filtering out non aligned ideologies

When hyper-decoding, participants appeared to apply a set of processes to filter out cognitive dissonances, corresponding to three questions:

1) Is the content of the news post legitimate in the context of the newsfeed, and is it ideologically suitable?

2) What is the denotational message carried by the news post? Are the cues gathered at a first glance sufficient for comprehending the message contained in the news post, or is it necessary to gather some additional cues to extract the meaning?

3) Is the content of this news post relevant, and how is it relevant?

Those three questions appeared to be sequential. If the first question was not answered positively, the decoder did not move on to the second decoding process: comprehension of the message. If the second question was not answered positively, the decoder did not

[28] Deep attention is described by Hayles as "the cognitive mode traditionally associated with the humanities that prefers a single information stream, focuses on a single cultural object for a relatively long time, and has a high tolerance for boredom" (2012, p. 12).

move on to the third process of the message: identification of relevance. Therefore, they may be compared to a succession of filters to avoid cognitive dissonance.

Among those filters, the first one – Appraising unmarkedness – corresponds to anticipating the connotational meaning included in a message to assess if it is culturally, socially or politically acceptable in the context of the newsfeed. Therefore, it can be considered as a form of early interpretation of the message.

This positioning as the first step of the hermeneutical sequence of decoding is interesting for two main reasons. First, as decoding was conceived as a single action in Hall's original work, the adoption of an ideological stance with respect to the content of the message was considered as the outcome of decoding, or the result of extracting the message out of its message form. Second, even in the intent of breaking down decoding into a set of processes (Morley, 1992), the interpretation of the message was mentioned at the end of the list of processes, before generating a post-decoding response.

Such a sequential inversion – the fact that the ideological stance seemed to be decided at the beginning of the hyper-decoding sequence – suggests a change of perspective from the decoder of the message. In the original Encoding/Decoding model, after decoding, the receiver could align his or her interpretation with the "dominant or hegemonic code" (Hall, 1973b, p. 16) chosen by the producer, and then choose a "negotiated code" (p. 17) or an "oppositional code" (p. 18) with respect to the code chosen by the producer. In other words, decoders could choose their ideological stance with respect to the preferred meaning of the producer's message. On the contrary, when users first appraise the unmarkedness of a message, the participants seemed to evaluate if the news post aligned with what they expected to find in their newsfeed. In other words, it seems that the decoder does not align with the code of the message nor choose a negotiated or oppositional code. Instead, participants seemed to expect the news posts to align with their ideological stance.

Three possible outcomes of this early process of interpretation were observed – taking the user's code as a standpoint:

1) **Alignment of codes.** The alignment of codes was the most frequently observed case. It occurred when participants labelled the news post as unmarked and considered that those were legitimate and coherent with the content of their newsfeeds. The alignment of codes appeared to be only between the users' code and the circulation code. It was not possible to conclude that this alignment also concerned the producer code as, in most cases, the participants did not open or decode the referent news content, especially if those were hyperlinked to the news post[29]. The presence of primary paratexts in the news post was considered as insufficient to conclude that the production code and circulation code were aligned. There were two reasons for this: the first is that those paratexts had undergone an additional process of circulation encoding, and the second is that different parts of a message may carry different ideologies (Kim, 2004). Therefore, it cannot be concluded that the alignment of the primary paratexts with the circulation code means that the whole referent news content is also aligned with the circulation code.

2) **Partial alignment position.** A negotiated position refers to the situation when the participants identified that the news post was not entirely aligned with what they were expecting to find in their newsfeed. However, they could understand why they had received it. This situation was illustrated by the case of the BBC news posts received by LP and described in Chapter 6 (Subsection 6.3.2.2). She considered that she might be interested by BBC content (she said that sometimes she actually was) but the content she actually received was not matching the image she had of BBC content. The negotiated position in that context seems to be between the users' code and the circulation code. On the contrary, the production code of the referent is likely to be misaligned because LP seemed to understand

[29] In the context of this study, the collected data were not sufficient to reach that conclusion as the referent news content was only accessed if the participants decided to access it. Consequently, it was not possible to compare the circulation code and the production code. Further research may need to be done on that point.

why she had received content from the BBC, but not why she had received this specific content.

3) **A complete misalignment.** Finally, a complete misalignment corresponded to the situation where the participants identified the content as marked and could not accept receiving such content in their newsfeed. In those cases, it appeared that the participants confirmed the misalignment by reading the original news commodity. In those cases, it appeared that both the circulation ideology and the production ideologies were misaligned.

The three possible positions confirmed that users do not lose their decoding autonomy in the context of Facebook's newsfeed, despite the specific process of circulation. Although alignment is predominant, the newsfeed-generating algorithm does not always succeed in predicting and orientating them towards its preferred meaning. It was acknowledged in the Chapter 2 that the three hypothetical positions of Stuart Hall were highly criticised for their rigidity and their lack of empirical verifications (Wren-Lewis, 1983). However, a similar tryptic appeared to be confirmed by the empirical observations in the context of this study.

7.2.2 Post-decoding responses as a systematised struggle over the meaning

The second concern regarding the impact of the algorithmic rhetoric on decoding dealt with the ability of the user to contribute to make meaning evolve within the algorithm's hegemonic order. The analysis of the decoding moment conducted in Chapter 6 seems to show the opposite as post-decoding responses, that is to say the generation of verbal answers or non-verbal answers after decoding, seemed to become more systematic in the context of Facebook, and the number of possible answers is varied. Those post-decoding responses seem to participate in a permanent "struggle over the meaning" to make the Facebook's ideological values evolve.

7.2.2.1 Post-decoding responses 'into the system'

In Chapter 6, the analysis of the 'decoding data' suggested that each process of decoding could trigger responses (see Figure 6.19). The possible responses observed during the guided tour were listed in Section 6.6. The appraisal of unmarkedness appeared to trigger

the decoding of the referent news content in order to confirm the marked character of the news post and, eventually, the report of the news posts if its markedness was confirmed. The process of comprehension could trigger the opening of the referent news content in order to complete the comprehension process (if more cues were needed). Finally, the identification of relevance could trigger a large spectrum of responses depending on the form of relevance identified adapt their response.

Among the possible responses, some appeared to be consciously formulated by the users (e. g. shares, likes, comments, tags), while some others appeared to be unconsciously formulated by the users (e. g. moving on to the next post, stopping watching a video). Those post-decoding responses correspond to what Hall (1973b) in the context of mass media calls the "skewed and structured feed-backs, back into the production process itself" (Hall, 1973b, p. 3). However, in mass media, those responses take place "into the air" (Peters, 1999, p. 200); that is to say, there are almost no traces of those interactions. Therefore, many of them are lost and do not reach the producer. In the context of Facebook, all the post-decoding responses generated by the users are recorded and kept by the newsfeed-generating algorithm. As mentioned in Chapter 2, those responses correspond to what Jensen & Helles (2017) refer to as "many-to-one communication" (p. 16). They seem to play a very important role in the process as they inform further communication (Jensen & Helles, 2017), and this is discussed below.

7.2.2.2 Post-decoding responses as the materialisation of the dialogic discourse

Those systematic and varied post-decoding responses can be interpreted as a materialisation of the dialogic discourse at stake in decoding (Volosinov, 1994). According to Volosinov, "any true understanding is dialogic in nature" (p. 35). As a point of departure Volosinov uses Saussure's triptych to explain the inherent dialogic nature of understanding: langage – langue – parole. 'Langage' refers to the sum of 'langue' as a system of normative and identical forms, and 'parole', the utterance of the individual speech act. When generating an utterance, the message sender applies normative forms to a specific context. Therefore, those normative forms change and adapt to the context, and they do not carry a stable and invariable meaning. In order to interpret it, the receiver of a message needs to project him or herself into the sender's context. Hall has settled this dialogic discourse in

the context of mass media by demonstrating how decoding answers encoding, as a dynamic process of extracting meaning out of its message form.

However, in mass media, the second line of the dialogic discourse – that is to say the outcome of decoding – takes place into the air. Therefore, the dialogue usually stops after the decoding moment. In the context of social media, on the contrary, this dialogic discourse may be pursued, as post-decoding responses are systematic, varied, and collected by the system. Those post-decoding responses are thus used to inform further communication (Jensen & Helles, 2017). As demonstrated in Chapter 5, the newsfeed-generating algorithm seemed to use tangible individual data – which may now be redefined as post-decoding responses – to encode a message in a personalised way in order to reach an aligned decoding.

Consequently, those systematic post-decoding responses contributes to the "struggle over the meaning" (Hall, 1980b, p. 133), that it to say the permanent negotiation to define the boundaries of the dominant order which influences the algorithmic choices. As explained in Chapter 2, this dominant order is fluid, rooted in cultural practices, and is constantly adjusting, to find a balance between producers and decoders interpretations.

7.2.3 The impact on circulation on decoding

Despite the fact that Facebook users preserve their ability to decode news posts outside of the preferred meaning chosen by the algorithm and that they constantly contribute to make Facebook's ideological order through their post-decoding responses, some impacts of the algorithmic rhetoric could be observed when analysing the hermeneutical process of decoding. First, the newsfeed appeared to be a globally unmarked environment, where news posts generally aligned with the ideological expectations of the users. Second, the choice of unmarked news posts appeared to contribute to reinforce users' existing convictions.

7.2.3.1 The newsfeed as an unmarked environment

The process of circulation decoding/encoding appeared to generate pretty accurate results in defining what a user would find unmarked or marked in the context of their newsfeed.

The news posts chosen by the newsfeed-generating algorithm usually triggers an aligned appraisal of unmarkedness from the participants. Most of the content participants browsed on their newsfeeds during the guided tours were appraised as unmarked. Only one example of unmarked content was observed and two others were mentioned in the interviews. The fact that, except for LP and MA, the other participants did not mention any cases during the interviews appeared to be linked to the fact that they had not seen any marked content in their newsfeeds for a long time. Due to their dissonant character within a homogeneous context of culture, marked content were well remembered by the participants. MA mentioned having seen a marked video "several weeks ago"; and LP, who had been confronted several times with similar marked content from the BBC, did not precisely refer to any more of it, but she could perfectly explain the type of videos or articles she considered as marked. By contrast, most participants could not remember nor mention any unmarked content they had just browsed or read.

The participants appeared to be satisfied with the unmarkedness of their newsfeeds because they tended to consider, in their majority, that their newsfeed was a private space, despite the fact that they get news on it. The fact that they did not want to see news posts that were not aligned with their ideological values in a personal space was clearly explained by AC, who made a comparison between Facebook and Twitter. According to her, she can follow people that had a different ideological stance on Twitter and she does not mind reading her divergent voices. However, she would not do that on Facebook. She said that she "did not want to listen to them (ideologically divergent voices)" if they are among people she is friend with for years. She justified the difference by saying that she considered Twitter as "more professional" and Facebook as more "personal" despite the fact that, at the beginning of the interview, she said that she tended to use it mostly for professional reasons. MI also confirmed that she considered Facebook as "much more "private" than Twitter.

The fact that they considered their newsfeeds as personal could also justify the strong emotional reactions observed when confronted to an ideologically-marked content in this private space. For example, when AC talked about some acquaintances she unfriended for sharing content contrary to her political views, she said that she did so because it "annoyed" her and she "had no interest in interacting with (those acquaintances)" while, on the contrary, she loves debating in real life. MI said that she would also feel very

"irritated" to see some ideologically opposed content while she did "not pay attention" when she saw only irrelevant content such as "a lot of non-sense: cat videos and silly things" during the guided tour.

Consequently, the participants appeared to expect their newsfeed to contain only news posts that were ideologically aligned with their own beliefs. For example, MI said that she did not think that "Facebook could propose (her) that kind of (marked) content" and the strong reactions of the other participants towards the rare marked content they could find in their newsfeed confirmed it. Therefore, they seemed to appreciate that their newsfeed constituted an "echo chamber" (Sunstein, 2007) to their own beliefs and they personally contributed to maintain its ideological homogeneity. AC said that Facebook was "rubbing (her) in the right way" and she appreciated that. MA said "once one has done his own circle, it is very difficult to get out of it". AB and ML confirmed saying that it was "comfortable".

7.2.3.2 Reinforcing existing points of views

The main impact observed regarding the algorithmic rhetoric lies in the fact it may reinforce participants' existing beliefs. According to AB, the fact that Facebook constantly provides news referring to one's centres of interest creates a "vicious circle" because the user is always "fed" with similar ideas which confirm what he was already thinking. This possibility of reinforcement was also confirmed by MI, concerning her feminism. She explained how the news she got on Facebook contributed to strenghthen her ideas because the multiplication of the content related to feminism in her newsfeed "gave (her) the impression of knowing a lot of things' about it".

In addition to reinforcing users' existing behaviours, the choice of the algorithm may orientate existing believes and contribute to refine them. For example, LP explained how her interest for feminism, was progessively oriented by the content she received towards a specific fringe of feminism, the American feminist movement of Social justice warriors (SJW). When she discovered the SJWs' action, she thought that it was an interesting way of thinking. Facebook followed that trend and sent her a lot of articles regarding the SJW. However, after being overwhelmed with those content in her newsfeed, she felt that she should "take some distance" in order to be a bit "more critical" about it. According to her, "Facebook may be attractive as it offers a lot of content that corresponds to what we are

looking for. Those may not exactly correspond, but progressively, it may lead us to have a closer look at some topic, that at the beginning were only topic of interest among others but, progressively, there more and more… and it makes a way through. I would not say that it goes towards radicalisation … but a least reinforcing existing ideas". Observing her own experience, she said that at some point, she tended to follow the idea of the SJW, without questioning it too much. "if you always read the same thing, it is really easy to loose one's intellectual rigour (…) the diversity of opinions is lost and it is really easy get into a niche".

In some cases, the newsfeed-generating algorithm appears to give a lot of important to easily identifiable ideological niches. For example, LP also observed that her newsfeed was amplifying her political stance by proposing her only left-leaning or far-left leaning news content. She also noticed that the most extremist point of views from "alternative" or "pseudo-revolutionary" websites were overrepresented. It was confirmed during the analysis by the clear emergence of a dissenting and revolutionary lexical camp could clearly be noticed in her newsfeed and described in Chapter 4.

On the contrary, the little space given to some news could minimise the perception of an event. LP mentioned as an example the recognition by the United States of Jerusalem as the official capital of Israel. LP said that she saw only a small article on her newsfeed and she would not have realised the significance and the impact of such a decision, "which may have geopolitical consequences for the next twenty years" only on the basis of the isolated news post she received.

In light of those results, the encoding/decoding sequence in the context of social media must be remodelled into a circular form, as a representation of true dialogic discourse between users and the newsfeed-generating algorithm.

7.3 The circularity of the Encoding/decoding process on Facebook

The specificities of decoding discussed in Section 7.2 suggest that Facebook users decode news posts and encode post-decoding responses. Therefore, it seems that the decoding moment observed in the context of Facebook may be redefined as a prosumption

decoding/encoding sequence in the context of a Facebook newsfeed. This prosumption decoding/encoding moment needs then to be integrated into a circular Encoding/Decoding model. This remodelling will serve to reconsider the question of whether Facebook is really a gateway to news.

7.3.1 Defining the decoding moment as prosumption decoding/encoding

The increased importance of the post-decoding responses within the context of Facebook leads to a need to challenge the concept of the decoding moment. Instead, it seems appropriate to speak about a prosumption decoding/encoding. This prosumption decoding/encoding moment needs to be compared with the original audience decoding as defined by Hall (1973b, 1980b).

7.3.1.1 Defining the prosumption decoding/encoding

The decomposition of the hermeneutical sequence of decoding discussed in Section 7.2 showed that when browsing their newsfeed, users first hyper-decode the news posts provided by the newsfeed-generating algorithm following a series of various processes to extract the meaning out of it. The action of hyper-decoding, systematically generates responses from users, that are registered by the social media platform. Those responses can be compared to an encoded message as they carry information regarding hyper-decoding. Therefore, what Hall used to call the "decoding moment", rather correspond to decoding/encoding moment.

This decoding/encoding moment will be called the prosumption decoding/encoding in order to differentiate it from the circulation decoding/encoding. Prosumption – a portmanteau term created from the fusion of producers and consumers – refers to the engagement of the consumers within the production processes (Toffler, 1970, 1980, 1990). In prosumption, users play an active role in the production process. They are "contributing not just the money but market and design information vital for the production process. Buyer and supplier share data, information, and knowledge" (Toffler,1990, p. 239). While the concept of "produsage" (Bruns, 2008, p.1) could have been used in the context of this study, Toffler's prosumption was preferred. Produsage – fusion of production and usage – refers to the participatory activity of media users as active content users and producers.

Both differ in the sense that prosumption includes a traditional dichotomy between professional corporate producer and individual consumer, while produsage does not conserve this distinction. In the context of Facebook, users are both "produsers" and "prosumers". They are produsers in the sense that they post, share and generate content on the platforms. They are also prosumers in the sense that their post-decoding responses, left voluntarily or not in the system, are used by the newsfeed-generating algorithm to circulate further content. However, as this study aims at understanding the articulation between the circulation process and the decoding process, the prosumption aspect has been highlighted rather than the produsage.

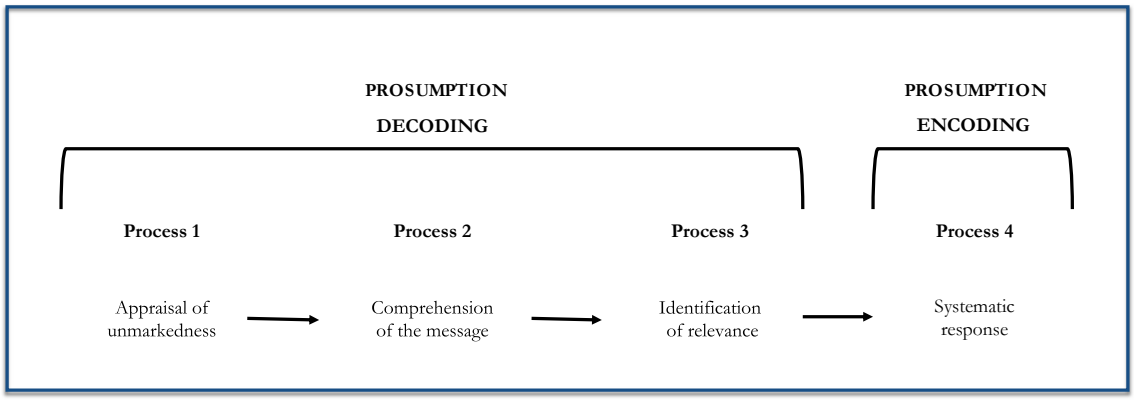

Figure 7.2. Prosumption decoding/encoding in the context of Facebook

7.3.1.2 Comparing Audience decoding and Prosumption decoding/encoding

The prosumption decoding/encoding moment may be compared to the audience decoding moment in the context of mass media in order to understand their similarities and their differences.

First, it is important to notice that the sequence of decoding/encoding during the reception moment is not specific to social media as decoding also triggers the encoding of a response in the context of mass media. Those were even materialised in the original modelling of Encoding/Decoding (1973b), under the form of a dashed line. Those were also mentioned, yet as "possible responses", by Morley (1992) in his decomposition of decoding into a set of processes. However, in Hall's later modelling (1980b), the dashed line materialising the audience's responses had disappeared and the modelling had become a horizontal

representation of two autonomous moments with no decoding feed-back. Such a choice may be justified the fact that in the context of mass media, those post-decoding responses were hazardous and left almost no traces accessible to the producer while, on Facebook, the encoding of a post-decoding answer is systematic. Therefore, in the context of social media, the act of decoding cannot be separated from the act of encoding a response, while in the context of mass media the act of encoding a response if often neglected.

The systematic post-decoding responses of users in the context of social media – in various forms: behavioural (e.g. time spent on a news post), verbal (e.g. comments) or network messages (e.g. sharing) – are a form of constant and visible signs of struggles over the meaning which contribute to make the choices of the newsfeed-generating algorithm evolve over time. The impact of the prosumption decoding/encoding on the circulation decoding/encoding seems thus to be stronger than the impact of audience decoding on producers in the context of mass media, where it was hardly measurable.

In return, users are not any longer unidentified members of an audience but identified produsers/prosumers located within their social network. This social situation provides a lot of information to the newsfeed-generating algorithm in order to predict their decoding, even if those predictions are not always accurate. On the contrary, in the context of mass media, producers did not get as much information on their audience.

In light of those conclusions, it appears that the circulation decoding/encoding and the prosumption decoding/encoding are intrinsically retrofeeding each other. Therefore, it is necessary to redefine the complete encoding/decoding sequence, taking into account this element of circularity between the prosumption decoding/encoding and the prosumption decoding/encoding.

Table 7.14. Comparing audience decoding and produsage decoding/encoding

	Mass media decoding	Facebook decoding/encoding
Actor	Unidentified members of an audience	Identified Produsers/prosumers
Visibility of the network	Low, the members of the audience are perceived as separated individuals	Links between produsers
Decoding autonomy	Yes	Yes
Decoding stances	3 hypothetical positions: ➢ Dominant position ➢ Negotiated code ➢ Oppositional code	3 positions ➢ Aligned decoding ➢ Negotiated decoding ➢ Misaligned decoding
Responses to decoded message	Mostly invisible to media producers	Systematic and simultaneously received by the newsfeed-generating algorithm
Types of post decoding responses	Unidentified feed-back	Behavioural messages Verbal messages Network messages
Struggle over meaning	Low	Constantly visible
Impact on encoding	Low	Constant via the systematic production of responses

7.3.1.3 The limitations of this study

Despite highlighting some characteristics of the prosumption decoding/encoding in the context of Facebook, this study includes a clear limitation: it could not demonstrate what kind of cultural and social factors were influencing participants' decoding and nor could it demonstrate what kind of factors were taken into account by the newsfeed-generating algorithm to predict how users would instantiate meaning. This limitation is due to two main methodological reasons. First, the observation of decoding focused on the hermeneutical sequence per se, rather than the factors influencing it. Second, it was chosen to circumvent Facebook's black box by focusing on the algorithmical rhetoric underpinning the circulation choices. However, this theoretical approach did not permit an understanding of what kind of social factors were taken into account to predict decoding.

Therefore, the results of this study do not facilitate any discussion regarding the factors influencing decoding. However, it was acknowledged that Hall's work on the structural factors influencing decoding were cricised by further scholarship. Fiske and Hartley (1978) suggest that decoding is rather influenced by personal experience than structural factors and the receiver is providing an individual framework of references to make a message meaningful. By contrast, David Morley (1980), in his empirical observation of how British audiences decode the TV program *Nationwide*, does not share Fiske and Hartley's conclusions. Morley considers that an arbitrary interpretation of the text is not possible, as the decoder is constrained by the text itself (Morley, 1980); his critical work shows that social conditions do not have a systematic and predictable influence on decoding. However, recent re-analysis of Morley's findings (Kim, 2004) using quantitative methods, shows that social factors influence individuals' decoding in quite consistent ways. This probably means that neither a fully structuralist view nor a culturalist conception of decoding as a free individual act is realistic. Decoding may be influenced by a broad range of factors, from structural characteristics to cultural practices; and, there is no certainty as to which factor or which combination can generate a specific interpretation, the causal relationship of those factors being only "probabilistic" (Morley, 1992, p. 125).

Such a limit may the object of a future work; however, in the context of this study, it does not constitute a real obstacle to modelling the encoding:decoding circuit in the context of Facebook.

7.3.2 Modelling the Encoding/Decoding circuit on Facebook

Hall's original Encoding/Decoding model may be adapted to the decoding of a news post on Facebook's newsfeed, by including the prosumption moment and the circulation moment as described in Chapter 5.

7.3.2.1 A circular process

In terms of news posts circulation on Facebook, the Encoding/Decoding may be remodelled as follows, including three different moments: production, circulation and presumption (see Figure 7.3 below).

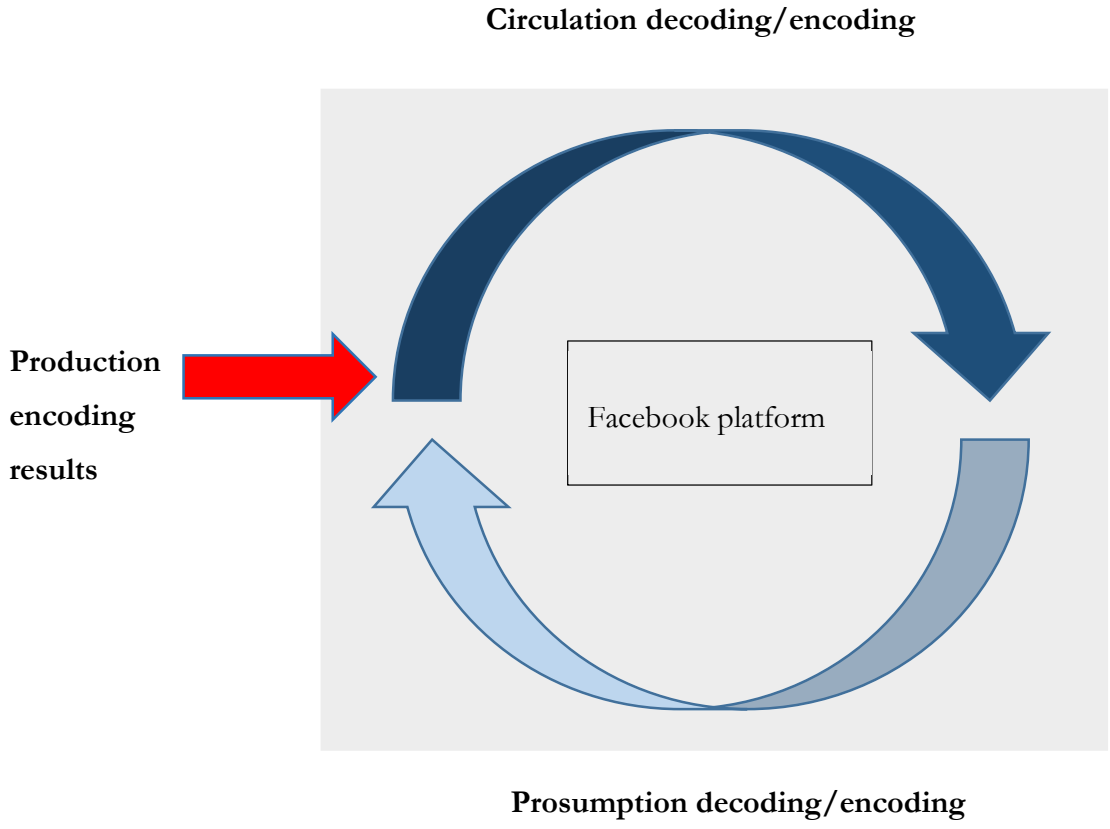

Figure 7.3. News Decoding/Encoding circuit on Facebook.

1) The first moment of this remodelling is the **production encoding/audience decoding/encoding**. It corresponds to the moments that will result in the creation of the news posts. First, following Hall's original Encoding/Decoding, a news content, created and distributed by a media producer, is decoded by the audience. This original news commodity will be transformed and encoded under the form of a news post to be shared on the social media platform, either by its original producer as part of encoding, or by the audience as a post decoding response.

   Several case scenarios are possible. First, the news producer publishes a news content directly on Facebook's platform just after producing it. This option concerns mostly video content, by embedding it within a news post. Alternatively, news content published on a different platform may be shared on Facebook in two different ways: either it can be shared directly by its original author, the news producer, or shared by a Facebook user. When news contents are shared on Facebook's platform by the news producers who authored them, those producers share a by-product of the encoded meaningful message they produce; that is to say there is a hyperlink towards the original news commodity, usually accompanied by primary paratexts. When news contents are shared on Facebook's platform by a user, it may be assumed that they have previously decoded the original news commodity and the sharing of it is a response to decoding the original news commodity. This response usually takes the form of a secondary paratext as the post status at the top of the news post, or the generation of a hyperlink that will automatically be turned into primary paratexts by the platform.

   An important aspect of this is that when the news content has been published on Facebook's platform, producers seem to lose control over its circulation and over the original meaning of their message, that may be lost during the circulation decoding/encoding.

2) The second moment is the **circulation decoding/encoding**. The newsfeed-generating algorithm first decodes all the message registred into the platform system. Those include the outputs of the production encoding/audience decoding published or shared on Facebook's platform (e.g. shared news post), as well as the

outputs of the **prosumption decoding/encoding** (e.g. stigmergies, shares, likes or comments). This decoded content can be divided into two categories: 1) the content that can be recirculated (e.g. news posts, shares, likes, contact tagging, comments, following a media page) and 2) the content that will be used to define each user's habits (e.g. time spent on a news, opening of a hyperlink, likes, comments).

The newsfeed-generating algorithm then re-encodes a selection of news posts, among those it has previously decoded, for each user following the algorithmic rhetoric described in Chapter 5. In others words, the newsfeed-generating algorithm selects for each user, among the content it has previously decoded, the news posts that are more susceptible to trigger an aligned decoding. This selection is made on the basis of the outputs of the prosumption decoding/encoding, which are used to predict how a user will decode news posts.

3) The third moment is **the prosumption decoding/encoding**. Produsers decode the news posts contained in their newsfeeds and extract the meaning out of its message form following the three processes defined in Section 7.2 above: appraisal of unmarkedness, comprehending the message, and identifying. During decoding, users systematically encode some responses. Those responses may be made consciously (e. g. likes, shares, comments, opening of a hyperlink) or unconsciously generated (e. g. indication regarding the time spent on a news post, disconnection from the newsfeed). All those responses are further decoded by the newsfeed-generating algorithm, and may be used for further circulation decoding/encoding, either to be recirculated to other users if some answers are visible, or as indications for further encoding.

7.3.2.2 Understanding Facebook's structure of dominance

While in the context of mass media, news producers established a structure in dominance, when news is circulating on Facebook, this structure in dominance is challenged by the centripetal force that is exercised by the social media platform on users and on news producers.

Facebook, as a social media platform where everyone can publish content, is intrinsically an heteroglossic environment. Heteroglossia, as defined in Chapter 5, corresponds to the diversity of coexisting voices, conveying different ideologies and rooted in distinct socio-cultural contexts (Bakhtin, 1994). Within this context, users by their prosumption decoding/encoding are "centrifugal forces" pushing the barriers of the language and struggling over the meaning. However, Facebook's newsfeed-generating algorithm centralises them, decodes them and re-encodes them to ensure their unification. In doing so, it plays the role of the "centripetal force", "working towards concrete verbal ideological unification and centralisation, which develop in vital connection with processes of socio-political and cultural centralization" (Bakhtin, 1994, p. 74). Therefore, in that same process the newsfeed-generating algorithm seems to clearly impose what Hall calls a dominant cultural order as its "imposes its classifications of the social and cultural and political world". (Hall, 1980b, p. 134).

As the newsfeed-generating algorithm does not create content but aggregates already existing content produced by others, this centripetal process to impose ideologies is done via the use of "discourse" (Pêcheux, 1975). The notion of discourse grabs what Saussure's (1916) dichotomy between "langue" - a system of signs and grammar rules, conventionally accepted and used by a linguistic community - and "parole" - the individual and subjective realisation of langue - was unable to capture: the intermediate level between the universality of langue and the individuality of parole. When an addresser formulates a message to an addressee, this uses "discourse structures" that reflect the "conditions of production". In other words, the addressee uses a semantic corpus, which reflects the socioeconomic position of the latest user and of the addresser within the relevant context of situation: "Economic, institutional and ideological factors are ultimately tied to a locus occupied by an individual in the social structure. These factors constitute the conditions of production of the individual's discourses and the condition of the interpretations of those he receives. Through these conditions of production, the range and type of positions an individual can adopt are determined" (Henry, 1971, p. 81). Therefore, the meaning of words changes when they pass from a discursive formation to another (Williams, 1999).

Therefore, what the newsfeed-generating algorithm does is to control those conditions and predict the relationship between users and the sender of news posts, in order to ensure an aligned interpretation of meaning. In other words, Facebook works on the 'representation'

of the imaginary relation of individuals to other Facebook users (individuals or news media publishing on the platform). This observation echoes Althusser's (1994) definition of ideologies as "'representation' of the imaginary relation of individuals to their real conditions of existence" (p. 123).

7.3.2.3 Facebook as an alternative ideological apparatus

Therefore, Facebook, as it plays on discourses and its users' ideological representations, is certainly modelling an ideological order. Ideologies, in this context, deals with a representation of the world and can be "manifested in the conception and expressions of everyday life" (Thompson, 1983, p. 213). Those "are not made up 'ideas' but of practices" (Pêcheux, 1994, p. 142). The content of an ideology and its strength are shaped by the existence of 'subjects' who recognise themselves within the power representations defined by the ideology. As part of its realisation, there's a struggle among different forces. Therefore, through circulation, Facebook's ideology is realised and realises itself when representing its users and users generates post-decoding responses as part of a "struggle over the meaning".

Therefore, it might be tempting to compare Facebook to an "ideological state apparatus" (Althusser, 1994, p. 109). Althusser's concept, influenced by a Marxist vision of historical materialism, refers to institutions, among them media companies, that contribute to reproducing existing relations of productions in a society and to transform them via the use of an ideology. However, following Lovink (2016), "to qualify Facebook and Google as falling within the Althusserian definition of 'ideological state apparatus' sounds odd, if not exotic. In this era of late neoliberalism and right-wing populism, ideology is associated with the market, not with the state, which has withdrawn into the role of merely securing the market". Therefore, Facebook may be simply called an ideological apparatus.

However, Facebook as an ideological apparatus presents a specificity. When encoding messages for the users, the newsfeed-generating algorithm tries to understand where users represent themselves with respect to others users, media companies and news content. In other words, it tries to understand users' main representation of society and ideological framework. Therefore, instead of being an ideological apparatus, Facebook rather appears to be a meta-ideological apparatus, promoting a meta-dominant cultural order – that is, a

body of ideological rules that encompasses other ideological representations (Heywood, 2004).

7.4 Conclusion

The observation of the participants' decoding practices provided an answer to the main question of this thesis: To what degree does the circulation process affect how social media users decode news content and its outcomes? The answer is that users preserve their capacity to choose not to align with the preferred meaning chosen by the newsfeed-generating algorithm the use of a specific rhetoric to orientate users' decoding.

Participants appeared to hyper-decode news posts in three steps: appraisal of unmarkedness, comprehension of the message, and identification of relevance. During the appraisal of unmarkedness, users evaluate if a news post convey either an aligned code, a partially aligned code or a misaligned code. Hyper-decoding appeared to be inseparable from a process of encoding post-decoding responses. Depending on the outcomes of each hyper-decoding process, participants appeared to generate post-decoding responses. Those are systematic, diverse and registered by Facebook. They correspond to a systematic feed-back on the newsfeed-generating algorithm circulating choices, under the form of a dialogic discourse. Therefore, the idea of a 'decoding moment' did not seem to be adapted to decoding news posts on Facebook's newsfeed. Instead, it appeared suitable to interpret and conceive the decoding moment as a prosumption decoding/encoding moment.

The prosumption decoding/encoding moment seems to create a circular circuit with the circulation decoding/encoding moment. Within this loop, the news production moment appears to be isolated. Once news posts are published onto the platform, it seems that the news producer completely loses control over it and the newsfeed-generating algorithm transforms and encodes it over and over, integrating produsage feedback.

In this circular modelling, the newsfeed-generating plays a centrifugal force and seems to canalise or channel the inherent produsage heteroglossia within the social media platform. In doing so, it imposes a dominant code without appearing to do so. However, this dominant cultural order presents a specificity: it can be compared to a meta-ideology as it

encompasses other ideological representations for its users. Therefore, Facebook can be called a meta-ideological apparatus.

CHAPTER 8 – Conclusion

8.1 Concluding summary

It is appropriate at this stage to restate what has been covered in this study. At the outset, three main expected outcomes were introduced:

1) Reassessing the conclusions drawn from Hall's Encoding/Decoding model regarding the importance of the interpretative work of the decoder.

2) Examining the nature and the function of the meaning added during the circulation process on Facebook's newsfeed and appraising the algorithmic rhetoric underpining the management of circulation.

3) Identifying the decoding sequence applicable to news content on Facebook's newsfeeds

In addressing these areas, this study has been divided into three parts:

Part I – Presenting the research project

Part II – Encoding and circulation

Part III – Circulation & decoding

In Part I – which is composed of Chapters 1, 2 and 3 – it was demonstrated why it was necessary to reassess one of the models most widely discussed models of media effect studies, Stuart Hall's Encoding/Decoding model (1973b, 1980b) in the context of news circulation on social media. In Chapter 1, the chronology of the emergence of social media, among them Facebook, as major gateways to news during the past 15 years was detailed.

From 2011 to 2016, the dazzling ascent of social media in the news market seemed to be unstoppable. However, their key role in circulating news-stories and fake-news during the Brexit referendum (June 2016) and the 2016 US presidential election (November 2016), and their alleged impact on the outcomes of those events dampen their ascent led to a reconsideration of their role within the social media ecology. Since then, their growth as a gateway to news has stopped, and Facebook has resolved to step back from the news circulation by repeatedly changing its algorithm to favour the circulation of personal contents over news posts.

The emergence of social media platforms has transformed the news ecology in a sustained way and in all aspects: news production, news circulation and news consumption habits. By creating free and easily accessible platforms of publication, social media removed the bottleneck of access to media communication. Journalists lost their monopoly on news production and news circulation. Social media also metamorphosed news consumption by converting mass media audiences into social media "produsers" (Bruns, 2008, p. 1), where users are both content producers and consumers. While this change of paradigm was first considered with optimism, concerns quickly emerged about the possible effects of social media, especially the possibility of ideological diffusion without the appearance of it happening. Therefore, it has become necessary to tackle those critical concerns regarding the possible media effects of social media.

In order to tackle those issues, the reassessment of Hall's Encoding/Decoding conclusions in the context of the rise of social media appeared necessary. Hall's ground-breaking work demonstrated, drawing from the Marxist perspective, that media do establish a complex structure in dominance that may inform the perception of the audience. However, those media effects are not systematic on the audience because its members, depending on their cultural and social background, can either accept, negotiate or reject the preferred meaning put forward by media producers when interpreting the media message.

In Chapter 2, the existing scholarship that could contribute to reassessing Hall's Encoding/Decoding model in the context of the decoding of news posts on Facebook's newsfeeds was reviewed. The specificities of the news circuits in the context of mass media were described, starting with the encoding moment. News production corresponds to the transformation of an event into a meaningful message. The choice of what events are

newsworthy and the ways of transforming them into a meaning message reflect the newsmakers' habitus – that is to say, the set of cultural, social, economic and political values used to interpret the world. By spreading their habitus through news, newsmakers have symbolic power and thus they may impact how their audiences interpret the world. Newsmakers' habitus tends to reflect a dominant-hegemonic order, as mass media are controlled by dominant classes. However, during news consumption, the audience plays an active role in translating meaning out of this message form and, depending on their social cultural background, its members may apply to it a different set of ideological values. In such cases, the non-polysemous denotational meaning of the message will be conserved but the audience might give it a completely or partially different interpretation. Therefore, there is no systematic media effect.

To this traditional encoding/decoding sequence, social media adds a circulation moment, between the news production encoding and the news decoding. The circulation moment on social media has three characteristics:

> 1) The process of circulation is automated via the use of an algorithm. The completion of circulation by algorithms and the apparent absence of human intervention during the process makes it almost imperceptible and gives the impression that this process may be neutral, which it is not. This impression is reinforced by the fact that little is known about the functioning of algorithms, as their technical complexity makes them inherently opaque and their functioning is closely guarded for commercial purposes.
>
> 2) The process of circulation is personalised down to the scale of the individual. It produces a personalised selection of content for each user according to the users' preferences, which are defined via the observation of users' previous behaviours on the platform through the web-stigmergies they generate.
>
> 3) The circulation moment also generates meaning, which can take two forms. The first form of meaning is invisible and is realised by the circulation choices made by the algorithm. The second is visible and comprises the addition of traces of past circulation in the original message. This additional meaning seems to imperceptibly

carry different ideologies than the original news content. However, the content of the ideology is undefined because algorithms are opaque.

Therefore, the addition of the circulation moment between the encoding moment, when a news content is produced by a news producer, and the decoding moment, when Facebook users decode a news posts, raises some questions regarding the nature of the meaning generated during the circulation process and the logic behind it first, and, second, its possible impact on how users decode those circulation messages.

In Chapter 3, the qualitative methodology designed to answer those questions was developed and described. Considering that the aim of the study was to reassess Hall's Encoding/Decoding model, both the constructionist epistemology and the theoretical perspectives combining culturalism with structuralism underpinning the original model were adopted. Within this theoretical framework, an ethnographic observation and a semiotic analysis were conducted. A series of in-depth, semi-structured interviews with a "guided tour" were undertaken with a purposeful sample of seven young people who were either journalists or journalism students. Two types of data were collected: 1) 'circulation data' (screen-recording made during the guided tours) providing information regarding what Facebook's newsfeed-generating algorithm had selected for each participant and how meaning was created through this selection, and 2) 'decoding data' (interviews and observation during the guided tours) showing how participants were decoding news posts in the context of their newsfeed. The 'circulation data' were coded automatically with an automated semantic tagger in order to recreate an algorithmic logic and processed through a multimodal analysis in order to highlight recurrent meaning patterns and to understand how meaning is created via circulation. The 'decoding data' were manually coded and a thematic analysis was conducted in order to point out recurrent decoding patterns.

Part II (Chapters 4 and 5) focused on examining how meaning was created during the circulation moment and on understanding the purpose behind the circulation process. The circulation moment was then conceptualised as a decoding/encoding sequence as within the encoding/decoding process.

In Chapter 4, the 'circulation data' were analysed. In the first instance, the newsfeeds of the participants were studied to understand what kinds of news posts were selected for each

participant. Within each newsfeed, the selection of news posts appeared to be extremely homogeneous and the news posts seeming to be linked by 'horizontal intertextual' links. Six forms of horizontal intertextual links were identified: language, network, mode, topic, semantic, and style. Therefore, it seemed that the newsfeed aimed to recreate a context of culture – that is to say, broad cultural settings in which the communication takes place. After studying the newsfeed as a unit of meaning, a multimodal analysis of news posts was performed to understand the specificities of their design and how they carry meaning. Several characteristics were pointed out. First, news posts appeared to be composed of paratexts, linked to a referent text – the original news content. Second, those paratexts demonstrate the specificity to be 'vertical intertextual': they are from different authors and represent different levels of textuality with regard to the referent news contents (e.g. direct complements to the news content, interpretation of the original news content, comments on the interpretation). Third, those paratexts provide different types of information regarding their referent text: topical information telling what the referent text is about; 'personal ties' linking the referent text with the users' personal network; information regarding the author of the news content; and 'social proof' showing how the news posts was appraised by other users. Therefore, taken together, those paratexts appeared to fulfil the three metafunctions of the language: textual, ideational and interpersonal. In doing so, they seem to create a context of situation for the message – they define the direct circumstances of the communication (who is involved, what is going on, what is actually said). Fourth, despite being composed of paratexts, news posts appeared to have a low transitional power and the gateway towards the original news content they are supposed to create seemed to be very limited, challenging the assumption that Facebook is a gateway to news.

In Chapter 5, two mains arguments were discussed: 1) the algorithmic rhetoric underpinning the contextualisation created by the newsfeed-generating algorithm described in Chapter 4; and, 2) the nature of the circulation moment as an automated decoding/encoding sequence. First, the contextualising meaning described in Chapter 4, was apprehended in terms of the Aristotelian rhetoric triptych: ethos, logos, pathos. It seems that the newsfeed-generating algorithm, as an ethos, uses the web-stigmergies left by users on the platform to predict how those may instantiate meaning in certain situation types; that is, it anticipates what meaning users are likely to choose in an eventual situation of communication on the basis of their previous behaviours onto the system. Therefore,

the newsfeed-generating algorithm recreates situation types via the logos. Those situation types are recreated through the settling of a context of culture via the horizontal intertextual newsfeed, and the definition of a context of situation via the aggregation of vertical intertextual paratexts within each news posts. Consequently, the contextualisation of the logos aims to imperceptibly direct the user's decoding towards a preferred meaning. Second, this algorithmic rhetoric accordingly suggests that the circulation moment may be defined as a circulation decoding/encoding sequence. The newsfeed-generating algorithm seems to, in a first instance, decode news contents and web-stigmergies, and in a second instance, encode those news-contents with the web-stigmergies for further circulation to users. Contrary to the traditional production encoding, this circulation decoding/encoding is characterised by the fact that it is almost imperceptible due to the absence of human intervention and to the fact that the algorithm does not author any textual message. Furthermore, the algorithm encodes the news post on the basis of tangible data and constantly evolves in order to improve its predictions.

Part III – composed of Chapters 6, 7 and 8 – focused on the decoding practices of the participants in order to understand the hermeneutical sequence of decoding followed by users when decoding news posts and to assess in which measure the circulation encoding/decoding impacts the outcomes of decoding. The analysis of the 'decoding data' in Chapter 6 showed that participants, when decoding news posts in the context of their newsfeed, followed a sequence of four processes: 1) appraisal of unmarkedness; 2) comprehension of the message; 3) identification of relevance; and 4) post-decoding responses. The appraisal of unmarkedness corresponds to an early process of interpretation, during which participants appraised if the values carried by the message were matching their own set of values and seemed coherent in the context of their newsfeed. At the end of this process, a news post may be unmarked (justified in the context of the newsfeed); partially marked (users can understand why the news post has been selected but does not share its values); or marked (undesirable in the context of the newsfeed). If the content is identified as marked (which rarely happens), participants tended to fully read the referent news content to confirm their appraisal and to report it. When the content was partially marked, they tended to be upset but move on to another news post without reporting it. If the content was unmarked, they moved on to the second process of decoding, the comprehension of the message, which consists of extracting the denotational meaning out of the message. In most cases, the comprehension appeared to

be easy enough to occur with the elements of the news post. However, on occasions when the comprehension was not satisfied with the elements contained in the news post, participants tended to have a look at the referent news content. After comprehending the message, they tended to evaluate its relevance to determine if they wanted to allocate more resources to it. Depending on the forms of relevance carried by the news posts, different post-decoding responses were triggered (e.g. opening the hyperlink contained in the news post, liking, sharing, commenting, moving on to the news post, etc.). Those post-decoding responses appeared to be systematic and varied.

In Chapter 7, the specificities of the decoding sequence were interpreted and discussed. Two main specificities of decoding emerged. First, participants appeared to hyper-decode their newsfeeds – that is to say, they decoded a large amount of content in a very short period of time. In order to do this, they filtered the content and this filtering passed by an early interpretation of the ideological aspects of the news post content. This interpretation was characterised by the fact that its outcomes were defined with regard to the decoder's position. Participants considered the news post as unmarked and aligned with their sets of values, partially marked and aligned, or marked and misaligned; in the context of mass media however, the decoding position would be defined by the position of the decoder with regard to the dominant code. The second specificity of the decoding sequence dwelt in the systematic and varied character of the post-decoding responses. At the end of the decoding process, participants systematically generated a post-decoding response. Those responses were either conscious (e. g. likes, shares, comments) or unconscious (e. g. browsing down their newsfeed, interrupting a video), and they carried information regarding the decoding position adopted by the users. Those are all recorded by Facebook. Therefore, decoding in the context of Facebook's newsfeeds appears to be a dialogic discourse, in which users not only decode a news post but also encode a response to the algorithm's choices. Therefore, it seems more appropriate to talk about a prosumption decoding/encoding moment, rather than a decoding moment.

The redefinition of the circulation decoding/encoding and the prosumption decoding/encoding processes leads to the adaptation of Hall's original Encoding/Decoding model into a three-moment model comprised of production, circulation and prosumption. The production moment corresponds to the original encoding/decoding model, when the news content is produced by a news producer and

decoded by the audience. From this process, a news content may either be published on Facebook by the news producer after the production encoding moment, or it can be shared on Facebook by a member of the audience after the decoding moment. Once the news content is published on Facebook, it undergoes the circulation decoding/encoding. The newsfeed-generating algorithm decodes the news content and re-encodes it in a personalised way, in order to recirculate it to its users. When users connect to their Facebook newsfeeds and get those news posts encoded by the newsfeed-generating algorithm, the prosumption decoding/encoding moment begins. Users decode the news post and, depending on the outcome of the decoding, they encode a post-decoding response. This response is decoded by the newsfeed-generating algorithm and may be used to encode further news posts. Therefore, prosumption encoding/decoding creates a circular loop with the circulation decoding/encoding.

Within that circular loop, prosumption decoding/encoding appears to be a centrifugal force showing social, cultural and historical heteroglossia, while the newsfeed-generating algorithm creates a centripetal force towards ideological unification and centralisation. This centripetal force, characterised by its imperceptibility, promotes Facebook's cultural order. This cultural order presents the specificity to be meta-ideological, that is to say to create a space where other ideologies can be expressed. Therefore, Facebook appears to be a meta-ideological apparatus.

8.2 Directions for future research

This research has provided an overarching view of the encoding/decoding circuit in the context of news circulation on Facebook's newsfeed. In the drawing of this big picture, some directions for future research have emerged.

The first area for future research would consist in confirming the results obtained during this study by conducting a research on how post-decoding responses may inform further circulation. This study has conceptualised the articulation between circulation and produsage, via a snapshot of circulation and produsage at a defined moment in time. However, long-term observations may highlight the extent to which post-decoding responses modify the newsfeed-generating algorithm's encoding choices. Combining a long-term (longitudinal) journaling of the post-decoding responses with journaling of the

news posts selected for a pool of participants may provide in-depth qualitative insights into the links between both. However, such results may be influenced by the past browsing histories of the participants. Therefore, this journaling might be combined with the creation of 'dummy profiles', with no browsing history, in order to see what the newsfeed-generating algorithm might spontaneously put forward at the beginning, and how its news posts selection might develop and evolve over time. The use of these so-called dummy accounts would allow researchers to carefully control the post-decoding responses and to measure their impact. This would also show what news posts are put forward by the newsfeed-generating algorithm when no browsing history is provided and, consequently, reveal the algorithm's ideological choices when they are not modified by centrifugal heteroglossic voices.

Second, as pointed out in Section 7.3.1.3, this study presents a clear limit: it could not demonstrate what kind of cultural and social factors were influencing participants' decoding nor it could demonstrate what kind of factors were taken into account by the newsfeed-generating algorithm to predict how users would instantiate meaning. Therefore, it would be interesting to continue in this direction and to study those factors, replicating a study similar to the Nationwide audience (Morley, 1980), in the context of Facebook.

A third pointer for further researcher may consist in observing decoding practices in other social media. During the interviews, the participants often mentioned Twitter as an important gateway to news. They tended to say that, as Twitter was not as private as Facebook, they tended to be more tolerant towards the presence of marked content in their Twitter feed. Therefore, Twitter's hyper-decoding sequence may be different from Facebook's and the appraisal of unmarkedness may not constitute the first process of the sequence.

Finally, during the interviews, all the participants mentioned the videos of the media companies Brut and Konbini. Both were considered as extremely appealing for the participants, who said that they would always stop to watch their videos. Conducting a multimodal analysis of those videos would be interesting in order to highlight their specificities and to understand why they appeared to be so attractive for young journalists, even when they said that they were not interested in the actual video content.

8.3 Applications of this study

In addition to the research contribution, this study may have several applications, regarding journalism and legal issues. First, it may lead to a reconsideration of the actual links between media organisations and their use of Facebook. As mentioned in Chapter 1, Facebook has long been considered a major gateway to news. However, this affirmation seems to be challenged by this study. News articles may be opened but users barely read them. Therefore, the link between both may need to be reconsidered. A first step would be to work on the composition and optimisation of the news post presentations. News media may consider the possibility of increasing their presence on the main salient points of the news posts, namely, the central pictures and the upper-left corner. Second, within those salient points, the materialisation of the hyperlink may increase the transition power of the news post.

In addition to practical journalistic applications, the conclusions of this study may have some legal applications regarding the responsibilities of social media in society. While news producers tend to be subjected to strict regulations and strong codes of ethics, social media remains relatively unregulated. Sometimes, existing laws or jurisprudences seem to demonstrate a lack of understanding of how social media platforms work. For example, in Australia, the New South Wales Supreme Court ruled in June 2019 that media organisations were liable for defamatory comments made by third parties on their public Facebook pages. The case was made after Dylan Voller, a former detainee in a detention centre for underage youth in the Northern Territory, sued three prominent media organisations over a series of claims made on the comment section of Facebook posts. In light of the findings of this study, such a jurisprudence reveals a lack of understanding of social media functioning for several reasons. Firstly, while it suggests that Facebook news posts and their comments are the responsibility of the media company, to the contrary, this study suggests that comments are the products of circulation rather than production and, that therefore, social media users and social media should be held accountable instead of the news organisation.

8.4 Final comments

In the study, the three outcomes proposed in the introduction have been fulfilled.

1) The nature and the function of the meaning created during the automated circulation process on Facebook's newsfeed was detailed. It appeared that, despite the fact that the newsfeed-generating algorithm does not generate any textual message, meaning is created during the circulation process through the contextualisation and the aggregation of existing message. Therefore, it may be said that the newsfeed-generating algorithm encodes users' newsfeeds and news posts; and, in doing so, it creates a new cultural order, different from the one of mass media, which justifies the critical concerns regarding the risk of "social industry" (Sandvig, 2015, p.4).

2) However, despite the sophistication of the circulation process, media effects on Facebook users may not necessarily be increased as users play an active role in interpreting messages and preserve their capacity to choose a non-aligned code. Beside this, the fact that they systematically generate a post-decoding response when decoding reinforces their visibility in the struggle over the meaning to shape Facebook's cultural order.

3) Therefore, Hall's original Encoding/Decoding was refined into a three moments sequence including production, circulation and prosumption.

In addition to those three expected outcomes, two other conclusions came to light. First, Facebook could be defined as a meta-ideological apparatus, as it promotes a cultural order in which other ideologies are promoted to satisfy its users' presumed needs. Second, At the beginning of this study, it was taken for granted, from existing scholarship, that Facebook was a gateway to news. However, the low transitional power of the news posts, the quaternary meaning its puts forward and the fact the participants barely used Facebook as an actual gateway, seems to challenge this assumption.

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Appendix A – USAS Tagset (Rayson, 2008)

Available on http://ucrel.lancs.ac.uk/usas/

A GENERAL & ABSTRACT TERMS
A1 General
A1.1.1 General actions, making etc.
A1.1.2 Damaging and destroying
A1.2 Suitability
A1.3 Caution
A1.4 Chance, luck
A1.5 Use
A1.5.1 Using
A1.5.2 Usefulness
A1.6 Physical/mental
A1.7 Constraint
A1.8 Inclusion/Exclusion
A1.9 Avoiding
A2 Affect
A2.1 Affect: Modify, change
A2.2 Affect: Cause/Connected
A3 Being
A4 Classification
A4.1 Generally kinds, groups, examples
A4.2 Particular/general; detail
A5 Evaluation
A5.1 Evaluation: Good/bad
A5.2 Evaluation: True/false
A5.3 Evaluation: Accuracy
A5.4 Evaluation: Authenticity
A6 Comparing
A6.1 Comparing: Similar/different
A6.2 Comparing: Usual/unusual
A6.3 Comparing: Variety
A7 Definite (+ modals)
A8 Seem
A9 Getting and giving; possession
A10 Open/closed; Hiding/Hidden; Finding; Showing
A11 Importance
A11.1 Importance: Important
A11.2 Importance: Noticeability
A12 Easy/difficult
A13 Degree
A13.1 Degree: Non-specific
A13.2 Degree: Maximizers
A13.3 Degree: Boosters
A13.4 Degree: Approximators
A13.5 Degree: Compromisers
A13.6 Degree: Diminishers
A13.7 Degree: Minimizers
A14 Exclusivizers/particularizers
A15 Safety/Danger

B THE BODY & THE INDIVIDUAL
B1 Anatomy and physiology
B2 Health and disease
B3 Medicines and medical treatment
B4 Cleaning and personal care
B5 Clothes and personal belongings

C ARTS & CRAFTS
C1 Arts and crafts

E EMOTIONAL ACTIONS, STATES & PROCESSES
E1 General
E2 Liking
E3 Calm/Violent/Angry
E4 Happy/sad
E4.1 Happy/sad: Happy
E4.2 Happy/sad: Contentment
E5 Fear/bravery/shock
E6 Worry, concern, confident

F FOOD & FARMING
F1 Food
F2 Drinks
F3 Cigarettes and drugs
F4 Farming & Horticulture

G GOVT. & THE PUBLIC DOMAIN
G1 Government, Politics & elections
G1.1 Government etc.
G1.2 Politics
G2 Crime, law and order
G2.1 Crime, law and order: Law & order
G2.2 General ethics
G3 Warfare, defence and the army; Weapons

H ARCHITECTURE, BUILDINGS, HOUSES & THE HOME
H1 Architecture, kinds of houses & buildings
H2 Parts of buildings
H3 Areas around or near houses
H4 Residence
H5 Furniture and household fittings

I MONEY & COMMERCE
I1 Money generally
I1.1 Money: Affluence
I1.2 Money: Debts
I1.3 Money: Price
I2 Business
I2.1 Business: Generally
I2.2 Business: Selling
I3 Work and employment
I3.1 Work and employment: Generally
I3.2 Work and employment: Professionalism
I4 Industry

K ENTERTAINMENT, SPORTS & GAMES
K1 Entertainment generally
K2 Music and related activities
K3 Recorded sound etc.
K4 Drama, the theatre & show business
K5 Sports and games generally
K5.1 Sports
K5.2 Games
K6 Children's games and toys

L LIFE & LIVING THINGS
L1 Life and living things
L2 Living creatures generally
L3 Plants

M MOVEMENT, LOCATION, TRAVEL & TRANSPORT
M1 Moving, coming and going
M2 Putting, taking, pulling, pushing, transporting &c.
M3 Movement/transportation: land
M4 Movement/transportation: water
M5 Movement/transportation: air
M6 Location and direction
M7 Places
M8 Remaining/stationary

N NUMBERS & MEASUREMENT
N1 Numbers
N2 Mathematics
N3 Measurement
N3.1 Measurement: General
N3.2 Measurement: Size
N3.3 Measurement: Distance
N3.4 Measurement: Volume
N3.5 Measurement: Weight
N3.6 Measurement: Area
N3.7 Measurement: Length & height
N3.8 Measurement: Speed
N4 Linear order
N5 Quantities
N5.1 Entirety; maximum
N5.2 Exceeding; waste
N6 Frequency etc.

O SUBSTANCES, MATERIALS, OBJECTS & EQUIPMENT
O1 Substances and materials generally
O1.1 Substances and materials generally: Solid
O1.2 Substances and materials generally: Liquid
O1.3 Substances and materials generally: Gas
O2 Objects generally
O3 Electricity and electrical equipment
O4 Physical attributes
O4.1 General appearance and physical properties
O4.2 Judgement of appearance (pretty etc.)
O4.3 Colour and colour patterns
O4.4 Shape
O4.5 Texture
O4.6 Temperature

P EDUCATION
P1 Education in general

Q LINGUISTIC ACTIONS, STATES & PROCESSES
Q1 Communication
Q1.1 Communication in general
Q1.2 Paper documents and writing
Q1.3 Telecommunications
Q2 Speech acts
Q2.1 Speech etc: Communicative
Q2.2 Speech acts
Q3 Language, speech and grammar
Q4 The Media
Q4.1 The Media: Books
Q4.2 The Media: Newspapers etc.
Q4.3 The Media: TV, Radio & Cinema

S SOCIAL ACTIONS, STATES & PROCESSES
S1 Social actions, states & processes
S1.1 Social actions, states & processes
S1.1.1 General
S1.1.2 Reciprocity
S1.1.3 Participation
S1.1.4 Deserve etc.
S1.2 Personality traits
S1.2.1 Approachability and Friendliness
S1.2.2 Avarice
S1.2.3 Egoism
S1.2.4 Politeness
S1.2.5 Toughness; strong/weak
S1.2.6 Sensible
S2 People
S2.1 People: Female
S2.2 People: Male
S3 Relationship
S3.1 Relationship: General
S3.2 Relationship: Intimate/sexual
S4 Kin
S5 Groups and affiliation
S6 Obligation and necessity
S7 Power relationship
S7.1 Power, organizing
S7.2 Respect
S7.3 Competition
S7.4 Permission
S8 Helping/hindering
S9 Religion and the supernatural

T TIME
T1 Time
T1.1 Time: General
T1.1.1 Time: General: Past
T1.1.2 Time: General: Present; simultaneous
T1.1.3 Time: General: Future
T1.2 Time: Momentary
T1.3 Time: Period
T2 Time: Beginning and ending
T3 Time: Old, new and young; age
T4 Time: Early/late

W THE WORLD & OUR ENVIRONMENT
W1 The universe
W2 Light
W3 Geographical terms
W4 Weather
W5 Green issues

X PSYCHOLOGICAL ACTIONS, STATES & PROCESSES
X1 General
X2 Mental actions and processes
X2.1 Thought, belief
X2.2 Knowledge
X2.3 Learn
X2.4 Investigate, examine, test, search
X2.5 Understand
X2.6 Expect
X3 Sensory
X3.1 Sensory: Taste
X3.2 Sensory: Sound
X3.3 Sensory: Touch
X3.4 Sensory: Sight
X3.5 Sensory: Smell
X4 Mental object
X4.1 Mental object: Conceptual object
X4.2 Mental object: Means, method
X5 Attention
X5.1 Attention
X5.2 Interest/boredom/excited/energetic
X6 Deciding
X7 Wanting; planning; choosing
X8 Trying
X9 Ability
X9.1 Ability: Ability, intelligence
X9.2 Ability: Success and failure

Y SCIENCE & TECHNOLOGY
Y1 Science and technology in general
Y2 Information technology and computing

Z NAMES & GRAMMATICAL WORDS
Z0 Unmatched proper noun
Z1 Personal names
Z2 Geographical names
Z3 Other proper names
Z4 Discourse Bin
Z5 Grammatical bin
Z6 Negative
Z7 If
Z8 Pronouns etc.
Z9 Trash can
Z99 Unmatched

Appendix B – Advertising the research on Facebook

Example of the post published on the group of the journalism school CELSA- Paris IV in Octobre 2017. Similar posts were also published in the Facebook groups for French Journalists: Journalistes et Pigistes Francophones, Réseau Journalistes et Médias: offres d'emplois, de piges et de collaborations.

English Translation

I am a PhD candidate at the University of Technology, Sydney and I am conducting research into news offer customisation on Facebook and would welcome your assistance in advertising my research to recruit some participants among your students. For the purpose of my research, I am looking for participants that fulfil the four following criteria:

- Be a Facebook user, who has a personal Facebook account and is active on the social network, sending messages and regularly browsing your timeline;

- Be a native French speaker, live in France and communicate mostly in French on your Facebook profile;

- Be between 18 and 24 years of age.

- Follow at least one traditional mass media (such as newspapers) on Facebook.

The research will involve online observation of Facebook activity as well as in-depth interviews. It should take no more than an hour of their time.

This research has been funded by the University of Technology Sydney.

If you are interested in helping me advertising it, I would be glad if you would contact me by mail marie.palmer@uts.edu.au or by phone: +61 406 951 519 or my supervisor, Dr. Terry Royce at terry.royce@Uts.edu.au ; phone number: +61 2 9514 2485.

You are under no obligation to participate in this research.

Appendix C - Semi-structured interviews orientative guideline in French and its translation to English

(Original French version) Interviews semi-structurées (Durée approximative: une heure)

Introduction (5min)

- ✓ Signature du formulaire de consentement
- ✓ Rappel des précautions éthiques
- ✓ Lancement des enregistrements

PART I. Comment ? Question générales concernant ton utilisation de Facebook

- ✓ Combien de fois par jour/ semaine te connectes-tu à Facebook? (estimation du temps passé sur Facebook)
- ✓ Sur quel appareil? (iPad, iPhone, PC)
- ✓ Cela fait-il une différence?
- ✓ Ton comportement change-t-il en fonction de l'appareil sur lequel tu te trouves ?
- ✓ Ton comportement change-t-il en fonction de l'endroit/ situation où tu te trouves ?
- ✓ Remarques-tu une différence dans l'offre de ton Newsfeed ?
- ✓ Si oui, cette offre différente, vous semble-t-elle liée à votre comportement ?

PART 2. Pourquoi ? Questions concernant les raisons qui te poussent à utiliser Facebook

Part 2.1. Pourquoi utilises-tu Facebook ?

- ✓ A quelles fins utilises-tu ton profil Facebook? (professionnelles, personnelles)?
- ✓ Que fais-tu sur Facebook?

Part 2.2. Questions concernant la composition de ton réseau

- ✓ Qui compose ton réseau ?
- ✓ Peut-on dire qu'il est homogène ?
- ✓ Partages-tu une culture commune avec eux ?
- ✓ Adaptes-tu tes posts aux gens qui le composent ?
- ✓ A partir de la composition de ce même réseau, penses-tu qu'il soit possible de deduire beaucoup d'information te concernant tels que tes centres d'intérêt, tes déplacements géographiques, etc?
- ✓ Cela change-t-il ton comportement ?

Part 2.3. Question concernant ton profil Facebook

- ✓ Quelle image souhaites-tu donner à travers de ton profil?
- ✓ Considères-tu que cette image correspond à tes goûts?
- ✓ Certains de tes centres d'intérêts sont-ils passés sous silence dans ton profil facebook?

Part 3. Facebook et l'offre d'actualité dans le newsfeed

Part 3.1. Consommation d'actualité

- ✓ Quels médias suis-tu sur Facebook? Pourquoi les as-tu selectionnés?
- ✓ Combien de temps passes-tu à lire ou à regarder des videos d'actualité sur Facebook?
- ✓ Est-ce ta principale source d'information?
    - o Si non, laquelle?
- ✓ Consultes-tu d'autres sources d'actualités ?

Part 3.2. La personnalisation de l'offre d'information

- ✓ Les actualités sélectionnées par Facebook sont-elles bien ciblées en fonction de tes centre d'intérêt ?

- ✓ Quelles étiquettes penses-tu que Facebook t'a attribuées en fonction de ton activité?
- ✓ Reçois-tu parfois des informations qui ne correspondraient pas à ces étiquettes ?
    - o Si oui, est-ce que tu peux tracer l'origine de ces informations en fonction de votre activité récente?
    - o Comment réagis-tu dans ce cas-là ?
- ✓ Remarques-tu que ton activité fait évoluer les articles que l'on te propose?
- ✓ Y'a-t-il des événements qui passent sous silence dans ton fil d'actualité?
    - o Si oui, as- tu des exemples?
    - o Remarques-tu une cohérence entre les événements passés sous silence?
- ✓ As-tu l'impression d'être dans une bulle d'information filtrée?
    - o Si oui, comment definirais-tu cette bulle ?
    - o Apprécies-tu cette bulle ?

Part 4. Facebook et la constitution d'opinion

- ✓ Facebook pourrait-il te faire changer d'opinion?
- ✓ Facebook peut-il renforcer/conforter certaines de tes opinions existantes?
- ✓ Qu'est ce qui ferait évoluer ton opinion?
- ✓ Decouvres-tu des informations nouvelles sur Facebook?
- ✓ La répétition d'information via Facebook fait-elle évoluer ta perception des choses?
- ✓ Facebook est il un lieu de débat?
- ✓ As-tu l'impression d'appartenir à une communauté de pensée?

Observation de ton newsfeed (Enregistrement de l'écran avec Apple Quicktime player)

Exemples de questions posées durant la visite guidée

- ✓ Qu'est-ce-que tu regardes en premier dans un post d'actualité? (photo/titre/video?)
- ✓ Penses-tu que cette nouvelle soit intéressante pour toi? Pourquoi?
- ✓ As-tu envie d'ouvrir le lien vers l'article original ?
- ✓ Pourquoi crois-tu que Facebook a sélectionné cette information pour toi?
- ✓ Cette news t'apprend-elle quelque chose?

- ✓ As-tu envie de la partager. Et pourquoi?

Conclusion

******

English translation - Semi-structured interviews (Approximative length: one hour)

Introduction

- ✓ Signature of the consent form
- ✓ Reminding of the ethical concerns
- ✓ Launching of the recordings

PART 1. How ? General question regarding how the participants use Facebook

- ✓ How often do you connect to Facebook?
- ✓ On which device do you connect to Facebook? (Cellphone, laptop, iPad)
- ✓ Can you see any difference between the way you use those different devices ?
- ✓ Does your behaviour change depending on the device you are using ?
- ✓ Does you behaviour change depending on the physical place where you are connecting to Facebook ?
- ✓ Can you notice that sometimes your newsfeed offer vary ?
- ✓ If so, do you have the impression that the chnages depend on your behaviour ?

PART 2. Why? Understanding why the participants use Facebook

Part 2.1. Explaining the main reasons

- ✓ Why do you use Facebook ? is it for personnal or professional matters ?
- ✓ What do you do on Facebook ? Do you consider yourself as active on Facebook ?

Part 2.2. About the participants's network

- ✓ Who compose your Facebook network ?
- ✓ Do you think that your network is homogeneous ?
- ✓ Do you share a common culture with your Facebook friends ?
- ✓ Do you adapt the content your share to your Facebook friends ?
- ✓ Do you consider that your network of Facebook friends contain a lot of information about you such as your centres of interests, your geographical move, etc. ?
- ✓ Does that change your behaviour ?

Part 2.3. About the participants's Facebook profile

- ✓ What image do you try to give through your Facebook profil ?
- ✓ Do you consider this image as representative of yourself?

PART 3. Regarding news offer on the newsfeed

Part 3.1. News consumption

- ✓ Which media do you follow on Facebook ? Why did you select them ?
- ✓ How often do you read news articles or watch news videos on your newsfeed ?
- ✓ Is it your main source of information?
    - o If not, what is it?
- ✓ Do you check other sources of news?

Part 3.2. News-customisation offer

- ✓ Do the news selected for you in your newsfeed correspond to your centres of interest
- ✓ Which tags do you think Facebook attributed to you to pick those news ?
- ✓ Do you sometimes recevie some news that are not corresponding to those tags ?
    - o If yes, can you deduce why this news was selected for you by Facebook depending on your activity online ?
    - o How do you react when you receive a news that is not corresponding to your main centres of interest ?

- ✓ Do you notice that your activity can impact the articles that re selected for you by Facebook ?
- ✓ It there some news that are completely absent from your newsfeed ?
    - o If yes, can you mention some examples ?
    - o Do you notice some similarities between the news that are not selected for you ?
- ✓ Do you have the impression to be in a filter bubble ?
    - o If yes, how would you define this filter bubble ?
    - o Do you appreciate this filter bubble ?

PART 4. Facebook and the constitution of opinions

- ✓ Do you think Facebook could make you change your opinion on a topic ?
- ✓ Do you think that Facebook can reinforce an existing opinion on a topic
- ✓ What would make your opinion change ?
- ✓ Do you discover news topics that you did not know about on your newsfeed ?
- ✓ Does the repetition of some news on your newsfeed make your perception about them change ?
- ✓ Do you consider Facebook as a suitable place to debate Facebook?
- ✓ Do you have the impression of belonging to a community of similar thinking people on Facebook ?

PART 5 - « Guide tour » de ton newsfeed (screen-recorded with Apple Quicktime player)

Examples of comments

- ✓ What do you look at first in a news post ? (Picture, title, video, etc ?)
- ✓ Do you thin k that this news is interesting for you ? Why ?
- ✓ Do you want to open the hyperlinked article ?
- ✓ Why do you think that Facebook selected this news for you ?
- ✓ Did you learn somehting from that news post ?
- ✓ Why you want to share this news post ?

Conclusion

Appendix D - News posts translation

Figure 3.5.

Brand Isla Délice is the first one in Fance to create a range of delicatessen products without pork, entirely elaborated respecting the sacrificial ritual prescribed by islamic law.

Isla Délice, the secret of the king of Halal delicatessen

Figure 4.5.

No, no « Friends » Movie for 2018

Figure 4.6.

To be clear, the result is a calorical suicide

Butter and butter: we baked the macaroni gratin …

The pope of cuisine Paul Bocuse has died. The occasion to observe that …

Figure 4.7.

Alain Devaquet is dead, and there are more tributes than critiques paid to him. In 1986, his university reform threw millions of university and highschool students in the street, marquing a stop for the right wing, and a discontinued victory for the left, which is still nostalgical of it…

Alain Devaquet: Regretting a certain image of the left

Alain Devaquet is dead, and there are more tributes than critiques paid to him. In 1986, his university reform threw millions of university and highschool students in the street, marking a stop for the right wing, and a discontinued victory for …

Figure 4.8.

Tribune: the author, who was raped during her chilhood by Roman Polanski, explains the reasong why she supports the tribune which was cosigned by Catherine Deneuve

Samantha Geimer: « All that hate, this revenge feeling…

Figure 4.9.

« Change is here, this is not only a parenthesis, what is happening is historical »

In 2017, the Women's march was a reaction; in 201…

One year after the investiture of Donald Trump and the first edition of the …

Figure 4.10.

The recent parlamentary report proposing to fine the use of narcotic substances completely ignores the current situation of therapeutic cannabis users. In France, Justice still condemns patients, with sometimes very heavy chronic diseases.

Therapeutic cannabis, a despised use

The recent parlamentary report proposing to fine the use of narcotic substances completely ignores the current situation of therapeutic cannabis users. In France, Justice still…

Figure 4.11.

(Slate x Stylist France) « So, is that it ? you give up ? »

Our little inner voice, best friend or worse en…

Who is that person who is troubling you ? Mmm, it's me.

Figure 4.12.

A shop without cashiers, articles that don't need to be scanned and automatic payment. Would you be interested or is that completely frightening you ?

Amazon plays the card of conveninece stores without cashiers to grow within the food sector

Figure 4.13.

(INFO ALERT) As early as school starts !

Members of parliament voted cellphones ban from school

Figure 4.14.

HAHAHAHA, thank you Nadine Morano.

Nadine Morano affirms that being « harassed » (sic) may « generate beautiful stories »

* vocabulary mistake. In the French version the word used is « opportunée ». Opportunée does not exist as such but it sounds interesting in the context as it appears to mix the words importunée (harassed) with opportunité (opportunity).

Sucha as Catherine Deneuve and others, Nadine Morano also defends the right to harass. Nevertheless, the European deputy Les Républicains has a specific vision…

Figure 4.15.

Nostalgia, when you hold us.

See, the Game Boy is back…

More than ever the revivla culture is everyxhere, from the clothes that hipsters snap up like hotcakes to the retro-gaming culture.

Figure 4.18.

« Listening to the Pope telling them face to face saying « bring me a lettre without a proof » is a slap and I un derstand now that my formulation was not appropriate », he declared

Pope Francis apologises to sexual abuse victims

Figure 4.19.

Martin Fourcade, alone in the world at Ruhpolding !

More info at…

Figure 4.20.

Mahmoud Abbas, a trompe l'œil break up from Do…

Donald Trump's decision to transfer the American embassy to Jeru…

Figure 4.21.

[Blog] « Extrovert people bother me »

Prasising and defending introversion

[Blog] If introvert people were governing the world, it would not be better but at least there would be peace.

Figure 4.22.

Islamists againsts LGBT in Mauritius

Le Pride March was targeted by islamist and anto-homosexual protesters.

Figure 4.25.

Kashmir, which is divided into two and claimed by India and Pakistan, is subjected to resurgent violences of frightening intensity.

In Kashmir, the resurgence of a forgotten conflict.

Figure 6.5

The French pilot is cursed.

Loeb said Goodbye to victory.

Figure 6.6.

HAHAHAHA, thank you Nadine Morano.

Nadine Morano affirms that being « harassed » (sic) may « generate beautiful stories »

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Sucha as Catherine Deneuve and others, Nadine Morano also defends the right to harass. Nevertheless, the European deputy Les Républicains has a specific vision…

Figure 6.9.

[Question asked on Checknews.fr]

Is it true that 604 people work for the…

The question has been asked on Checknews. We dived into…

Figure 6.10.

Martin Fourcade, alone in the world at Ruhpolding !

More info at…

Figure 6.11.

Everything is going better in a brave new world

North Korea will participate to the winter Olympic games in South Korea.

Figure 6.12.

Smoke bombs, smoke bombs everywhere !

Figure 6.13.

The income of the ex Sochaux player is MONSTRUOUS

The Chinese club paid 74 millions euros for…Bakambu!

Villareal will hit the jackpot when selling their African striker Cedrid Bakambu. In fact, we have known for several weeks that he was to be sold to the Chinese club Beijing Guoan but the modalities of it…

Figure 6.14.

Do Catalans really need Yerry Mina?

Barca : the hallucinating statistics regarding Thomas Vermaelen

Figure 6.16.

You do not know what is causing you anxiety ? There is an obvious reason : « anxiety, according to Sartre, is nothing else than liberty, that becomes aware of herself as her own vacuity. »

Would you accept a little cup of anxiety with Sart…

« There is no taste, tic, human act which is not revealing » (Jean-Paul S…

Figure 6.17.

For the first time, messages carried by the Pope acted against him.

Pedophilia: Pope Francis nagged by a cardinal

Figure 6.18.

120K likes, 40K shares, 6.8 millions viewers after… for Nusky & Vaati. And carreers like this one, very well launched in 2017 #frenchmen #springiscoming

Figure 6.21.

No, nothing

Figure 6.22.

News editing passion

Make it simple and accessible ? In fact, it's super difficult

Alice softly came next to our desk, looked at us and said : « I like it here… Besides ; you have a lot of snacks. And, you are always hyper calm. »…

Figure 6.23.

Drive a car, operate a patient, writing a book…

No manual activity or intellectual seems to be able to escape to robots over the next 50 years.

Figure 6.24.

Super blue blood moon : the incredible triple lunar phenomenon on January, 31th that cannot be missed !

Figure 6.25

Not many guies give their name to a gesture. There is the Papinade from Jean-Pierre Papin (bicycle kick), the Madjer by Rabah Madjer (shoot behind the supporting foot), the Panenka by Antonin Panenka, the Koji Namata (oriented control, feint, panic moment) and the Patoche Evra (volley with nose cartilage).

Third of our top of the most legendary penalties : La Panenka by Antonin Panenka.

We are entering the top 3 of the most mythical penaltys.

Figure 6.26.

The Girls' World cup, it's in one year !

The next feminine World cup, that will take place in France…

Figure 6.27.

Some are going way to far to complete their album…

Armed men attacked a printing house to steal 300.000 euros of Panini stickers

Figure 6.28.

Tennis: Roland-Garros. Nadal in final with…

Roland-Garros, New Roland-Garros, Rafa Nadal, Rafael Nadal Fans, Rafa Nadal academy

Roland-Garros (men): Nadal rolled over ; Del Potro is taking advantage..