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Unfolding the Multi-layered Structure of the French Mediascape

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Structure, influence and conversation: a triple layered architecture	2
Methodology and results	3
1. Structural analysis of hyperlinks network produced by media: blocks and spaces	5
2. Structure of URLs shared on Twitter	13
3. The media horizon of political figure partisans	18
4. Audience and visibility	19
5. Story circulation	21
Future research	23
Acknowledgement	23
Bibliography	24
Appendix	25

* This report has been written in collaboration with the School of Journalism of Sciences Po for the Institut Montaigne.

Structure, influence and conversation: a triple layered architecture

The purpose of this research project conducted with the Institut Montaigne and the Center for Civic Media at MIT was to map the French media space and understand how news articles circulate on social networks websites. Two main questions motivate our study. First, we wish to measure the degree of polarization of the media space: is the French media ecosystem as dramatically polarized as the American one (Benkler & al., 2018)? Second, as the study of circulation of tweets and ultimately of online conversations affords the opportunity to investigate the circulation of dubious, false or manipulative information from certain news producers, what is the general public's level of exposure to such misinformation, and which actors contribute to its dissemination online?

We first posit the following hypothesis regarding the organization of the digital space and the circulation of information: digital space is structured in three layers that map information production. These three layers map information production, interaction and dissemination in different social and technological spaces. Although information is processed differently in every layer, they are deeply entangled. The understanding of the nature and intensity of the feedback loops connecting them is key to explain the structure and change of the information space (Zuckerman, 2018). For future research, we also argue that the comparative analysis of the media structure in different countries will provide an interesting vantage point to investigate some larger ongoing political processes like the rise of populism that is threatening Europe.

1. Authority structure. The first layer is made of news producers, that is, all the media producing information online and “self-informing” their ecosystem. Journalists or bloggers produce hypertexts that can be interpreted as citations between media. The structure of this network (see methodology section), combined with audience indicators, provides a map of the proximities and gaps between media outlets in the French media space. It provides a clear distinction between the central media space (with its slight ideological polarization), the peripheral ring around the central media space (with greater ideological distances between media outlets) and an informational counter-space that hosts peripheral and strongly ideological publications. There is a large overlap between unreliable websites as identified by fact-checking initiatives like Decodex, and websites assigned to this part of the media sphere. Strategies of disinformation and manipulation of opinion clearly seem to be produced and deployed from this counter-space (Gaumont, Panahi, Chavalarias, 2018).

2. Influence. The second layer corresponds to the way certain news items attract more or less attention on social media. We approximate this layer using the circulation of URLs on Twitter. We also use co-citation patterns on Twitter as a way to measure overlap between media readership. This overlap is then used as a way to reveal ideological alignment between media websites. In addition to providing a better understanding of the political structure of the media space, tracking circulation of news stories on Twitter enables us to identify which themes spread beyond their usual community.

3. Conversation. The third layer is probably the least known and documented: it involves the social conversation on Facebook and other platforms. In the future months, we believe that the URL shares dataset which is offered by Facebook to the grantees of the Social Science One could provide a first insight into this layer. On Facebook, we assume that information sharing obeys logics much closer to the ordinary life of individuals. Information are shared more spontaneously according to the logic of social relationships between small groups of friends in closed circles. Such data, although aggregated, would offer a closer look at the way audiences access, share and appropriate information.

Given this three-fold architecture, the questions this research will address are:

1. How is the French media space organized? What are the differentiation mechanisms within its core? Are there strong ideological differences between the audiences of the main media?
2. How does “fake news” circulate? What is the degree of connectivity between websites producing dubious information and the space of the main media? Are there ideological edges of this space that are more likely to relay fake news?
3. Which of the mainstream media are most sensitive to information relayed by producers of false or manipulated information?
4. Can we observe effects on the structure of media links resulting from the circulation of information on Twitter?

Methodology and results

The study takes as a starting point a manually curated list of 420 French media sources which is provided as an appendix to this report. This initial list was first drawn from the list of French media that had been collected by the “Décodeurs”, a team of fact-checkers working for the French daily *Le Monde*. In collaboration with the Sciences Po School of Journalism, we subsequently completed and corrected it by hand to take into account the particularities of the French media space. The final dataset includes almost all the outlets with a large audience: newspapers, radio stations, television channels, regional press and magazines. We have also integrated in this corpus “alternative” information websites (“counter-information”, “re-information”, “alternative facts”, “fact-checking websites”, etc.) and many publications from the extreme edges of the ideological spectrum of the French public sphere. Publications on these websites may be produced by activist groups, by associations linked to extreme political structures, or by individuals. Strictly speaking, they are not information professionals, but some of these websites may still influence the media agenda.

From this corpus, we developed three different methods to collect data:

1. [Hyphe](#) was used to collect the hyperlinks structure connecting 420 websites. The crawl was performed at depth 2 with a simple resolution of ambiguous URLs. A certain number of metadata were added to each media manually (date of creation, number of followers of the media Twitter/Facebook account) but also automatically inferred using simple regression model (audience scores), or social media API (Facebook shares)
2. Using [Gazouilloire](#), the same list of media was used to track any citation to an article published by a French media (among our pre-defined list of 420 sources)

on the French Twitter¹. Over the six months, 52 million tweets were obtained through the Twitter API (we used both Twitter’s “standard search REST API”, and “filter realtime Stream API”). Twitter was used here to offer a vantage point over media audiences’ similarities and disparities.

3. The same websites list was used to systematically index published articles by any of our media using the [MediaCloud platform](#) (maintained by Harvard’s Berkman Klein Center and MIT’s Center for Civic Media). The media are grouped together in two collections, termed “France - National” and “France - State & Local”

The results presented below are preliminary analyses applied to these different data sources:

1. Structural analysis of hyperlinks network produced by media: blocks and spaces
2. Structure of URLs shared on Twitter
3. The media horizon political figures partisans
4. Story circulation

How to interpret this corpus.

This corpus therefore provides a representation of the information production space on the French Web. It is obviously imperfect, arbitrary and questionable. We have deliberately excluded websites and blogs that produce only opinions, analyses and comments (experts, think tanks, bloggers, personal websites). Moreover, we have not included in the corpus websites explicitly linked to political or trade union organizations, which constitute another subspace of the digital public space. The criterion that has guided us in the constitution of this corpus is the production of information. This is a relatively easy way to identify professional media composed of journalists producing articles. On the other hand, this criterion is much more uncertain for identifying websites in the counter-informational sphere that comment on, transform and misuse information produced by other media. Taking advantage of the expertise of *Le Monde’s* journalists in the production of the Decodex for several years, it has nevertheless been possible to introduce into the corpus a set of websites of the counter-informational sphere that publish information and, for some of them, relay a large amount of information even when they are above all opinion websites. Moreover, unlike the large central media editorial staff, some of them are in fact one-person media. We kept them in the corpus only if the website revealed a certain influence on the circulation of digital information and if the author, beyond analyses and comments, had also produced original information.

Albeit imperfect, incomplete and questionable, the methodology used to build this corpus nevertheless provides an accurate overview of the digital media space in France by highlighting its different polarities. Important and influential websites may be absent from the corpus, sensitivities may not be represented, and some selected media may be removed from it. However, conceived as a construction in miniature of the media space, this representation aims to reveal the overall architecture of the French media ecosystem and not to propose an exhaustive mapping of all websites producing information.

¹ We decided to limit our dataset to tweets from a (declared) French speaking Twitter user and tweets written in French as automatically detected by Twitter’s algorithm.

1. Structural analysis of hyperlinks network produced by media: blocks and spaces

The hyperlinks network is made of 14,346 directed edges² connecting the 391 media³ which were crawled using Hyphe (Ooghe-Tabanou et al, 2018). *LeMonde.fr*, *LeFigaro.fr*, *LeParisien.fr*, *FranceTVInfo.fr* and *Liberation.fr* form the 5 most cited sources. As expected, we find a very high concentration of links over a few hubs. Because of this highly centralized structure, the inner structure of the network is hardly apparent (see Fig 1.) using traditional network visualization tools such as Gephi (Jacomy et al., 2014) and classical cohesion-based community detection algorithm like the Louvain method (Blondel et al., 2008) fail to capture interesting patterns from the network.

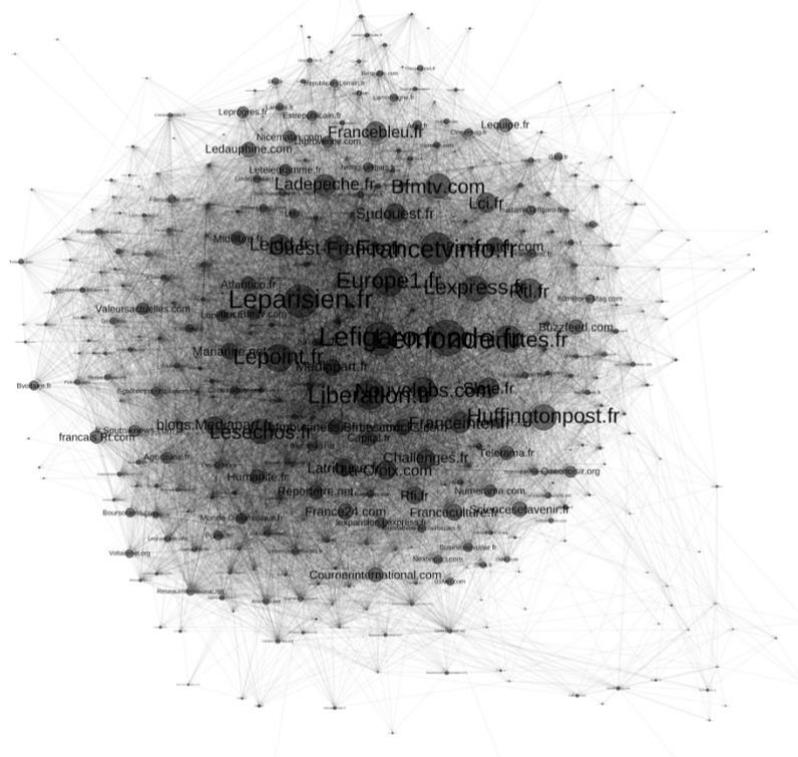


Fig. 1. Hyperlinks network connecting the 391 media visualized using Gephi. Because of its highly asymmetric nature, traditional graph clustering techniques fail to model its organization efficiently

The stochastic block model by Peixoto (2014) offers a better approach to this problem as the hierarchical structure, which is constructed, is not built exclusively by attempting to identify cohesive sub-graphs; it reveals richer connectivity patterns between inferred blocks. The model that is induced (using the python [graph-tool library](#)) from the data is a stochastic block model (later called SBM), that is, a probabilistic graph generation model for which connections between nodes depend only on the blocks they belong to. Blocks are then defined as groups of media which all have similar connectivity patterns with respect to the other blocks. Using this method, it is possible to cluster URLs which are

² Please note that links are directed but not weighted. The density of the network is still quite high (around 8%). Actually, the overall number of hyperlinks connecting two sources that we could crawl is 3.6 million.

³ Certain media had no apparent connection (mostly for technical reasons such as paywall) with the rest of the ecosystem and were simply discarded.

entirely disconnected one from another but are systematically cited by another (which is a typical configuration in the case of bipartite graphs). This kind of model is extremely efficient for describing hyperlink networks characterized by a high level of asymmetry. The result of our analysis is illustrated in Figure 2.

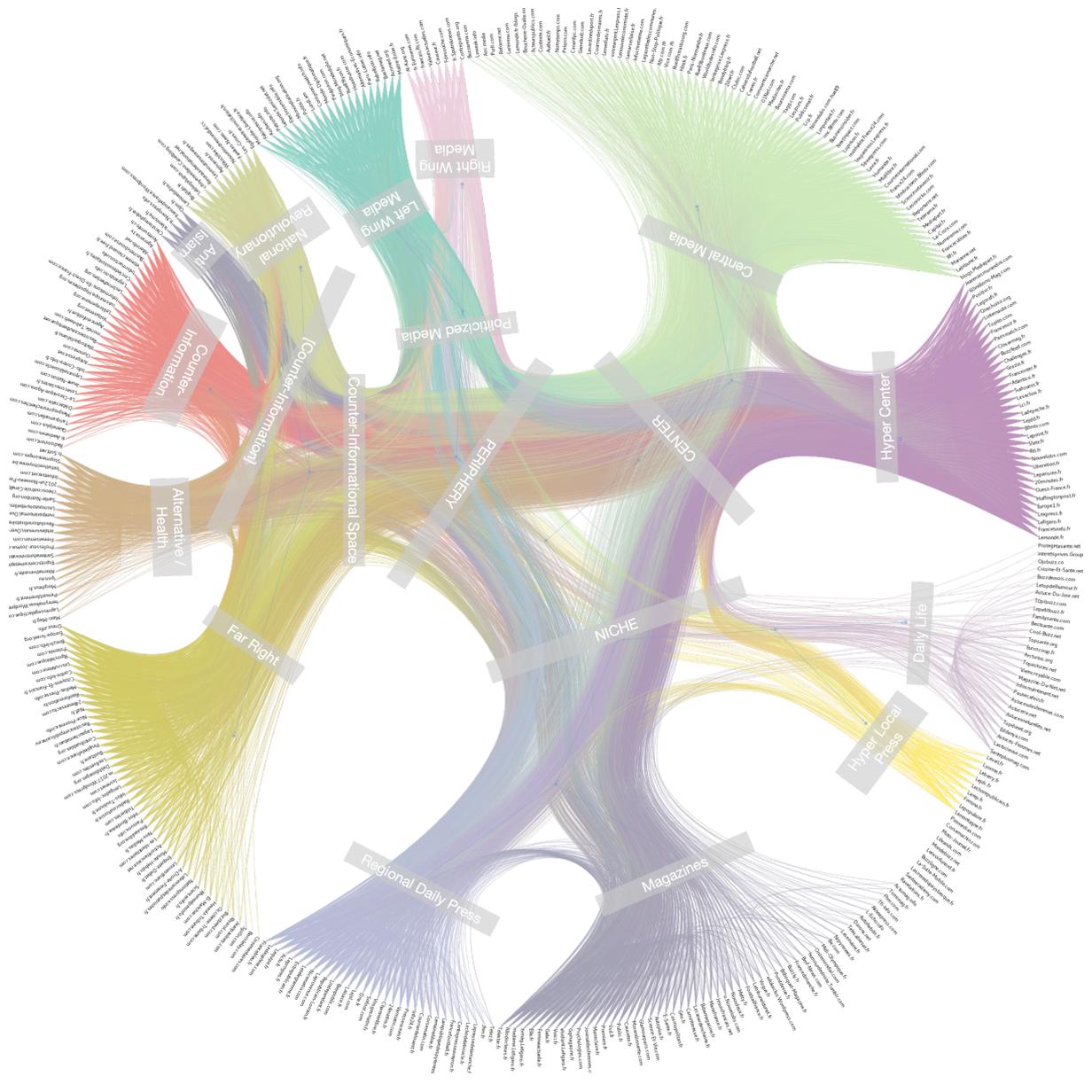


Fig. 2. Visualization of the inferred SBM model illustrating the grouping of websites into blocks at different levels. For instance, the first-level block called “Partisan media” is composed of two sub-blocks that we labelled “Right Wing Media” and “Left Wing Media”. The circular visualization then shows the categorical structure as well as the hypertext links connecting each individual media to the rest of the ecosystem (for a high resolution version of the image, please follow the [link](#)). Visualization is obtained using the graph tool library, Block labels were added manually.

The hyperlinks network is modeled accurately by the inferred hierarchical block structure. The French media space appears as a highly structured space that distinguishes between websites receiving a large number of citations from other sources, and

secondary sources which are never cited by mainstream media but which may be cited by other, politically compatible, secondary sources. The overall organization of the media corpus reveals an extremely hierarchical structure that includes a central space for the French media and an information counter-space. The latter cites extensively core media, without receiving any citation in return. This global structure also reveals the existence of a second dominant space independent of the media of the center (which is cited by others without mentioning the others): the local press and magazines (Fig 3 and Table 1).

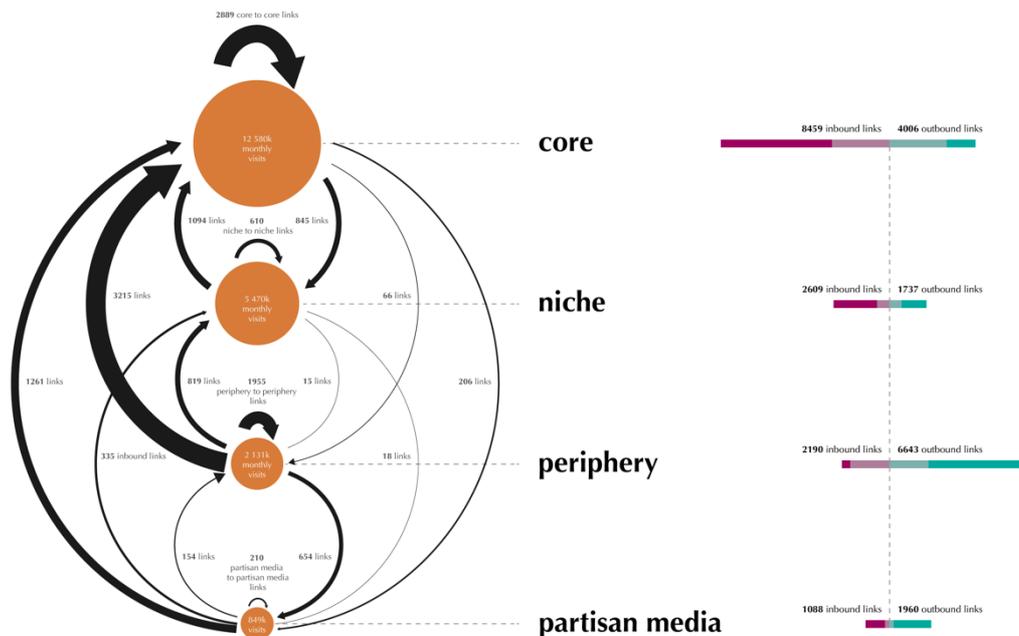


Fig. 3. Hierarchical structure of the links between 4 media blocks in the study corpus
 The diagram displays the number and direction of hypertext links between media of the different categories identified during the survey. Node sizes scale with the different outlets' estimated audience. The bar chart shows the number of inbound/outbound links for each block; lighter areas correspond to self-loops.

	Core	Partisan Media	Counter-Informational Space	Local press & Magazines	Daily Life	Total outbounds links
Core	2889	206	66	790	55	4006
Partisan Media	1261	210	154	314	21	1960
Counter-Informational Space	3215	654	1955	723	96	6643
Local Press & Magazines	1004	17	1	457	19	1498
Daily Life	90	1	14	32	102	239
Total Inbounds Links	8459	1088	2190	2316	293	14,346

Table 1. Distribution of links between the main categories of media outlets (note that comparatively to Figure 3, the block previously called Niche is sub-divided in two sub-blocks: Local press & Magazines and Daily Life).

In other media ecosystems, hyperlinks between news websites tend to be uncommon because of commercial competition. Rival newspapers are reluctant to lose traffic by linking to one another. A different pattern prevails in our French media set, where journalists routinely acknowledge some media outlets via hyperlinks. However, this pattern is limited to links within a “core” of media sources. Links from outside the core into the core are common; links from the core to the periphery are rare or non-existent (see Figure 8). Table 1 shows the importance of links’ directionality in the organization of the media space. There are 3,215 hypertext links from the Counter-Informational Space to the Core and only 66 links going in the opposite direction (see Table 1). While 6,000 links are issued by the Counter-Informational Space (to be compared with the 2,190 links they receive, 90% of them being endogenous), 4,000 are issued from the core (compared to 8,459 received links) (Table 1). The analysis of the hypertext links of the 391 French media thus reveals a hierarchical model that largely overlaps professional categories used by journalists in their ordinary practices. We describe the composition of the three main categories and their articulation with the 13 lower-level blocks detected hereunder:

A. Core Media. At the “Core” of the public space, two categories of media appear. We have entitled them “Hyper Center” and “Central Media”. They regularly cite one another and mention “Magazines” and the “Regional Press” sparingly. On the other hand, they very rarely mention the “Counter-Informational Space”. Both spaces may receive citations coming from any media (or, to be more precise, from any sub-block of media). The main structural difference between the two subspaces comes from the increased relative number of citations that the Hyper Center receives from the Niche media (Regional Daily Press and Hyper-local Press, Magazines, Daily Life). Conversely, Hyper Center media are also citing significantly more media from the Niche.

Hyper Center is composed of the main French national daily newspapers (*Le Monde, Le Figaro, Libération, Le Parisien, 20 Minutes, Les Echos*, etc.), the main TV and Radio channels (*France Info, France Inter, Europe 1, RTL, BFM TV*, etc.), and mainstream new magazines (*L'Express, L'Obs, Le Point, Challenges*, etc.). But it also contains some of the most important regional daily newspapers (*Ouest France, Sud Ouest, Le Parisien, La Dépêche*, etc.) and some popular magazines for entertainment and information about the private life of personalities (*Grazia, Closer, Jean-Marc Morandini*, etc.). It should be noted that the Hyper Center also includes some online "pure-player" media (*Huffington Post, Atlantico, BuzzFeed*, etc.) and the most famous parodic website in France (*Le Gorafi*).

Central Media encompasses most of the other leading mainstream information websites in France that are not already present in the Hyper Center. There are national dailies with a stronger ideological or religious affiliation (*L'Humanité, La Croix, La vie*, etc.), radio and television channels with a smaller audience (*RFI, France Culture, LCP, Public Sénat*, etc.) and less influential regional newspapers (*Midi Libre, La Marseillaise, Paris Normandie*, etc.). The Central Media block also includes news websites whose editorial content is marked by a strong positioning, theme or orientation (*Mediapart, Reporterre, L'opinion, Les Jours, Mediacités, Marianne*, etc.) and specialized magazines on important topics but which do not have a generalist focus (*Sciences et avenir, Les Inrocks, Télérama, Courrier International, Cahiers du football, La Gazette des communes*, etc.). This category also includes the main practical advice magazines with a large audience (*Comment ça marche, Canard PC*, etc.).

B. Periphery. Around this "Core", a ring of media composed of two distinct branches is distributed. The first includes "Partisan media" which have a relatively large audience and visibility. These are broken down into "media oriented to the left" and "media oriented to the right". These media broaden the ideological spectrum of the mainstream media towards more left-wing and right-wing positions – sometimes described as "extreme" (among others: *FDeSouche, Causeur, Russia Today France*, etc.).

Right-Wing Media encompasses a small number of media that are located to the right of the traditional French right. They defend conservative values (*Causeur, Valeurs actuelles*) or neo-liberal values (*Contrepoints*). This group also includes the influential and historical news website of the French far-right galaxy (*FDeSouche*) (Albertini, Doucet, 2016), as well as two Russian information websites in France (*Sputnik, Russia Today France*). In an unusual way, two websites that should not be included in this group (*Euronews* and *Al Kanaz*, a website providing information on the Islamic economy and consumption) are part of it. The structure of the distribution of outgoing links to the right and far-right websites of these websites contributed to their convergence with this group in the automatic classification. But, if we exclude the latter two websites, this group of publications with strong ideological connotations, which is located near the central core of the French mediascape (Hyper Center and Central Media), constitutes the main source of information dissemination and provocations from the strong ideological right.

Left-Wing Media cover a wide spectrum of websites from the left of the left – that is, a left characterized by a critical stance on the governing socialist left-wing. First of all, there are historical publications characteristic of this ideological space (*Le Monde Diplomatique*, *Alternatives économiques*, *Politis*), “pure-players” of the critical or altermondialist left (*Bastamag*, *Rue89 Lyon*, *Paul Jorion*, etc.) and alternative media linked to social movements (*Rebellyon*, *La Horde*, *Fakir*, *Le monde libertaire*, etc.). This group also includes websites for information criticism rooted in a left-wing tradition (*Acrimed*, *Conspiracywatch*). Although they are more numerous than the websites in the Right Wing Media group, it appears that the publications of these websites are less frequently cited by other media and, above all, enjoy a much smaller number of shares on Twitter (Fig. 5). The mapping proposed in this study thus clearly shows a stronger influence relay for publications from the right of the right than for those from the left of the left. However, it should be stressed that the algorithm classified the website *Le Média* –, the web-based news television launched close to Jean-Luc Mélenchon's party, *La France Insoumise* –, not in this group, but instead with the “Central Media”.

A second branch of this "Periphery" includes the "Counter-Informational Space". Clearly isolated and separated from the “Central Media” block, this group brings together the various factions that produce controversial, dubious, false and extreme information⁴. The decomposition of the media map allows different families to appear. The "National revolutionaries": a branch of publications that historically are aligned with the left, but which have been articulating nationalist views that bring them closer to alignment with the far right. A small "Anti-Islam" group is distinguished by the specialization of its publications against Muslim immigration. There is also a group of "Counter-information" websites and a group of traditional “Far-right” websites⁵.

National Revolutionary comprises a galaxy of information websites that is one of the first families in the counter-information sphere. One way to characterize these websites is that behind strong criticism of the media and political elites (who are said to dissimulate real information), they propose to disclose hidden facts by taking positions that borrow both from the far left and the far right. There is a political characterization that is "neither right nor left" and that can be compared to the "national revolutionary" ideological atmosphere studied by Zeev Sternhell (1983) in the 1930s in France. This group is dominated by *Égalité et réconciliation*, Alain Soral's website, whose ideological trajectory reflects this shift from the far left to the far right. But other websites are less extreme ideologically and host various areas of criticism, such as *AgoraVox*. They denounce oligopolies and occult power, the mistruths concerning Vladimir Putin's regime (*Les Crises*), and the "occult plans of the government" (*Fawkes News*), or are interested in UFOs (*Le nouvel ordre mondial*). Although diverse, the ideological universe of these websites is characterized by the idea of a clandestine world organization, the denunciation of Freemasonry and the very strong recurrence of criticism of Israel.

⁴ This is the list: *Agenceinfolibre.fr*, *Agoravox.tv*, *Alterinfo.net*, *Antipresse.net*, *Arretsurlinfo.ch*, *Businessbourse.com*, *Cercladesvolontaires.fr*, *Diktacratie.com*, *etienne.chouard.Free.fr*, *fr.Awdnews.com*, *Ilfattoquotidiano.fr*, *Info-Contre-Info.fr*, *Informaction.info*, *Informations-En-Direct-France.com*, *Jeune-Nation.com*, *La-Chronique-Agora.com*, *Legrandsoir.info*, *Lejournaldusiecle.com*, *Lelibrepenseur.org*, *Lesbrindherbes.org*, *Leseconoclastes.fr*, *Mespropresrecherches.com*, *monde.Taibaweb.com*, *Oumma.com*, *Quenelplus.com*, *Radioorient.com*, *Resistanceauthentique.net*, *russeurope.Hypotheses.org*, *Tariqramadan.com*, *Voltaire.net.org*. Most of them have been (manually) categorized as unreliable by the Decodex.

⁵ On Aude Favre's YouTube channel (Aude WTFake), a journalist offers, in an ironic tone, a series of surveys on French counter-information sites, provides valuable information on some of these sites in the corpus: <https://www.youtube.com/channel/UC8Ux-LOyEXeioYQ4LFzpBXw>

Anti Islam is a small group of five websites which, like *Français de France*, are all characterized by an identitarian nationalism and a systematic denunciation of the country's islamization. These websites clearly belong to the far-right galaxy. Their design is very much "home-made" and the information published is very extreme and particularly dubious.

Counter-Information encompasses a gallery of heterogeneous websites all claiming to produce counter-information or "re-information". The websites in this group are widely diverse and combine different political positions. Some are part of the tradition – essentially left-wing – of "alternative media" (Cardon, Granjon, 2010) and offer a range of critical information (*Le cercle des volontaires*, *Arrêt sur info*), others claim to be citizen media (*Les Brindherbes engagés*, *Etienne Chouard*), and others yet are clearly far-right outlets (*Agence info libre*) or conspiracy websites (*Voltairenet*, *Résistance authentique*).

Alternative Health consists of two sets of websites. The first concerns alternative health (*Santé-Nutrition*, *Art de vivre sain*, *Santé Nature Innovation*, *Professeur Joyeux*, etc.). Under cover of science, these websites offer a range of advice and recommendations on natural medicine, denounce conventional medicine and disseminate misinformation. They have a large audience, particularly through their Facebook pages, and are sometimes popular sources of information. The other group of websites in this category publishes far-fetched information on irrational subjects (illuminati, wave power, alien plots, chemtrails, etc.) such as *Freewiseman* or *Révolution vibratoire*. Behind the curious, provocative, and sometimes delirious tone of these articles, also frequently appears a denunciatory ideology and a conspiracy spirit (*Les moutons rebelles*).

Extreme Right consists of far-right news websites ranging from traditional historical media (*Radio Courtoisie*, *Action française*, *Minute hebdo*) to more recent websites (*La gauche m'a tuer*, *Réinformation.tv*) and traditionalist Catholic websites (*Dreuz*).

When one observes the sphere of French counter-information, an ideological shift can be highlighted. While in the early days of the Web, blogs and "citizen" media seemed to offer non-professionals the possibility of continuing online the tradition of "alternative media" (Atton, 2002; Rodriguez, 2001; Cardon, Granjon, 2014), many of the websites in the counter-informational sphere recognize themselves rather within the ideological framework defined by the far right with the concept of "re-information" (Albertini, Doucet, 2016). In this respect, the project of alternative information, whether ecological, territorial or citizen-based, has spawned a number of outlets that have been integrated into the central media space (*Reporterre*, *BastaMag*, *rue89 Lyon*, etc.). On the other hand, within the counter-informational sphere, a discourse of hostility to professional media has developed so vehemently that many websites are dedicated to denouncing the lies of power, documenting the evidence of a conspiracy between rulers, and seeking to "re-inform" the misled audience.

C. Niches. Finally, a third media group, the "Niche", brings together media that either do not have a national audience ("Regional/departmental media") or have a specialized purpose ("Magazine"). These two categories of media have a large audience in the French media space. On the other hand, they have weak connectivity with the central space. These websites therefore do not play an important role in the analysis proposed in this report. However, they highlight other polarities within the information ecosystem on the

mapping of the French media, which attract a wide audience and are out of touch with the debate on misinformation or political polarization.

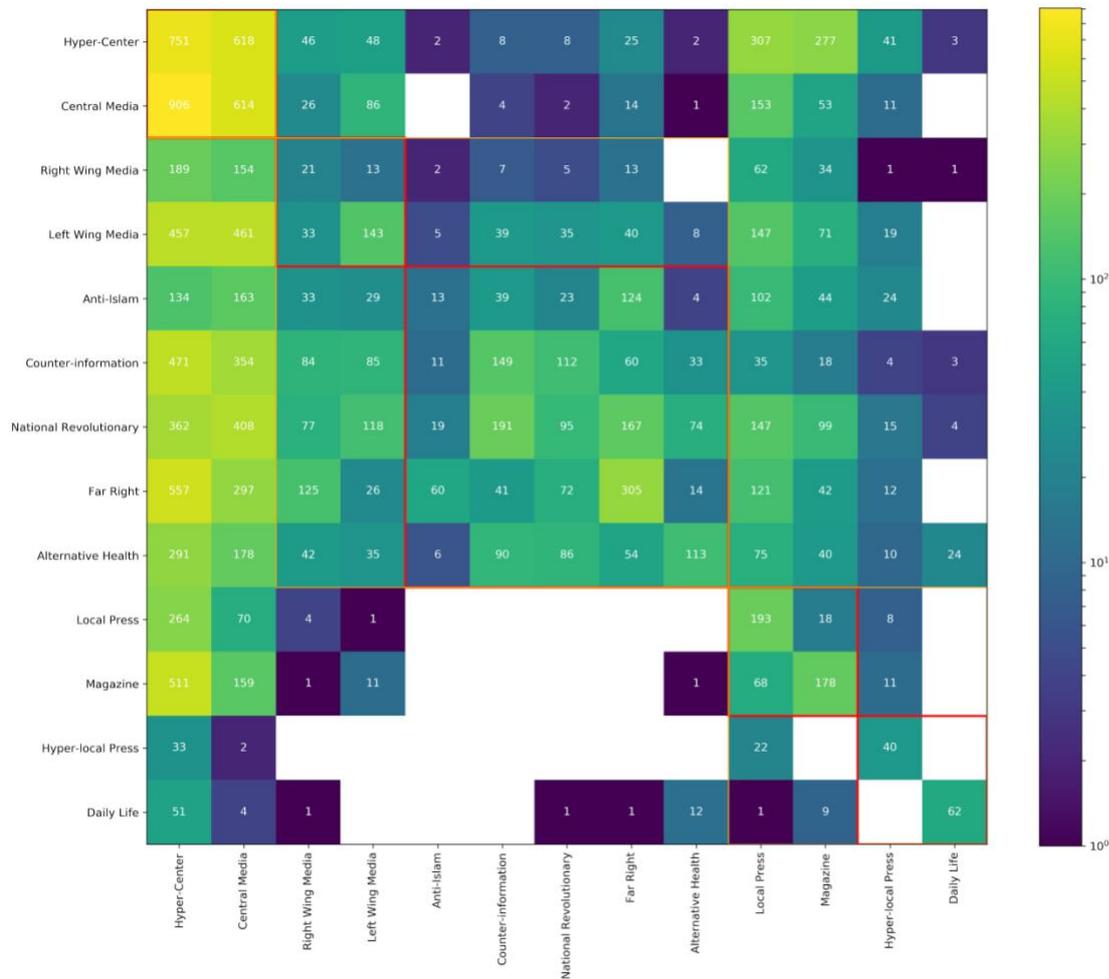


Fig. 4. Matrix of citation flows between the 13 media space sub-blocks. The numbers indicate the actual number of pairs of websites which are connected between two blocks (note that the original hyperlinks network is unweighted, we only account for the presence of a connection or not between two sources). Red lines delineate blocks at the second level. For instance, media from the Anti-Islam block have emitted 134 links to the Hyper-center, while media from the Hyper-center have only reciprocated twice.

To better appraise the rationale behind Stochastic Block Modeling, as well as the way in which the French media space is organized, it is convenient to aggregate flows of in-going and outgoing links at the level of individual blocks. We can thus identify which block is being cited by which other block. It is striking to note in Fig. 4 that the entire counter-informational space (which is made of the 5 central blocks surrounded by a red line) is hardly being cited by any other block except for some rare connections from left and right-leaning media. Conversely, counter-informational media massively cite central or politicized media in the ring. In other words, while most of their incoming links are almost purely endogenous, counter-information media tend to cite mainstream authoritative or regional media. The matrix does not show which kind of precise news stories are being cited by the various blocks. A selection process may occur. Similarly, a citation is obviously no evidence for political approval.

2. Structure of URLs shared on Twitter

The map of information shared on Twitter offers a representation of the French media space that is built on a different dataset than hyperlink citations: Twitter co-presence. As described above, we systematically collected every French tweet citing an article published by any of our 420 media websites. Over six months, 52 million tweets were collected. The sheer number of citations (see Fig. 5) per media reveals interesting insights. As expected, newspapers like *Le Monde*, *Le Figaro* or *Le Parisien* and television news stations like *France Television* top this ranking. It is more surprising to see fewer professional publications like the far-right media *FDeSouche* and *jesuisfrançais* or newly created *sputniknews.fr* and *françaisRT* with such a large number of citations. Our understanding of this result should be nuanced by the fact the high number of citations obtained by these media (more than 300,000 for *FDeSouche*) are produced by a relatively limited number of one-time Twitter users (left side of the histogram Fig. 5) who are particularly active supporters.

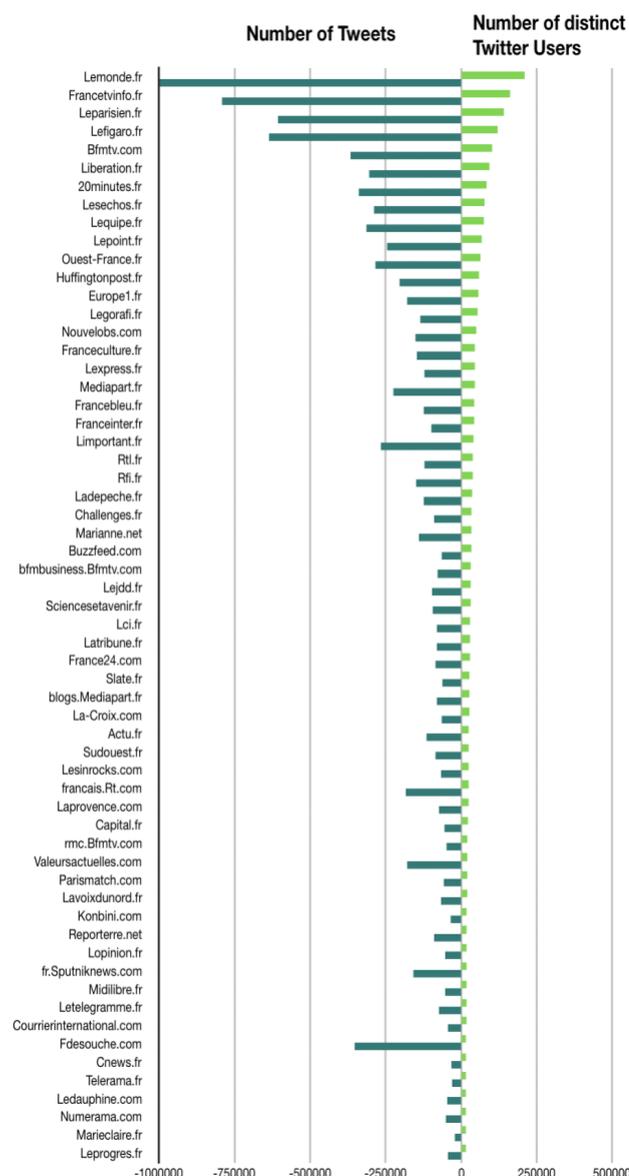


Fig. 5. Number of citations (right bar plot) and distinct users (left bar plot) of the 50 French media most frequently cited on Twitter

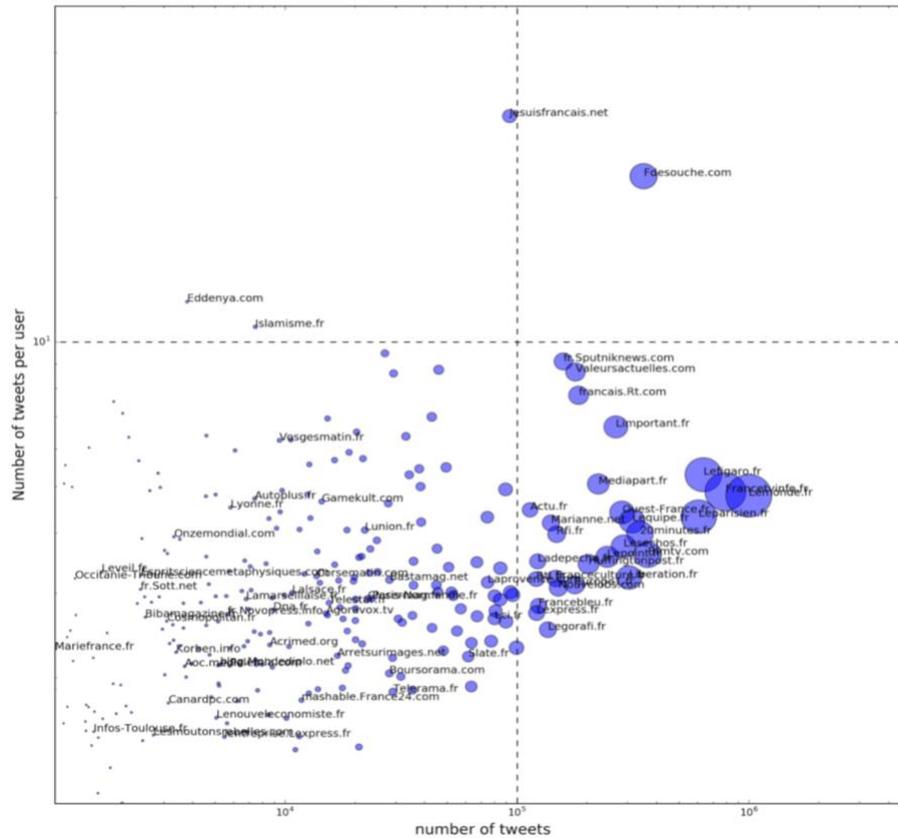


Fig. 6. Number of media citations (x axis) and ratio of tweets per user (y axis) for the French media that are cited more than 1000 times per trimester on Twitter

Seen from a different angle on Fig. 6, the variety of sharing behaviors on Twitter appears clearly. *FDeSouche.com* is 6th in the corpus in number of tweets but 54th in number of Twitter accounts that share its links. It is therefore the intensity of the commitment of those who share it that explains the volume of shared links. The graph shows that this committed behavior (which robots could be contributing to) is stronger as we move vertically up the graph. Significantly, in this upper part of the graph we also find *Sputnik*, *Valeurs actuelles* and *Russia Today France*.

How citation patterns observed on Twitter can help us to inform on the structure of the French media landscape? The network map hereunder (Fig. 7) is based on the pattern of co-citations of media by the same users on Twitter. Two media are linked if a significant number of Twitter users cite articles from both websites⁶. Similarly to the distribution of hyperlinks revealed by our crawl, Twitter users do not distribute their attention uniformly. We then carefully normalized citation counts for each media in such a way that only preferential pairs of media are shown (technically a cosine similarity metrics connecting media according to their overlap of users is used, and only those edges whose strength is above 0.05 are retained). As a consequence, *Le Monde* (the most frequently

⁶ The strategy of linking sources which are often being cited together is a current operation in bibliometrics where the operation allows one to build clusters of journals forming coherent scientific domains (Small, 1973). This methodological solution has also been used by Faris & al. (2017) for the study of the 2016 US elections.

shared media on Twitter) is not connected to every other media outlet but only to the other media it is preferentially cited with. A community detection algorithm (Blondel et al., 2008) is finally run to identify cohesive sub-graphs of media outlets. Some proximities and groupings are purely thematic. For instance, sport magazines are connected to one another (*So Foot, France Football* and *L'Équipe*). The pink cluster on the right side comprises regional media outlets (*Courrier Picard, Midi Libre, Le Télégramme*).

Most of the links between the media and the clusters that we identify seem to be linked to the degree of political proximity between sources. We will comment on the four main clusters of websites that emerge from the modularity analysis, starting from the purple cluster top left and moving clockwise to the blue, green and finally orange cluster:

1. Purple cluster : left-leaning media (*Libération, L'Humanité, Le Monde Diplomatique*)
2. Blue cluster: mainstream media (*BFMTV, L'Express, Le Monde*)
3. Green cluster: far-right media (*FDeSouche, Dreuz, Sputnik*)
4. Orange cluster: conspiracy theory and identitarian news sources (mostly blogs like *Égalité & Réconciliation, Les Crises* or *Wikistrike*)

The distribution of media we built from Twitter shares provides a map of influence that is very close to the media wheel built on hypertext link exchanges, but they also show important and interesting differences. The map shows two large clusters opposing the center and the periphery, each of these two groups being divided into two polarities. At the top of the graph, the central media mainly oppose the media of the Hyper Center offering general-interest and neutral information with a slight inclination towards the right (blue cluster) and the central media which have a more politically marked editorial line with an inclination towards the left (purple cluster). The top blue and purple clusters are still closely intertwined, suggesting a form of continuity from the left to the right side of the political spectrum. Conversely, media appearing in the top part of the map are less connected to the bottom-right green far-right cluster. The overlap with audience (on Twitter) of websites from the orange cluster is even weaker. This social media layer is distinct from the structure obtained when monitoring the hyperlinks structure between media. It is totally possible that two websites with the same focus on news will be cited by the same users on Twitter but never cite each other. The network clusters emerge from co-citations on Twitter but it seems that the endogenous structure we observe is coherent with the structure of French media landscape revealed by social media.

A possible way to visualize the relationship between the links map and the Twitter shares map can be seen in Figure 8.

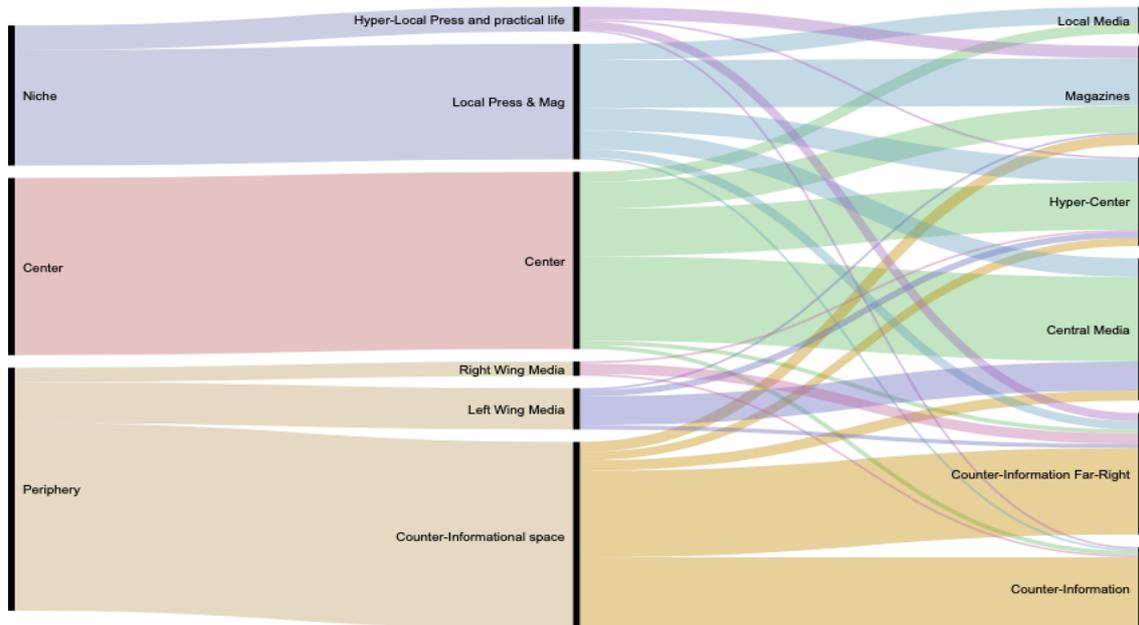


Fig. 8. Articulating hyperlink blocks (left and center) and Twitter co-citation clusters (right)

The comparison of the two media maps built with hypertext links and with Twitter co-citation shows strong similarities. The alluvial diagram (Figure 8) shows that Twitter users reproduce journalists behavior relatively closely. By sharing links, Twitter users group together the same media that have been linked through categorization with hypertexts. Twitter users who share links from the Hyper Center share few links to the periphery and, conversely, Twitter accounts that frequently share links from the periphery share links from the core much less often. Despite the overall correspondence of the two maps, there are nevertheless small differences, one of which should be highlighted. The media grouped in the "partisan media" category have very different associations on the tweet-sharing map. Articles from left-wing partisan media are frequently shared by Twitter accounts that also quote the Central media. There is therefore a strong continuity between the Central media space and the Left-wing media space, which are frequently associated in Twitter account sharing. The same phenomenon is not observed at all for the media that have been grouped into the category of right-wing media from hypertext links. The articles they publish are frequently associated in the tweets of those who share them with the media of the periphery and more specifically with the sphere of far-right counter-information. This result should be interpreted with caution (particularly because of the small number of media in the Far-right Media category), but it reflects properties often observed in the French twittosphere. The most active and visible users are significantly more left-wing oriented. On the other hand, more extreme Twitter accounts, especially those on the far right, are significantly more active than those on the moderate right. As a result, articles issued from the right-wing partisan press are more frequently associated on Twitter with those of the far-right counter-information. It can be argued that there is a circuit here that connects the radical counter-information websites of the far right with the right-wing

partisan media space that has a higher visibility, such as *Valeurs actuelles*, *Causeur* and *FDeSouche*.

3. The media horizon of political figure partisans

In this section we propose to use the previous background structure to map the prevalence of the different media when sampling Twitter users' support for any political figure on Twitter. Using Twitter's API, we systematically collected the lists of users who retweeted at least 20 messages from important political figures representing a wide range of sensitivities across the French political spectrum: Nathalie Arthaud, Philippe Poutou, Jean-Luc Mélenchon, François Ruffin, Éva Joly, Benoît Hamon, Manuel Valls, Christophe Castaner, François Bayrou, Edouard Philippe, Alain Juppé, Bruno Le Maire, Laurent Wauquiez, Marine Le Pen, Florian Philippot, François Asselineau, etc.

We then assigned to each political figure a list of supporters who had retweeted on her/his Twitter account at least 3 times over the last three months. We then computed for each political figure the number of times each media source was cited by these particular users. We used those citation values to plot an overlay map in which the size of each node is scaled not with the overall number of citations received but with its local reputation among the subset of Twitter users who were supporters of the given politician. We reproduce below three maps obtained for Emmanuel Macron, Jean-Luc Mélenchon, Marine Le Pen, Florian Philippot and Laurent Wauquiez (Fig. 9).

The distribution of attention is consistent with our interpretation of the different clusters. We also find that no matter who Twitter users are supporting, the volume of citations pointing towards mainstream media such as *Le Monde* or *France TV info* is stable. These media (mostly overlapping with the "Hyper Center" and "Central Media" blocks in the landscape defined by hyperlinks in the first section) remain a shared reference point for all political actors. The set of media being cited is clearly different between a supporter of the left-wing party France Insoumise of Jean-Luc Mélenchon and the Far-Right Rassemblement National of Marine Le Pen. Still, they both broadly cite the main media sphere.

The maps produced from partisan Twitter accounts clearly show the media reference worlds of the different political parties. First, it is clear that almost all the supporters of the politicians who are the most integrated into the dominant political space, Emmanuel Macron and Benoît Hamon, share media at the heart of the media space. On the other hand, supporters of political actors located on the fringes of the central political space, Marine Le Pen on the far right and Jean-Luc Mélenchon on the far left, have a greater tendency to share information from the counter-informational space. We can thus see how the networks of influence on Twitter contribute to introducing more porosity between the core media of the center and the counter-informational space. Partisan Twitter accounts open doors to particular segments of counter-information websites that are connection points to the central public space. This is particularly the case of the *Russia Today France*, *FDeSouche*, *Valeurs actuelles*, *Dreuz* and *Riposte Laïque* websites for the far right. For Jean-Luc Mélenchon's supporters, this connection is mainly made through the Russian websites *Russia Today France*, *Sputnik*, *Les crises* and *Agora Vox*. This representation method also makes it possible to show the strategies developed by the different political actors to mobilize different segments of the counter-informational

space. Florian Philippot's supporters, for example, relay information not only from extreme right-wing counter-information websites but also from websites often cited by left-wing partisan media (such as *Les Crises*, *Sputnik* or *Russia Today*). Laurent Wauquiez's supporters likewise frequently relay spheres of the partisan right and extreme right-wing counter-information (*FDeSouche*, *Valeurs actuelles*, *Russia Today France*, etc.).

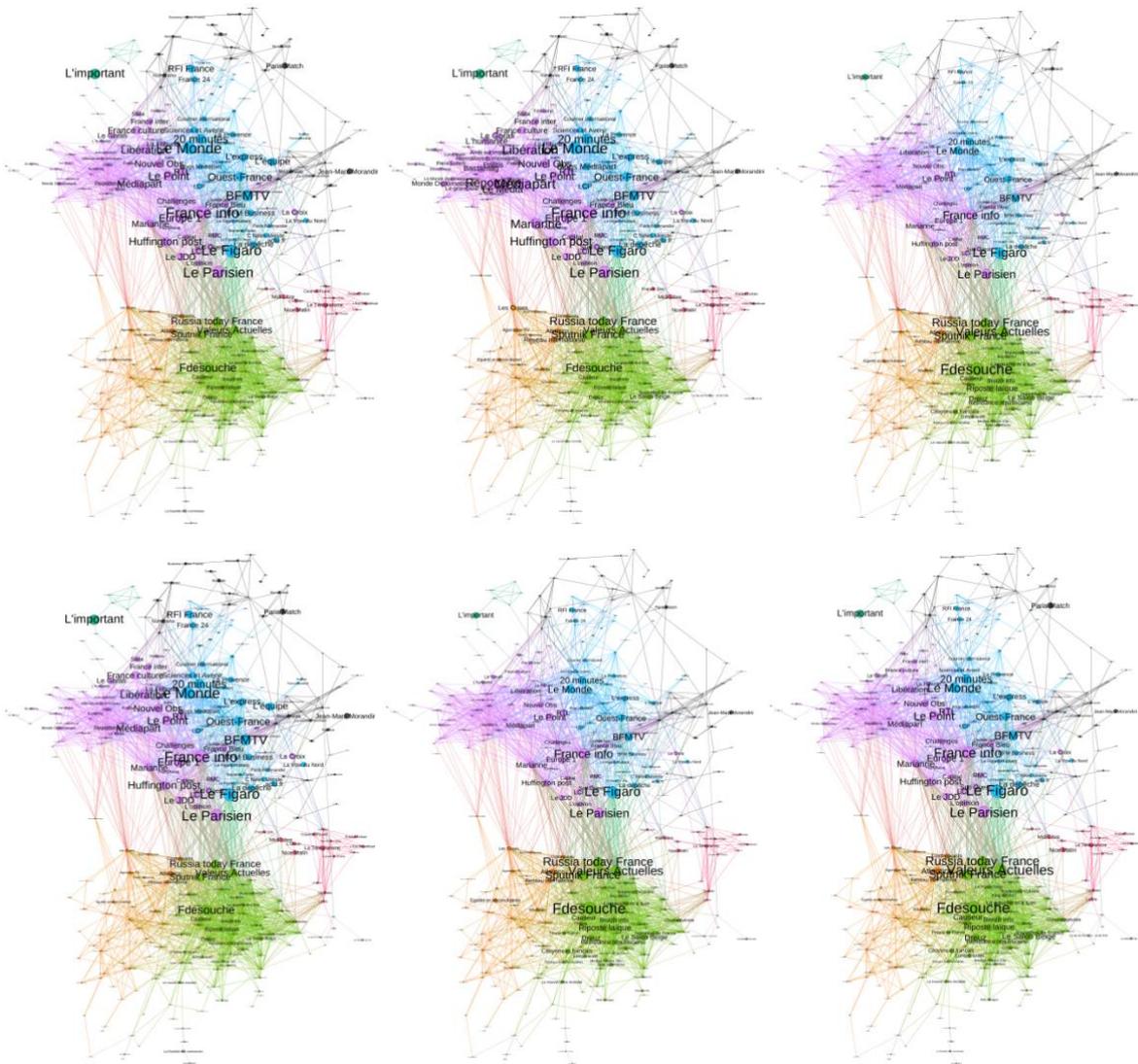


Fig. 9. Overlay maps for supporters of Emmanuel Macron (top left), Jean-Luc Mélenchon (top middle), Marine Le Pen (top right), Benoît Hamon (bottom left), Florian Philippot (bottom middle) and Laurent Wauquiez (bottom right). While the background structure stayed the same, the variation of node sizes showed how the supporters of different political actors pick the news stories they share on Twitter.

4. Audience and visibility

We first plotted, in Fig. 10, the distribution of the number of articles produced by the 9 main categories of our analysis. We compare this information with different scores we computed for each media and then aggregated at the level of each block. We measure the number of citation links linking a certain group of media (in any direction). Mediacloud

also allows us to estimate the number of times each article is shared on Facebook. Our Twitter corpus allows us to estimate the global frequency of each article, media and block of media citations on Twitter. Figure 10 also indicates a rough estimation of the total audience of each block of media.

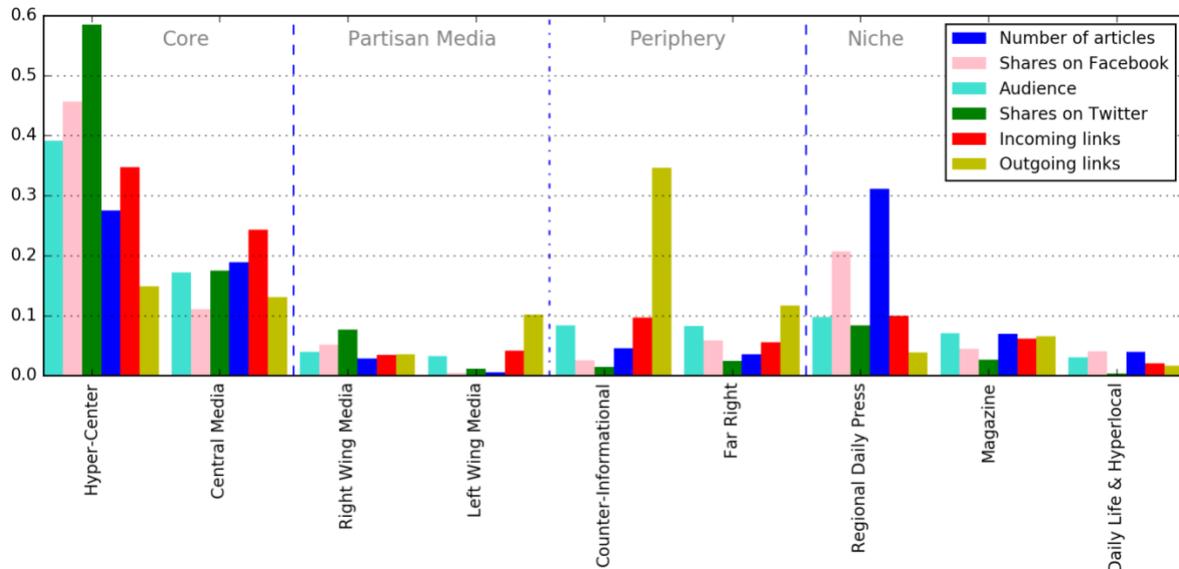


Fig. 10. Aggregated proportions of articles, tweets, audience, Facebook shares and (outgoing and incoming) links measured for each block.

For the sake of clarity, we simplify the overall structure and group together the 4 blocks – Anti-Islam, Counter-Information, National Revolutionary and Alternative Health – into the same class that correspond to the 2nd level sub-block entitled Counter-Informational Space. Similarly, we create a new group titled Daily Life and Hyperlocal by the aggregation of two blocks sharing the same profile: Daily Life and Hyper-local Press.

These raw statistics show that the total number of articles produced by media situated in the ring (block model partition at level 2) is actually very small. Limited to blocks belonging to the counter-informational space (at level 1), the sub-blocks entitled “anti-islam”, “counter-information”, “revolutionary nationalists” and “alternative health” do not even account for 5% of the total number of articles produced, even though they encompass a very significant proportion of the websites in our corpus. The far-right block also produces a limited number of articles (around 3%).

One may expect the distribution of attention to show different patterns when turning to different kinds of social networks like Facebook. However, the hierarchy between the various sub-spaces is surprisingly stable despite some interesting deviations. For instance, the regional press’ relative presence on Facebook is twice as strong as on Twitter. While the Hyper Center monopolizes citations on Twitter (58%), it is slightly smaller on Facebook albeit still very high (45%). Note that the share of citations of Right Wing media and Far-Right media is as high as 5%.

Finally, we also estimated the total audience that the websites in every block are receiving. We ran a regression analysis to estimate the global online audience of each

media using every statistic at our disposal and training our model with data from ACPM⁷. ACPM is a professional press organization that publicly shares information regarding the audience of approximately 150 media outlet websites (including local press, magazines, etc.) every month. The logit model we computed has an adjusted R^2 of 0.66 and is mostly driven by two variables: the number of likes of the associated Facebook page and the total number of articles which were shared on Facebook. This statistics should be interpreted cautiously as audiences are very hard to estimate, and numbers are particularly uncertain when dealing with smaller websites. Given the skewed distribution of reliable audience data toward traditional mainstream media (as distributed by ACPM), we think our model tends to over-estimate the actual audience of smaller media particularly if they are pure-players. The shares of audience summed over each block are plotted in Figures 10. Nevertheless, the overall distribution of audience again demonstrates how the central media space is “dominating” the rest of the French media ecosystem.

The visibility on social media and on Twitter in particular amplifies this pattern. The visibility of the counter-informational space is very low as the hyper-center accounts for 58% of tweets. Central Media account for almost 18% of our collection, and the regional daily press for only 8%. Political media blocks respectively account for 7% and 1% of the total number of tweets, while the rest of the ring – meaning the counter-informational space and the Far right – compose less than 3% of our corpus of tweets.

5. Story circulation

We then take a different perspective and examine how certain news stories or general topics are distributed over the entire information space we describe. The previous section analysis shows that for the main part those internal divisions correspond to different readerships. We then naturally expect that this kaleidoscopic information space will feature various viral properties. More specifically, certain news stories or topics may be better suited to one sub-block than another. To check this assumption we decided to manually build corpora around certain news stories. For instance, we used the query “aquarius” on the MediaCloud platform to locate the articles written about the famous rescue vessel for migrants and refugees cruising the Mediterranean. At this level of granularity, we capture only topical coherence and cannot distinguish between articles supporting the choice of Italy not to welcome migrants anymore, or articles criticizing the lack of generosity of European governments. In any case, this method still enables us to show which story is central to the media agenda of a given sub-block. Fig. 11 shows that, after normalization, articles about the Aquarius were clearly much more frequent among the Anti-Islam and Far-Right spaces. Conversely, the term hardly shows in articles published in the blocks “Alternative Health” and “Practical Life”. More interestingly, “Magazines” and “Left Media” sub-blocks are also silent on the subject. We built histograms for each of the 22 queries we manually designed. They examine attacks committed in France or abroad during the last six months (“attentat égyptien”, “attentat opéra”, “gendarme Beltrame”), political decisions and societal events (“macron migrants”, “macron vatican”, “Aquarius”, “Benalla”, “Maduro”, “Whirlpool”, “tolbiac prostitution”, “parcoursup”, “yellow vests”, “Soros”) or less politicized news regarding sport or the royal wedding (“meghan clarke”, “dimitri payet”, “Benzema”).

⁷ <http://www.acpm.fr/Chiffres/Audience>

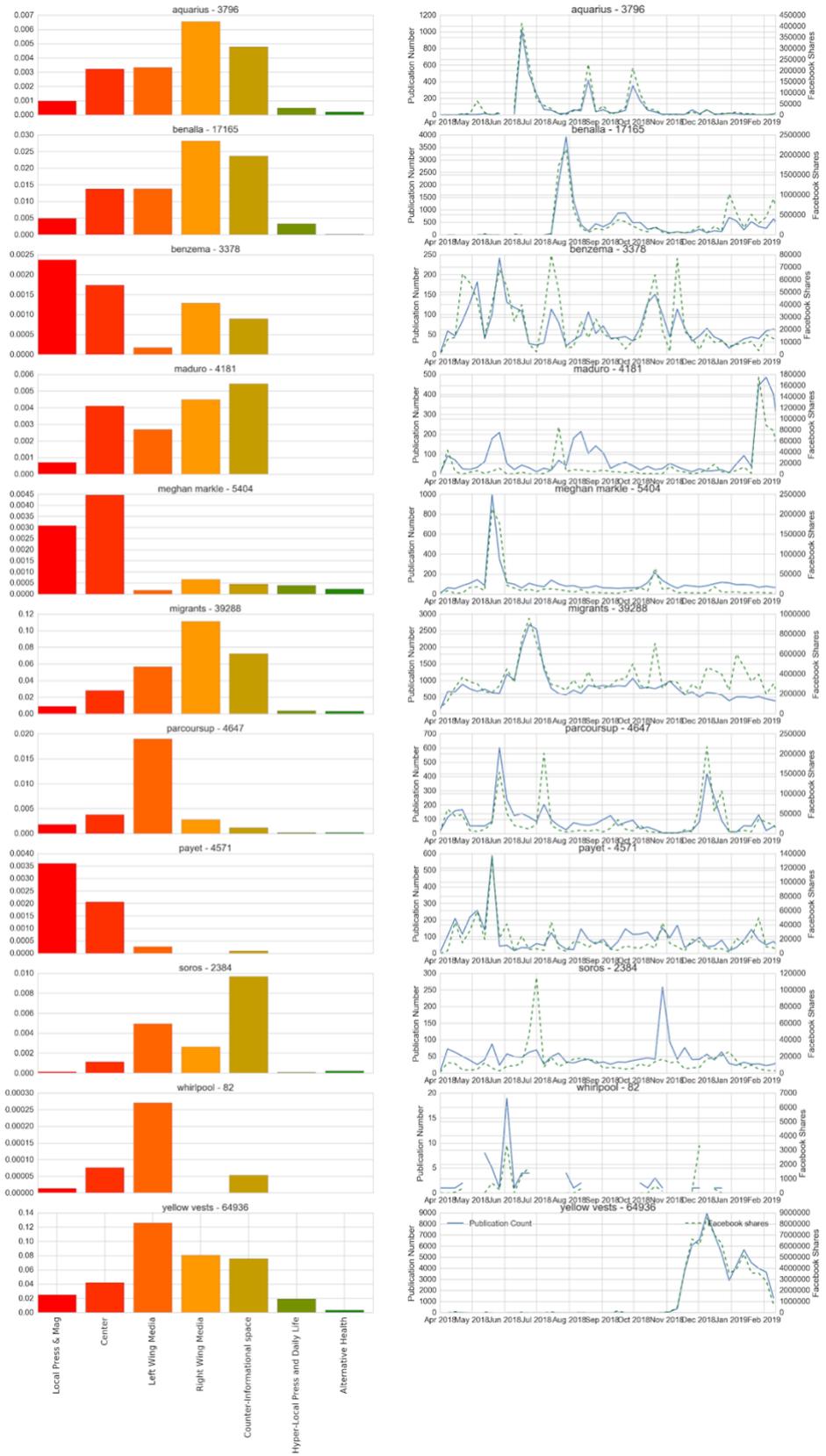


Fig. 11. Stories' (indexed by MediaCloud) penetration in the various media spaces. Note that we measure the local frequency of each word in the content produced by every block and not the shares of each block in the coverage of each topic. Additionally we plot the time evolution of each corpus over one year distinguishing between the publication count and the number of Facebook shares.

Future research

While the practices of professional journalists maintain a clear separation of the counter-informational space from the traditional media, we have found that some particular pathways are organized through Twitter. But the variety of existing media in the counter-informational space should be counterbalanced by the very limited audience they actually aggregate on their pages. Further study would be helpful at better estimating the distribution of attention over Internet users.

Studying the circulation of information online requires to go beyond the single-platform approach and to embrace an ecosystems approach. This project takes a transversal view on this question to avoid the classical risk of misinterpreting users' practices that scholars run when considering digital platforms and their dynamics separately from one another (Tucker & al., 2018). We strongly believe that the circulation of information and its reception – how reliable it seems to the audience – follows distinct modalities according to the kind of digital space in which it is disseminated. For that reason, we propose to conduct research that closely articulates data from Facebook, Twitter and websites. It would be very useful to integrate data from Facebook (links to shared articles in conversations) to constitute a third level of analysis that is different from hypertext links between websites and the circulation of articles from retweets.

Acknowledgement

This work has benefited from regular discussions with Bruno Patino at School of Journalism of Sciences Po, and the expert committee gathered by Institut Montaigne from Spring to Winter 2018. Feedbacks provided by Yochai Benkler and Ethan Zuckerman during the course of this work were also extremely helpful. We are also thankful to Tim Fingerhut who worked on the project as a research assistant in Summer 2018.

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Appendix

List of media sources:

Lemonde.fr	Wikistrike.com	Leberry.fr	Informations-En-Direct-France.com
Lefigaro.fr	Cnews.fr	Geo.fr	Lapressegalactique.com
Leparisien.fr	Paris-Normandie.fr	lahorde.Samizdat.net	Les-Identitaires.com
Francetvinfo.fr	Gala.fr	Pauljorion.com	Mariefrance.fr
Liberation.fr	60millions-Mag.com	Santenatureinnovation.com	monde.Taibaweb.com
Lepoint.fr	Agoravox.tv	premium.Lefigaro.fr /.../le-scan	Nos-Medias.fr
20minutes.fr	Reinformation.tv	Lechorepublicain.fr	Pelerin.com
Lesechos.fr	Ripostelaique.com	Lest-Eclair.fr	Rhonealpesinfo.fr
Europe1.fr	Lindependant.fr	Les4verites.com	Topsante.org
Bfmtv.com	Zdnet.fr	Enquete-Debat.fr	Lemonde.fr /m-le-mag
Huffingtonpost.fr	Jeanmarcmorandini.com	Fakirpresse.info	Monde-Libertaire.fr
Lexpress.fr	Ojim.fr	Rue89strasbourg.com	Rivarol.com
Nouvelobs.com	Republicain-Lorrain.fr	Maitre-Eolas.fr	Alalumieredunouveaumonde.blogspot.com
Ouest-France.fr	mashable.France24.com	Ilfattoquotidiano.fr	artdevivresain.Over-Blog.com
Rtl.fr	Ndf.fr	Korben.info	Buzzly.fr
Lejdd.fr	Marieclaire.fr	Lemainelibre.fr	Info24.fr
Franceinter.fr	Nouvelordremondial.cc	Leseconoclastes.fr	Lescrutateur.com
Francebleu.fr	Stopmensonges.com	Lyonne.fr	messagesdelanature.Ek.la
Ladepeche.fr	Voici.fr	Information.info	Revolutionvibratoire.fr
Sudouest.fr	Clubic.com	Lejournaldusiecle.com	Spi0n.com
Slate.fr	etudiant.Lefigaro.fr	Melty.fr	Francedimanche.fr
La-Croix.com	fr.Novopress.info	Quenelplus.com	Lapressedelamanche.fr
Lci.fr	Tvlibertes.com	Mediacites.fr	Astucerie.net
Challenges.fr	Vice.com /fr	Al-Kanz.org	Borisley.com
Mediapart.fr	Elle.fr	Brujitafr.fr	Herault-Tribune.com
Rfi.fr	Nouvelobs.com /rue89	etienne.chouard.Free.fr	Infoetsecret.com
Parismatch.com	Charentelibre.fr	Hitek.fr	Jesuisfrancais.net
Marianne.net	Commentcamarche.net	Leblogalupus.com	Letopdelhumour.fr
blogs.Mediapart.fr	Contribuables.org	Lenouveleconomiste.fr	Non-Stop-Politique.fr
Latribune.fr	Europe-Israel.org	Paris-Luttes.info	Scienceinfo.fr
Lavoixdunord.fr	Lavie.fr	Acteurspublics.com	Telez.fr
Franceculture.fr	Polemia.com	Nordeclair.fr	Tomimag.fr
Midilibre.fr	fr.Sott.net	E-Sante.fr	Lechasseurfrancais.com
Ledauphine.com	Telestar.fr	Eddenya.com	Lasemaine.fr
Lesinrocks.com	Businessbourse.com	Nice-Provence.info	Aoc.media

Sciencesetavenir.fr	lesalonbeige.Blogs.com	o.Nouvelobs.com	Bestsante.com
Capital.fr	Mrmondialisation.org	Radiocourtoisie.fr	Boucherie-Ovalie.org
Courrierinternational.com	Premiere.fr	Glamourparis.com	Buzzarena.com
France24.com	Afp.com /fr	Lemediatv.fr	chaoscontrole.Canalblog.com
Humanite.fr	Oumma.com	hightech.Bfmtv.com	Commentaires.com
Atlantico.fr	lentreprise.Lexpress.fr	Charliehebdo.fr	Darons.net
Telerama.fr	Sofoot.com	Rue89bordeaux.com	Familysante.com
francais.Rt.com	Arretsurinfo.ch	Lejdc.fr	A-Droite-Fierement.fr
Numerama.com	Bondyblog.fr	Actionfrancaise.net	L-Echo.info
Leprogres.fr	blog.Lefigaro.fr	fr.Awdnews.com	Lamininfos.fr
bfbusiness.Bfmtv.com	Positivr.fr	Lesmoutonsrebelle.com	Morandinisante.com
fr.Sputniknews.com	Allodocteurs.fr	Letribunaldunet.fr	ovniparanormal.Over-Blog.com
Lequipe.fr	Fawkes-News.com	Causette.fr	Protegetasante.net
Buzzfeed.com	blog.Mondediplo.net	Francefootball.fr	Purfi.com
Nicematin.com	Legorafi.fr	Infos-Bordeaux.fr	T0pibuzz.com
Laprovence.com	Lejsl.com	Lamarseillaise.fr	premium.Lefigaro.fr /.../le-scan-eco
Reporterre.net	Psychologies.com	mk-polis2.Eklablog.com	Radioorient.com
Agoravox.fr	Union.fr	Resistanceauthentique.net	Lemonde.fr /blogs
rmc.Bfmtv.com	Larep.fr	Notretemps.com	Nousdeux.fr
Letelegramme.fr	Vosgesmatin.fr	Vogue.fr	Be.com
Lopinion.fr	Conspiracywatch.info	Astucesnaturelles.net	Autohebdo.fr
Valeursactuelles.com	Corsematin.com	El-Manchar.com	Onzmondial.com
Linternaute.com	Presseocean.fr	Lebreviairedespatriotes.fr	Bmf-News.com
Estrepublicain.fr	Resistancerepublicaine.eu	Lengadoc-Info.com	Lepetitbuzz.fr
lexpansion.Lexpress.fr	russeurope.Hypotheses.org	Lundi.am	Actumag.info
Actu.fr	Science-Et-Vie.com	Minute-Hebdo.fr	Cool-Buzz.net
Monde-Diplomatique.fr	Public.fr	Cosmopolitan.fr	Corsemachin.com
Bvoltage.fr	Gqmagazine.fr	Lerevenu.com	edukactus.Wordpress.com
Francesoir.fr	24heuresactu.com	Cahiersdufootball.net	Jeanpaulney.com
Fdesouche.com	Lagazettecommunes.com	Femina.fr	Lasardineduport.fr
Lanouvellerepublique.fr	Femmeactuelle.fr	Contexte.com	Lechodelaboucle.fr
madame.Lefigaro.fr	Christianophobie.fr	Centrepresseaveyron.fr	Nrpyrenee.fr
Egaliteetreconciliation.fr	Grazia.fr	Echelledejacob.blogspot.com	Penserlibrement.fr
tvmag.Lefigaro.fr	Lesjours.fr	Infochretienne.com	Ravelations.fr
Courrier-Picard.fr	Contre-Info.com	Limportant.fr	Topastuces.net
Bastamag.net	Courrierdelouest.fr	Morpheus.fr	Authueil.fr
Causeur.fr	Lagauchematuer.fr	Nationspresse.info	Patriote.info
Contrepoints.org	Lecanardenchaine.fr	Reforme.net	Liberation.fr /blogs

Boursorama.com	Autoplus.fr	Caminteresse.fr	Maxi-Mag.fr
Quechoisir.org	24matins.fr	Antipresse.net	Rocknfolk.com
Arretsimages.net	Sante-Nutrition.org	Arcturius.org	Fhm.com
Lalsace.fr	Yagg.com	Canardpc.com	Midi-Olympique.fr
Reseauinternational.net	Agenceinfolibre.fr	Citoyens-Et-Francais.fr	Akhnapress.com
Publicsenat.fr	2012un-Nouveau-Paradigme.com	Gamekult.com	Astuce-Du-Jour.net
Alternatives-Economiques.fr	Hoaxbuster.com	henrymakow.Wordpress.com	Astuces-Femmes.net
Les-Crises.fr	Jssnews.com	Jeune-Nation.com	Astucesdesfemmes.com
Clostermag.fr	Larepubliquespyrenees.fr	Parisvox.info	Buzzbeed.com
Voltaire.net	Lesbrindherbes.org	Pausecafein.fr	Buzzdemois.com
Varmatin.com	votreargent.Lexpress.fr	Leveil.fr	Buzzligne.com
Breizh-Info.com	Lepopulaire.fr	Pointdevue.fr	Cuisine-Et-Sante.net
Dna.fr	Vsd.fr	Bibamagazine.fr	Electrosensible.info
Lcp.fr	Cercledesvolontaires.fr	Reseaulibre.org	Eurocoop.fr
Streetpress.com	Delitimages.org	francaisdefrance.Wordpress.com	Horsdevospenses0833.blogspot.com
01Net.com	Initiativecitoyenne.be	Info-Contre-Info.fr	humouredroite.Tumblr.com
Acrimed.org	Investigation.net	Infos-Toulouse.fr	Infosmaintenant.net
Alterinfo.net	Journaldesfemmes.com	ns2017.Wordpress.com	La-Suite-Mobile.com
Nextinpact.com	Lelibrepenseur.org	Tariqramadan.com	Lasirenedupaysbasque.fr
Lamontagne.fr	Professeur-Joyeux.com	Courrierdesmairies.fr	Lastucieuse.com
Legrandsoir.info	Topito.com	citoyenveilleur.Canalblog.com	Lenvoidunord.fr
Medias-Presse.info	Alternativesante.fr	Diktacratie.com	Leouestfranc.com
Politis.fr	Espritsciencemetaphysiques.com	Islamisme.fr	Lespipelettes.net
fr.Euronews.com	Rue89lyon.fr	Peupledefrance.com	Leweek.info
Bienpublic.com	La-Chronique-Agora.com	Jhm.fr	Lifeands.com
Businessinsider.fr	Rebellyon.info	Bilboquet-Magazine.fr	Mespropresrecherches.com
Dreuz.info	Santeplusmag.com	Bravepatrie.com	Mondebuzz.net
Konbini.com	Cnewsmatin.fr	Footballfrance.fr	Monopinionlibre.blogspot.com
Lesmoutonsenrages.fr	Ipsn.eu	Freewiseman.com	Occitanie-Tribune.com
Piremedias.com	Tfi-Info.com	Worldtvdesinfo.com	Ojobuzz.co
Santeacademy.com	Topdunet.org	interetsprives.Grouperf.com	Magazine-Du-Net.net
Telecablesat.fr	Vieincroyable.com	Moto-Journal.fr	Lepique.com