Framing Covid-19 as an Environmental Health Issue:

Narratives in Europe and their interpretations[1]

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1 Introduction

The Covid-19 crisis has been characterized by a rather intense "battle of narratives" that took place among countries, especially the US, China, the EU, Brazil or Taiwan, whose main objectives were to point the finger at the primary responsibility of this global pandemic while defending their interests. Simultaneously, Covid-19 has also been presented as a threat to global peace and security (UN, 2020), a threat to global food security (WFP, 2020), a "Chinese virus" (Webei, 2020), a "turning point for globalization" (Schifferes, 2020) or even "a God's punishment" (Martin, 2020). In other words, the Covid-19 pandemic has been described according to different frames that the audience received with varying frequencies.

This study proposes to focus on one of these frames, namely the one which has emphasized the interactive link between Covid-19 and "environment". Linking health to the environment is not uncommon since it is at the core of a public health discipline called "environmental health", and defined by the World Health Organization (WHO) as "all the physical, chemical and biological factors to a person, and all the related factors that can potentially affect health"(WHO, 2006), and, by the US CDC as « the discipline that focuses on the interrelationships between people and their environment, promotes human health and well-being and fosters a safe and healthful environment" (US CDC, 2018).

Indeed, environmental health has been progressively shaped through the study of certain links between specific environmental issues and human health status. In Europe,

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while in the 1960s, following previous historic pollution episodes in several European countries (Knowlton, 2011), this new academic discipline mainly focused on air pollution and its negative health consequences, in the 1990s, food safety, water quality, ambient and indoor air quality, road and industrial accidents, human settlements, workplace, and organization, as well as armed hostilities, were all considered as major environmental health issues for their potential impacts on European citizens' health conditions (WHO ROE, 1999). Since then, other issues such as climate change, deforestation, land-use change, loss of biodiversity (Whitmee et al., 2015), as well as smoking, noise, or ultraviolet (UV) radiation have been added to the list of environmental determinants of human health.

These last two decades, with the (re-)emergence of communicable diseases such as dengue fever or rabies, and simultaneously the outbreaks of deadly pathogens such as SARS, H1N1, chikungunya, Zika, or Ebola, one specific interaction between "environment" and "health" has drawn much attention, namely the link between "communicable diseases" and "environment" (Tesla and al., 2018; Fan and Liu, 2019). Covid-19 has not been an exception of such a process in Europe deeply affected by this pandemic with around 2,2 million cases, and more than 181,000 deaths in the EU plus the UK, Iceland, Liechtenstein, and Norway (on September 1st, 2020)[4].

The process which has emphasized the link between "Covid-19" and "environment" has been particularly salient in the written European media which remain the most popular and convenient source of (public health) information for most citizens in general (Coleman R. and al, 2011), and especially during the coronavirus crisis (Ofcom, 2020).

This is the construction of Covid-19 as an issue of "environmental health" in Europe, meaning as an (in)direct consequence of the environment-human interface but also as a communicable disease in respect of which national responses have been beneficial for - or should be beneficial for - the protection of the environment, that this article aims to study through the qualitative analysis of European written media during the first wave of this global outbreak in Europe. Indeed, this study proposes to respond to the following research questions: How European mainstream newspapers have constructed/framed the Covid-19 pandemic as an environmental health issue, that is to say and how such framings might be interpreted in the context of the first wave of the pandemic in Europe?

Answering such a question in a time of (health) crisis is important to deconstruct the process and to identify the actors and motivations that led to this specific framing, but also to understand – and if necessary to challenge – ideological and power

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[4] European Center for Disease Control and Prevention (ECDC), COVID-19 situation update for the EU/EEA and the UK, as of 1 September 2020, https://www.ecdc.europa.eu/en/cases-2019-ncov-eueea.

structures in society.

This paper has been divided as follows: first, it provides an overview of the framing paradigm which has been applied in this study and presents how health issues have been framed so far in the academic literature. Secondly, it presents its methodology, namely qualitative news frame analysis and different case-studies. Third, it shares and discusses the main results of this research by categorizing the different frames used to link "Covid-19" and "environment" and their possible interpretations. Here, five major frames have been identified and discussed: 1) Reduction of human activities due to Covid-19 and its positive effect on the environment and climate change, 2) Covid-19 as an opportunity for reshaping urban mobility in Europe to reduce air pollution, 3) Covid-19 as a consequence of the destruction of ecosystems and biodiversity by human activities, 4) Post-Covid-19 period as a unique occasion to trigger an ecological transition towards a sustainable economy, and 5) Covid-19 as an effect of the violation of multilateral environmental agreements. Finally, it draws some conclusions about the predominant frames used by the news media in Europe and their interpretations and potential effects on the Austrian, Belgian, French, and German societies.

2 Framing Theory and Health Issues

According to the framing theory first elaborated by sociologist Erving Goffman in the 1970s (Goffman, 1974) and then developed into an interdisciplinary research program through the publication of numerous studies applying frame analysis in different fields, framing can be understood as a process that selects certain aspects of one specific issue and makes them more prominent or left them out to construct a particular definition of a problem, to highlight specific causes and to propose certain solutions (Entman, 1993). One of the main postulates of framing theory is that news is not an exact representation of reality and that such social construction of reality has a significant impact on the audience's perception towards that issue, but also on individuals' behavior, and finally on social interactions (Goffman, 1974). Indeed, it is considered that how an issue is presented to the audience (frame) influences choices people make and their perception of the issue by the audience. Consequently, these frames do not only draw the audience's eyes towards specific issues (agenda-setting theory) but also influence them on how to think about that issue (second-level agenda-setting or framing theory) (Waever, 2007). Issues can be framed in terms of benefits when the way an issue is presented emphasizes benefits and positive outcomes (gain-framed), or in terms of costs when an emphasis on its disadvantages or negative effects is used to talk about an issue (loss-framed) (Kenterelidou, 2012:118).

Media play a significant role in framing issues by covering specific issues, selecting specific resources from a particular angle, and then projecting that constructed reality to its audience. Thus, scholars have shown that the way media define an issue and emphasize some aspects of an issue, while omitting others, deeply affect the public's understanding and reaction to that issue, and have a concrete influence in shaping policy decisions and their public support (Kenterelidou, 2012:118; Van Aelst, 2014). This capacity "in orchestrating everyday consciousness" (Kenterelidou, 2012:120) has often granted to the media the status of "primary definers" (Anstead and Chadwick, 2017). This is not to say that other actors, like governments, corporations, or Non-Governmental Organizations (NGOs), cannot play such a role on specific issues, however, with access to their content made easier through Internet, their fast reactivity to events, and their attractive coverage, media represent a powerful actor in the daily framing of events (de Vreese, 2014).

Within this competitive environment of framing, the impact of a specific frame will depend on its effectiveness, that is, its capacity of influencing individuals' opinions. Consequently, some frames are considered as "stronger" than others in constructing an issue in a certain way (Chong and Druckman, 2007:104). Different factors explain the "strength" of these frames, including their frequent repetition within the public sphere making them loudest, their emphasis on gains or losses, the level of credibility of their source as well as their resonance with consensual values and strong beliefs (Sniderman and Theriault, 2004; Chong and Druckman, 2007:104; Kenterelidou, 2012:118).

In the field of public health, health issues such as communicable diseases and epidemics, like AIDS, SARS, H5N1 or Ebola (Wu, 2006; Rollet, 2014; Pieri, 2019), non-communicable diseases like cancers (Andsager and Powers, 2001) or health-related behavior like smoking (Kenterelidou, 2012) have been studied through media framing analysis. Simultaneously, in political science and international relations, the framing of health policies developed at the global level (McInness and Lee, 2015), implemented by different countries within the framework of their foreign policies (Labonté and Gagnon, 2010), or promoted by regional organizations (Amaya, Rollet and Kingah, 2015) have also raised interest among scholars.

Depending on the health issue, different frames have been identified and assessed. Thus, for example, Ebola has been depicted in the UK media as a localized African crisis before being presented as a regional crisis and then as a global security threat, but also as a factor of panic in the West (Pieri, 2019); breast cancer has been framed in four major US women's magazines in terms of coping with its effects, personal experiences, and risk factors (Andsager and Powers, 2001), and the European Union (EU) framed health as a cross-cutting policy issue, while the Association of Southeast Asian Nations (ASEAN) considered it as a security issue, the Southern African Development

Community (SADC) as a driver for development and the Union of South American Nations (UNASUR) as a human right (Amaya, Rollet and Kingah, 2015). One of the common conclusions of these different studies assessing health issues framing is that some frames have been more influential than others, and when it was the case, they had a significant impact on the perception and behavior of the audience (citizens or policy-makers) and were useful to understand individual and social changes as well as health-related policy orientation.

Methodology

The methodological approach adopted by this study is 'qualitative news frame analysis' that prefers a text-based interpretative and qualitative approach rather than a quantitative content analysis or computer-assisted frame analysis (Linstrom and Marais, 2012). Indeed, such methodological choice has the advantage to "resist the reductionist urge to sort media texts and discourse into containers and count their size or frequency" as it "captures the meaning embedded in the internal relations within texts, which collapsing into reductive measures would obscure" (Reese 2007:10). Furthermore, as explained by Wood, "qualitative methods are valuable when we wish not to count or measure phenomena but to understand the character of experience, particularly how people perceive and make sense of their communication experience. This involves interpreting meanings and other unobservable dimensions of communication" (Wood 2004:69). In other words, qualitative news frame analysis aims to understand the meaning of texts in a holistic manner and is analytic and interpretative (Linstrom and Marais, 2012:26).

Finally, qualitative news frame analysis represents the most suitable research instrument to examine skillfully and conceptualize how the covid-19 pandemic is told in textual form and to understand how media - and then their readers - perceive and make sense of this exceptional event. By choosing a qualitative approach to appreciate environmental health framing in the European newspapers during the Covid-19 pandemic, this study has made the choice to use a flexible approach that captures national media's opinion and elaboration of specific frames, and that explains how media and their readers had experienced Covid-19.

In general, the methodology used for qualitative news frame analysis rests on three main phases: 1) general multiple reading of the articles while taking descriptive notes about the content, 2) second reading to identify certain recurring themes, frames, values, and topic categories, and 3) in-depth interpretation of the articles (Alozie 2005:66, Linstrom and Marais, 2012:31). Since this study focuses on a specific frame – the

environmental health frame of Covid-19 – and aims to compare its construction and nature in different European countries, in the light of the above methodology, this study has followed the subsequent steps: 1) multiple reading of articles linking "Covid-19" and "environment" while taking descriptive notes about the content, 2) second reading to identify certain recurring links between Covid-19 and environment, and finally, 3) an interpretation of the construction of these links, their origins, objectives, and potential impacts.

More specifically, for this research, "environmental health frames" of Covid-19 – or how Covid-19 has been linked to environmental issues – in mainstream newspapers in four European countries, namely Austria, Belgium, France, and Germany, have been closely studied. There are two main reasons for these empirical choices. First, since this study is comparative, we have considered relevant to conduct this research in countries that have been affected similarly during the first wave of the Covid-19 in Europe. This was the case of France and Belgium which have been deeply affected and Austria and Germany which were less impacted. Such case-studies identification allows us to appreciate if similar situations engender identical or different framing, and whether different impact levels of Covid-19 led to different or similar "environmental health framing" of Covid-19 in Europe. The second reason that explains the choice of these case-studies is that while French or/and German are the national languages of these four countries, working on non-English written news is also a way to contribute to the linguistic enlargement of the academic research using media framing analysis which in general remains highly focused on English-written news.

The research sample of this study consists of the major and most-read French and German newspapers published in Austria, Belgium, France, and Germany, which provide a representative sample of the media environment in these four European countries (see Table 1)

This study looks at the nature and the evolution of the link constructed by these media between "Covid-19" and "environment" and investigates its meaning, origin, and potential effects on the European audience. The identification of articles creating such a link has been done through the search on each newspaper website of a range of recall keywords in French and German. These keywords include: "Covid-19", "Coronavirus", "virus de Wuhan", "SARS-Cov-2", "pandémie" and "épidémie" in French as well as "Covid", "Corona", "Pandemie" and "Epidemie" in German. These keywords are searched together along with the term "environement" (in French) and "Umwelt" in German.

This study defines "environment" broadly since it includes physical, biological, chemical, social, and psychosocial environments considered as able to have an influence on human health (WHO ROE, 1994). The search and the analysis of

newspaper articles have been conducted around a chronology of the unfolding of the Covid-19 crisis in Europe (see Box 1). The study includes articles published during the first wave of Covid-19 (February 1st and June 30th, 2020).

Table 1: Overview of major news portals in Austria, Belgium, France, Germany.

Austria[5] (*population*: 8.8 million)	*Range*	*Unique visitors* (monthly, in million)	*Visits* (in million)
Kronen Zeitung	32%	2.0	24.2
Der Standard	30%	1.8	16.8
MeinBezirk.at	27%	1.7	5.6
Heute	26%	1.6	7.4
Oe24.at	23%	1.4	9.2
Kleine Zeitung	22%	1.3	9.2
Kurier	21%	1.3	2.4
Die Presse	19%	1.2	6.5
Belgium[6] (*population*: 11.5 million)	*Number of copies* (daily) [audience]		*Internet visits* (monthly)
Le Soir	74,016 [639,400]		3,206,640
Dernière Heure (DH)	55,832 [609,900]		3,154,200
La Libre Belgique	339,700 [39,044]		3,060,000
L'Echo	13,798 [166,700]		621,325
France[7] (*population*: 67 million)	*Number of copies* (daily) [audience]		*Internet visits* (monthly) June 2020
20 Minutes	916,386 [na]		102,367,095
Le Figaro	333,057 [1,571,000]		137,381,816
Le Monde	336,522 [2,338,000]		131,133,350
Le Parisien	187,118 [na]		84,182,519
Les Echos	132,210 [663,000]		21,687,932
La Croix	100,259 [582,000]		7,351,789
Libération	73,963 [818,000]		18,077,952
Germany[8] (*population*: 83 million)	*Unique visitors* (monthly) (in million)		
t-online.de	29		
Focus	27.9		
Bild	25		
Der Spiegel	22.2		
Web.de	22.2		
Welt	21.9		
Chip	21.5		
N-TV	21.2		
RTL	18.7		
Stern	16.9		
Frankfurter Allgemeine Zeitung	15.6		
RND	15		
Süddeutsche Zeitung	14.5		
Zeit	13.7		

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[5] Reppublika by Mindtake.
[6] https://www.cim.be/fr.
[7] https://www.acpm.fr.
[8] https://de.statista.com/.

Table 2: Timeline of Coronavirus-outbreak:

- *December 2019*: Outbreak of a novel coronavirus in Wuhan, **China**

- *23 January 2020*: Beginning of a lockdown period in Wuhan, **China**

- *24 January*: 1st case of Covid-19 in Europe and in **France**

- *27 January:* 1st case in **Germany**

- *4 February:* 1st case in **Belgium**

- *19 February:* **France** sends medical equipment (17 tons) to China

- *23 February*: Head of Institute of Virology at Charité indicates that **Germany** faces a pandemic and containment is no longer achievable

- *21 February*: Covid-19 cases in the EU (62 cases)

- *25 February*: 1st case in **Austria**

- *1st March:* Covid-19 cases in the **EU** (2,144 cases)

- *11 March:* Covid-19 labeled as a pandemic by the World Health Organization (WHO)

- *13 March*: Curfews and restrictions for shops and restaurants in **Austria**

- *17 March*: Beginning of a lockdown period in **France** (7,730 cases and 175 deaths)

- *18 March:* Beginning of a lockdown period in **Belgium** (1,486 cases)

- *22 March*: Curfews in six **German** states (other states prohibited physical contact with more than one person from outside one's household)

- *1st April:* Covid-19 cases in the **EU** (445,590 cases)

- *8 April:* End of a lockdown period in Wuhan, **China**

- *14 April*: **EU** makes additional €3.1 billion available to tackle COVID-19 crisis

- *14 April*: **Austria** gradually reopens businesses

- *20 April*: Shops reopen in **Germany** (with differences from state to state)

- *24 April*: Progressive end of a lockdown period in **Belgium**

- *30 April*: End of exit restrictions in **Austria**

- *1st May:* Covid-19 cases in the **EU** (1,136,537 cases)

- *11 May*: Progressive end of a lockdown period in **France** (until June 22nd)

- *1st July*: **EU** reopens its borders to 15 countries

Concerning the data analysis approach, to deconstruct this "environmental health framing process", the analysis of these articles has been particularly attentive to different elements including, the assumptions/arguments developed to support a link between "Covid-19" and "environment" (frame building), the source or "primary definers" of such frames (frame sources), the language used to frame this pandemic (frame rhetoric), the eventual patterns (recurrence of ideas and specific links) emerging in one country but also in different countries in Europe (frame patterns), and the visible effects of such framing on the audience (frame effects). For each case-study, this was followed by an in-depth interpretation of these "environmental health frames" of

Covid-19 that took into account the national, European, and international context of the news to make sense of the framings, as well as an observation of their probable societal effects. Finally, a comparison between framing processes in the four countries covered by this study has been also conducted, and similarities, divergences, as well as convergences, identified.

3 Case Studies

3.1 Austria: Covid-19 and Green Mobility in Vienna

Public space across many cities in Europe is unequally distributed. Consequently, cities find themselves in a situation facing difficulties to implement green policy measures for mobility. Mobility is closely linked to environmental and health issues since transportation is a major source of air pollution and greenhouse gases. Due to the corona pandemic, the volume of traffic in Austria has decreased considerably. This is particularly true for urban regions. The capital city of Vienna with about 1,9 million inhabitants not only represents the most populated state (21%) but also an economic center with a high GDP per capita (51,000 €/capita).[9] With the first acknowledged Coronavirus patient on February 25th, 2020, the Austrian government set countermeasures to fight the spread of the virus. When curfews were imposed in mid-March, life in Vienna came to an abrupt halt.

Due to exit restrictions and large parts of the population work in home-office, mobility patterns changed significantly across the city. Passenger numbers for public transport went down by 80%[10] and car traffic went down by 52%.[11] Where in the past people jumped on the bus, tram, or subway to move around the city, people started to walk or take their bikes. To be able to enable social distancing even in densely populated areas and minimize infection risk, the city government had to react by opening streets for pedestrians. On April 10, the first temporary meeting zone (Begegnungszone) was introduced in Vienna. In these areas, pedestrians are equal to road users. and they are allowed to use the full carriageway. The maximum speed for motorists was set to 20 km/h. The measure aimed to provide pedestrians with more space, particularly in places where pavements are too narrow to keep the prescribed minimum distance. Altogether, more than ten temporary meeting zones were established and twenty streets opened to pedestrians across the city (see Map 1). The

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[9] https://de.statista.com/.

[10] "80 Prozent weniger Fahrgäste: Wiener Linien passen Fahrplan an", *Vienna.at*, 20 March 2020;

[11] "Mobilität in der Krise: Kfz-Verkehr ist stark zurück gegangen, auch geradelt wird weniger", 8 April 2020,
https://www.fahrradwien.at/news/mobilitaet-in-der-krise-kfz-verkehr-ist-stark-zurueck-gegangen-au ch-geradelt-wird-weniger/.

Coronavirus crisis strengthened the longing of people for more space.

Map 1: The City of Vienna opened up streets for pedestrians.
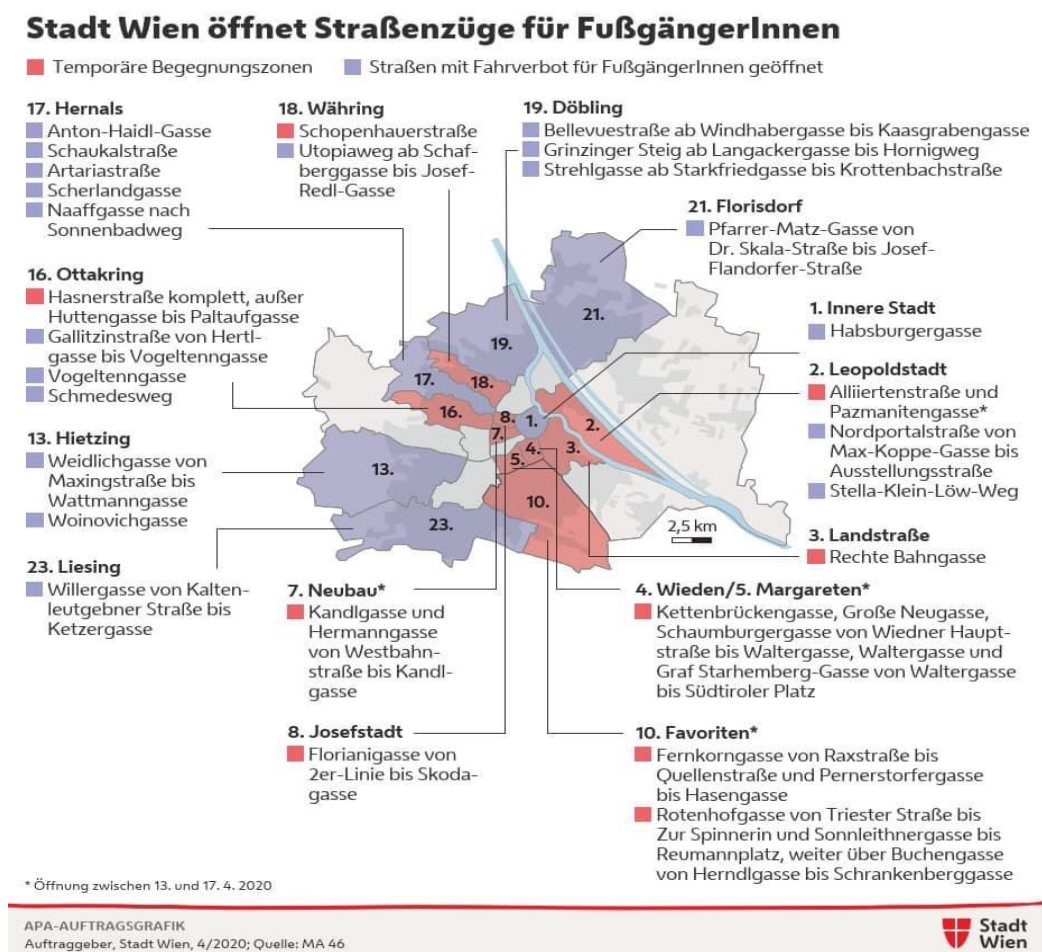
Surprisingly, unlike previous attempts to re-distribute space in the city, the Coronavirus-induced measures were welcomed by a large part of people. The media coverage focused mainly on safety and health benefits from the measure but did not forget to point out that calming the traffic and creating additional public space not only benefits neighboring residents but also the business people and their customers.[12] Meeting zones were presented in a way to provide a safe way for people to leave home and to stroll and linger outdoors. Articles even painted the picture of creating a market atmosphere in the heart of the district – all in a safe and healthy context.[13]

Given that the most frequent traveling distance for city dwellers is between two and five kilometers, walking is also often not an option. In consideration of the risks

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[12] "Sonnbergmarkt wird zur Begegnungszone", *Mein Bezirk*, 20 February, 2020
[13] Ibid.

when taking public transport systems during the spread of the virus, Viennese rediscovered the advantages of bicycles. However, the shift in transportation mode was driven by health and safety rather than environmental concerns. While during the lockdown many cyclists worked from home, cycling patterns have changed drastically. Due to the closure of offices, universities, schools, etc. some cycling paths saw lower frequencies, while leisure cycling routes saw sharp rises. While the number of cyclists on weekdays increased by 7%, numbers increased on weekends by 64%. According to Verkehrsclub Austria, the total amount of riders increased by 20.2% compared to April 2019.[14]

Pop-up Cycle Paths

After the introduction of temporary meeting zones for pedestrians, the city government aimed to provide cyclists more space on the roads. Therefore, the city government decided to turn some car lanes into bicycle paths. On May 7th, Vienna's first pop-up cycle path was opened.[15] Separation markings were hastily put up overnight for the temporary cycle path. A second pop-up cycle path followed shortly afterward.[16] As of mid-2020, Vienna counted four pop-up cycle paths, all of them temporary until probably the end of August. Given the extensive bike path network of the city, a further extension seemed in line with previous developments. However, while the introduction of meeting zones for pedestrians caused little public disturbance, the pop-up bicycle lanes faced stiff opposition. That the projects caused so many political distortions can be explained by several factors: First, the projects were designed by the Green Party´s deputy mayor without proper consultation with local authorities. In one district, political anger was so intense that the district parliament voted to have the pop-up cycle path removed. Second, removing a lane from a street and turning it into a bicycle lane triggered an immediate negative response from car drivers and their powerful lobby groups. Third, Vienna holds local elections in October 2020 and political parties linked the Coronavirus-projects to election campaigning leading to harsh criticizing of the projects. However, the role of the media is essential in the narrative as well. From the beginning, the pop-up bike lanes received negative media coverage, mainly focusing on high installation costs, low frequencies, limited usage, and blaming the projects to cause traffic jams across the city.[17] With newspaper framing the projects most negatively, the long-existing conflict between car drivers and bicycle owners in Vienna inflamed instantly. Local news covered extensively on protests from car drivers against

[14] "Im April deutlich mehr Radfahrer unterwegs", *ORF*, 13 May 2020,

[15] "Praterstraße wird zum ersten 'Pop-up-Radweg' Wiens", *Oe24.at*, 6 May 2020,

[16] "Nächster Pop-up-Radweg in Wien", *Oe24.at*, 15 May 2020,

[17] "Mega-Stau für vier Radler in Leopoldstadt", *Oe24.at*, 10 June 2020; "Nur 1/3 will mehr Radwege", *Oe24.at*, 12 June 2020; "´Autofahrerschikane´: Viel Kritik an Pop-Up-Radweg", *Oe24.at*, 7 May 2020

the new bicycle lanes.[18] In another case, a cyclist raised an alarm in a Facebook group after his girlfriend discovered a thumbtack in the front tire of her bike on the new bike lane.[19]

New Traffic Concept

Vienna follows a long term strategy to reduce individual traffic in the city and increase ridership on public transportation. However, conflicts between car owners and cyclists did not help to bring changes to the city's green mobility attempts. Moreover, on June 17, 2020, the city government announced its new traffic concept for the inner city. According to the new concept – aimed to be implemented before the local elections in October 2020 – the inner city should become a largely car-free zone. However, after presenting the details, tensions were raised immediately.[20] Though the concept included many exceptions to enter the city with private cars, the concept was heavily criticized for providing unnecessary hurdles and killing businesses in the inner city.[21] Backed by the general negative economic prospects, the public discussion focused mainly on business interests and spared out environment or climate concerns. Business concerns prevailed over health and ecological concerns. Driven by the overwhelmingly negative reactions from the public and the media, the new traffic concept was abruptly put on ice.

Framing Interpretation

Like other European cities, Vienna saw the emergence of pop-up projects aimed to provide more space for pedestrians and curb traffic. While the use of terms like "pop-up" to market political projects is questionable, a change in the perception of how to use public space driven by the coronavirus pandemic is undeniable. However, there is a lack of a general masterplan on how to deal with the issue on a large scale. The patchwork of small-sized projects certainly achieved to attract attention and provided an impetus for discussing the role and function of public space in Vienna. However, the question will be whether anything will remain in the long run. Although more Viennese households own a bicycle than a car, green mobility measures face tough opposition - even in times of crisis. Covid-19 showed that politicizing green mobility projects for short-term political gains backfired. Power struggles among local political parties are blocking a more comprehensive change in the city's transportation system. With the large opposition against the green mobility projects - reinforced by the negative

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[18] "Wut-Video gegen Pop-up-Radweg geht viral", *Oe24.at*, 8 June 2020.
[19] "Wieder Reißnägel-Attacke auf Radler in Wien", *Oe24.at*, 12 May 2020
[20] "Mitreden bei der Verkehrspolitik: Droht die Verödung der Wiener Innenstadt?", *Die Presse*, 16 June 2020
[21] "Aufstand gegen Hebeins autofreie Wiener City", *Oe24.at*, 18 June 2020

framing in the media - plans to reduce car traffic fade away, representing a major blow for the changing the unequal distribution of urban space in the Austrian capital. Given the highly concentrated ownership of news outlets in Austria and their close association with business interests, change towards a more sustainable and long-term traffic concept meets hard resistance. It seems uncertain if newly created pop-up bike lanes can wither political pressure. And by framing green mobility efforts as inefficient, costly, and as major obstacles to daily lives (loss-framing), media played a decisive role in steering the public discussion.

3.2 Belgium

Covid-19, Redesigning Urban Spaces and Sustainable Reduction of Air Pollution

Like in many other countries, newspapers in Belgium have depicted the benefit of lockdown on the environment in the world, in Europe[22] and then in Belgium[23]. Thus, the improvement in the quality of Brussels air in April 2020 was reflected in a drop in nitrogen monoxide (NO_2) concentrations of up to 75% in sites usually heavily exposed to car traffic emissions.[24]

When Belgium imposed a lockdown on its population, although pleased by the first effect on the Belgian environment, several newspapers started to ask the questions of the sustainability of this positive consequence, especially after the end of the lockdown.[25] In that context, several articles underlined different existing measures or innovative ideas that were beneficial simultaneously for the reduction of the risk of Covid-19 spread in Belgium but also for the environment, especially urban air pollution.[26]

Among these measures, Belgium media underlined the importance to rethink the sharing of urban space through the multiplication of cycle paths and widening pavements that will promote active and non-polluting mobility, while facilitating "physical distancing" and then reducing the risk of Covid-19. Furthermore, considering

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[22] "Covid-19: ces cartes montrent la chute de la pollution en France, en Belgique et ailleurs", *Le Soir*, 28 March 2020; "En Italie, le coronavirus a un impact sur la pollution de l'air", *La Libre Belgique*, 17 March 2020; "Coronavirus: la baisse de la pollution de l'air a permis de sauver des milliers de vie", *La Libre Belgique*, 4 June 2020.

[23] "Coronavirus: la qualité de l'air s'est fortement améliorée en Belgique depuis le confinement", *Le Soir*, 23 March 2020.

[24] "La pollution de l'air en baisse dans des grandes villes européennes", *Le Soir*, 16 April 2020.

[25] "Pourquoi la crise du coronavirus est une bombe à retardement pour le climat", *Le Soir*, 28 March 2020.

[26] "Combattre le coronavirus c'est aussi combattre la pollution de l'air. Et vice versa", *Le Soir*, 5 May 2020; "Après le déconfinement, tous à vélo?", *La Libre Belgique*, 18 April 2020; "Le coronavirus va-t-il modifier nos modes de déplacement?", *La Libre Belgique*, 30 June 2020; "Brux-ils, Brux-elles: un autre partage de l'espace public", *Le Soir*, 20 April 2020.

that the redesign of urban space will only work if the use of public transport is encouraged, but recognizing also that in a post-Covid-19 period, citizens will continue to seek to avoid cramped spaces, especially public transports [27], Belgian media criticized the promiscuity that characterizes some transportation lines in Brussels and considered such a situation as "unacceptable and representing a danger to public health"[28]. Calls for more spaces in the public transport emerged in the media, especially through the expansion of the transportation network in big Belgian cities, of the increase of the frequencies of the buses, metro, and tramways, and the speed of the buses from the current 16km/h to dedicated lanes.[29] Finally, a third measure was promoted through the Belgium media to reduce air pollution and Covid-19 spread, namely the flattening of rush hours. The rationale was that the schedules of both schoolchildren and workers should be made more flexible to smooth out rush hours and prevent too many people from taking public transport at the same time. To help such measure, it was considered that new habits such as teleworking – imposed during the Covid-19 lockdown in many countries including Belgium – should be extended as far as possible to reduce the need to travel to the workplace every day.

Framing interpretation

It might be argued that, in the Belgian media, this frame which has linked Covid-19 to the environment has promoted the idea that by improving physical distancing – by choosing bicycles instead of cars, by creating more space in the public transportation to increase their public use, or by avoiding the concentration of people in the city at a specific moment of the day –, air pollution as well as the risk of Covid-19 will considerably reduce.

It should be also said that most of these measures are not new in Belgium as they have been promoted by numerous Belgian scientists, politicians, and NGOs (Transport & Environement or Chercheurs d'air) very active in the field of environmental protection and global change, and heard during recurrent demonstrations in Belgian cities to reduce drastically urban air pollution.[30] Covid-19 provided to these actors the opportunity to reiterate and to strengthen the relevance of their proposals by promoting their "dual-use ", namely addressing the risk of a pandemic and reducing air pollution.

Finally, this frame also supports strategies that have been already implemented in Belgium. As an example, before Covid-19, the Brussels Region had started to transform its city-center into residential areas to give priority to pedestrians and cyclists

[27] "Les Belges ont peur de remonter dans les transports en commun", *La Libre Belgique*, 26 June 2020.
[28] "Combattre le coronavirus c'est aussi combattre la pollution de l'air. Et vice versa", *Le Soir*, 5 May 2020.
[29] Ibid.
[30] "La ´révolution vélo´ : une opportunité à saisir pour Bruxelles", *La Libre Belgique*, 10 February 2020.

over cars and had planned to put in place 40 km of additional cycle paths.[31] Covid-19 might accelerate that strategy in Brussels, and help to spread it to other important cities in Belgium such as Anvers, Gand, Charleroi, or Liege.

Covid-19, Economic Recovery and its Environmental Impact

Another frame linking Covid-19 to the environment which is possible to identify through Belgian newspapers concerns the potential environmental impact of the plans for economic recovery after this pandemic. Here, the framing has been rather negative and the recovery plans announced then by foreign governments qualified in the Belgian media as a "time bomb for the environment"[32].

One of the arguments to support such pessimistic prospects that have been put forward in the Belgian media was that once the crisis would be over, governments will have to inject billions of euros to revive the economy and that instead of a "Green New Deal", many will prefer to provide a lifeline to the fossil fuel industry.[33] Additionally, it was argued that many governments will use the opportunity of economic recovery to challenge the few measures that have been taken to tackle climate change since COP21.[34] As a preliminary illustration of this scenario, the examples of the Czech Republic and Poland which have asked to abandon the European Green New Deal within the framework of their economic recovery from Covid-19 or China that has planned to build hundreds of coal-fired power stations to boost its economy, were highlighted in the Belgian newspapers.[35]

Framing interpretation

Such pessimistic framing of the link between Covid-19 and the environment did not emerge from a social and political vacuum. Indeed, a close look at the authors of the articles that warned Belgian readers about the danger of such recovery plans after Covid-19 informed us that they were all engaged in a Belgian think tank called the

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[31] "Déconfinement: 40 km de nouvelles pistes cyclables à Bruxelles pour décharger le réseau de la Stib", *Le Soir*, 29 April 2020.

[32] "Pourquoi la crise du coronavirus est une bombe à retardement pour le climat", *Le Soir*, 28 March 2020.

[33] "François Gemenne: du coronavirus au climat, ´je redoute très fort l'opportunité gâchée´", *La Libre Belgique*, 30 March 2020; "Il est impératif que les plans de relance soient à la fois écologiques et sociaux", *La Libre Belgique*, 18 April 2020; "La crise du Covid 19, un signal fort pour voir le climat au centre de la relance économique", *La Libre Belgique*, 6 May 2020; "Coronavirus - Les plans de relance, l'occasion d'arrêter le soutien aux énergies fossiles", *Le Soir*, 5 June 2020.

[34] "Pourquoi la crise du coronavirus est une bombe à retardement pour le climat", *Le Soir*, 28 March 2020; "Une centaine de scientifiques imaginent une relance écologique" , *La Libre Belgique*, 15 May 2020; "Quelle relance pour la Belgique?", *Le Soir*, 30 May 2020; "Le monde d'après Covid-19: il faut rompre avec la dépendance au sentier", *Le Soir*, 1st June 2020; "Plan de relance fédéral: bifurquez vers la transition et la résilience!", *Le Soir*, 28 July 2020.

[35] "François Gemenne: du coronavirus au climat, ´je redoute très fort l'opportunité gâchée´", *La Libre Belgique*, 30 March 2020.

Resilience Management Group (RMG). Composed of around 182 enterprises active in the ecological transition and more than 100 well-known Belgian scientists from different universities, this group started to work in April 2020 on a post-Covid-19 recovery plan for Belgium called "Sophia Plan" - named after the Greek goddess of wisdom - whose objective was to trigger an immediate transition towards a sustainable economy post-Covid-19 to avoid a new systemic crisis.[36] This plan which has been presented to the Prime Minister of Belgium, Sophie Wilmès, on 14 May 2020, has for example proposed to request that companies document their social and environmental impacts, to gradually increase the "carbon price", to put an end to subsidies for fossil fuels and devoting them to sustainable energies, for example by abandoning company cars or tax benefits for aircraft kerosene or heating oil.[37]

It that context, it seems that the members of RMG, lately joined by other actors affiliated to other entities also active in environmental protection, have deliberately constructed the link between Covid-19 and the environment, to defend their arguments about the necessity to elaborate a post-Covid-19 recovery plan for Belgium that respect the environment and is sustainable for the society. In other words, the specific framing of Covid-19 proposed by these primary definers was also motivated by other purposes. If the measures proposed by this plan have generated numerous debates within the Belgian society and that the Belgian government has shown its willingness to integrate some of them in the future recovery plan of the Belgian government, it seems that the "Post-Covid-19 Green recovery" has however not yet taken shape so far in Belgium.[38]

3.3 France

Covid-19, Meat Consumption and Ecosystem Degradation

While suggestions that Covid-19 might have spread from a Chinese military biosafety level-4 laboratory (P4) built in cooperation with France in the city of Wuhan, Covid-19 was initially and dominantly framed in the French newspapers as a disease linked to the consumption of wild animals in China similarly to the Severe of Acute Respiratory Syndrome (SARS) in 2003. The Wuhan market at the origin of the Covid-19 was then presented by the French media as "strange", "sulfurous" or "mysterious" and most articles (16 in total) that emphasize the link between Covid-19 and wild animals reserved one paragraph to enumerate precisely a list of wild animals (at least 8 animals by paragraph) that could be sold at that market for human consumption.

If this "enumeration script" through the news narrative revealed to the

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[36] "Académiques et entrepreneurs se coalisent pour une «relance soutenable", *Le Soir*, 14 May, 2020.
[37] "Plan de relance européen: quel mandat pour Sophie Wilmès?", *Le Soir*, 17 June 2020.
[38] "Le monde d'après: la relance verte reste en plan", *Le Soir*, 16 July 2020.

French-reading audience the large variety of animals that Chinese people could potentially eat, it also presented such practices as "backward" and communicated – and strengthened – the image of Chinese people who, according to a common saying, " eat everything with four legs except tables and chairs, everything that flies except helicopters or planes and everything that swims except boats and submarines". A common saying which was largely used in the French media at the beginning of the pandemic.

Such an initial frame created the impression that Covid-19 would remain a "Chinese virus" and won't spread to France and Europe as citizens there did not have such practices. Reinforced by the SARS experience (8,000 cases and 800 deaths globally) during which very few imported cases were detected in France and Europe, this conviction participated to the over-confidence of the French authorities and their slow response once Covid-19 made its first cases in France and Europe (24 January 2020).

Interestingly, in the French newspapers, this frame that links meat consumption to Covid-19, evolved by mid-march 2020, to include not only the consumption of wild animals by Chinese people, but also the global consumption of animal meat distributed between Asia (47%), Europe (19%), South America (15%), North America (13%), and Africa (6%).[39] Such a global appetite for meat was considered as playing an indirect role in pandemics since it requires the multiplication of the number of intensive livestock farming that in turn necessitates more agricultural land and then contributes to deforestation and the reduction of the surface area available for wildlife species. Indeed, the destruction of areas where wild animals live represents a significant source of a potential pandemic since it facilitates contacts between humans and their livestock with wild animals and the risk of the spread of viruses that can infect and kill humans (zoonosis).[40] Other epidemics like Ebola, avian influenza, Zika, SRAS, Marburg, and Nipah virus were used to illustrate this link of causality.

Pursuing the enlargement of this frame, French newspapers published articles that went beyond the link between Covid-19 and meat consumption, to emphasize the destructive relationship between the model of development and living of our societies, and the natural ecosystem. Thus, Covid-19 was presented as a consequence "of biodiversity that is mistreated"[41], "of the upheavals we are imposing on biodiversity"[42],

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[39] "La viande, un aliment toujours très consommé par les Français", *Le Monde*, 12 August 2019.
[40] "Coronavirus: le pangolin n'y est pour rien"*, Les Echos*, 20 March 2020; "L'émergence du coronavirus est-elle liée à la déforestation?" *Le Figaro*, 18 March 2020.
[41] "Coronavirus: ´Cette épidémie est la conséquence d'une biodiversité que l'on maltraite´, selon Philippe Grandcolas", *20 Minutes*, 30 April 2020.
[42] "Coronavirus : L'origine de l'épidémie de Covid-19 est liée aux bouleversements que nous imposons à la biodiversité", *Le Monde*, 4 April 2020.

or "of the degradation by the humans of biodiversity"[43]. These articles presented Covid-19 as the result of the ecological overturning imposed by humans on the ecosystem. Such ecological degradation was explained by these articles as caused by the deforestation, the international trade of exotic animals for recreative pleasures, the hunting of animals like foxes in Europe that are helping to control rodents involved in Lyme disease as well as by the intensive breeding which constantly treats livestock with antibiotics to prevent them to get sick while raised in crowded condition with the increasing risk of the development of resistance in bacteria that are potentially pathogenic to humans. In that context, several articles in French newspapers underlined the necessity "to live the world differently"[44], "to update our entire mode of operation"[45], or to "stop our contempt for nature"[46].

Framing interpretation

The evolution of this frame that links Covid-19 to meat consumption in China first, then in the world, and finally to the negative impact of our social and economic model on the ecosystems, is not anodyne. Indeed, it finds its origin in the environmental movement in France composed of ecological/green parties, environmentalist NGOs, experts from different research institutions, etc. whose voices have been increasingly audible as the recent European, national and municipal elections in France have revealed with a clear ecologist turn. A quick look at the status and affiliation of the authors of the articles – scientists, philosophers, politicians, artists all known for being deeply engaged in the protection of the environment – that framed Covid-19 as a consequence of the destruction of ecosystems and biodiversity by human activities (intensive farming, building projects,..) just confirm that origin. In other words, these primary definers of the Covid-19 as a result of ecological degradation were also motivated to promote such a specific understanding of the pandemic in the French media to defend their positions and requests about the protection of our ecosystems.

However, that framing did not appear in a vacuum, and to understand it, three contextual elements must be taken into account. First. The fact that in France, the protection of ecosystems has been a recurrent issue of the political debate this last decade and has often created national debates, large mobilizations, and sometimes strong tensions within the society. If the debate created nationally by the plan to build a dam in a humid zone in Sivens (Tarn) (abandoned in 2015), or to open a shopping mall

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[43] "Coronavirus : la dégradation de la biodiversité en question", *Le Monde*, 4 April 2020.
[44] "Coronavirus : L'épidémie doit nous conduire à habiter autrement le monde", *Le Monde*, 23 March 2020.
[45] "Coronavirus : le pangolin n'y est pour rien", *Les Echos*, 20 March 2020.
[46] "Coronavirus: les humains doivent cesser de «mépriser» la nature, avertit Jane Goodall", *La Croix*, 11 April 2020.

in a natural ecosystem in Saint Genis Pouilly (2019) are just a few examples, the longest and most emblematic illustration of the role played by the issue of ecosystem protection in the French political debate, is certainly the national debate created by the governmental plan to build an airport in the rural commune of Notre-Dame-des-Landes (Loire-Atlantique department, close to Nantes) since 2010. The intensity of the national debate to protect that ecosystem reach its apogee when the French government decided in 2018 to evict the opponents (farmers and environmentalists) who refused to leave the targeted land, had built their own homes in the trees and had developed the embryo of an ecological community around several self-organized projects such as vegetable plots, a bakery, a brewery, a pirate radio station, and a newspaper collective. After the mobilization of numerous people in France and abroad to support that "zone to defend" (ZAD, i.e "Zone à défendre" in French), as well as tense debates in the media among experts, environmentalist, and politicians, the building plan was eventually abandoned by the government which, instead, decided then to reinvigorate an existing airport in the neighboring area.

The second contextual element that is useful to understand that framing is that while the Covid-19 virus was spreading in France, a citizen convention for ecological transition also called "Citizens' convention for climate" - a French assembly consisting of 150 self-selected citizens - since the launch by the government, in April 2019, of a national debate on climate change and environment protection, to make proposals to the President Macron and his government on these issues.

The last significant contextual element is the publication, in January 2020, by the French Ministry for the Ecological Transition, of a report on environmental protection in France that qualified the situation of France's terrestrial, aquatic and marine ecosystems as "worrying"[47]. This damning report revealed, indeed, that in France, insect and bird populations are falling, and that biodiversity is facing numerous pressures: soil artificialisation, fragmentation of natural environments, climate change, chemical, and light pollution, etc.

In that context – the significance of ecosystem protection in the French political and societal debate, the national debate on climate change and environment protection, and the worrying situation of ecosystem protection in France – several actors of the environmental movement in France have seen Covid-19 as a perfect opportunity to put forward their long-standing arguments on environmental protection, especially the necessity to think about a model of economic and social development that better protect ecosystems and biodiversity. This was then done by framing Covid-19, and other pandemics of zoonosis, as a consequence of ecosystem destruction in the French media

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[47] Commissariat général au Développement durable, "La biodiversité sous pression", 8 January 2020. Retrieved from: https://www.vie-publique.fr/parole-dexpert/272596-quel-est-letat-de-la-biodiversite-en-france-les-principales-menaces.

to sensibilize the readers - and then the public opinion - to the potential impact of biodiversity destruction.

While it remains difficult to appreciate the concrete impact of such framing on French society, it should be noted that the report of the Citizens' Convention published in July 2020 has granted to the protection of ecosystems and biodiversity a central status for the forthcoming environmental policy in France, but also that the French President has decided to call for the organization of a World Summit on Biodiversity on January 11th, 2021 in Marseille to question the human responsibility in Covid-19 and to rethink our relationship with nature.[48]

As the last point of interpretation related to this first framing, while it might be argued that considering Covid-19 as the consequence of ecosystems and biodiversity destruction exonerates China of its responsibility in that health crisis, a Euronews survey (June 1st, 2020) showed that 55% of French people still considered China as "largely or rather responsible" of this pandemic and that 49% agreed with the idea that "China should be held financially responsible for the economic and human losses caused by the coronavirus crisis"[49].

Covid-19, International Environmental Rules and Multilateralism

When the pangolin – the most trafficked wild animal and an endangered species – was identified as the potential source of the disease and that Covid-19 started to spread into Europe, another frame emerged in the French media. Indeed, China was accused by most of the French newspapers of violating an important international rule, namely the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which not only ensures that international trade in specimens of wild animals and plants does not threaten the survival of the species in nature but also helped to content the global spread of zoonotic diseases through such trade (Borsky and al., 2020).

Thus, through an "infringement script" using words such as "non-respect", "illegal", "violation", several articles depicted China as "responsible" of the pandemic for not having respect its commitments to implement CITES and then, for having jeopardized the ability of this multilateral agreement to control the spread of zoonotic diseases.

Even after China's decision to "completely" and immediately ban the trade and consumption of wild animals (February 25th, 2020) and to better protect the pangolin by removing its scales from the list of products that can be incorporated into traditional

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[48] "Un sommet de la biodiversité sera organisé à Marseille en janvier 2021", *L'Express*, 22 May 2020."

[49] "Sondage: Les Français favorables à une enquête en Chine sur l'origine du virus", *Euronews*, 1st June 2020.

medicine (June 12th, 2020), French media remained very skeptical about the willingness of China to put an end to an official industry that generates nearly 100 billion euros per year and provides a living for millions of Chinese people[50] and was very doubtful about its capacity to do so, by experience with the unsuccessful ban to eat civet meat imposed by the Chinese authorities after SARS and the Chinese offensive against ivory trade that does not give cause for optimism.[51]

Framing interpretation

First, such a frame in the French media contributed to the growing idea that China tended not to always respect international law and commitments. A public perception which had grown these last years in France, following Beijing's recurrent territorial claims in China South China Sea – the nine-dash line – which have been however considered by The Hague tribunal as without basis under the 1982 UN Convention on the Law of the Sea (UNCLOS); but also after China's engagement in international environmental agreement (Paris Declaration at COP21) which have been considered in France as limited and their implementation too slow[52], or following the revelation by Amnesty International and Human Rights Watch of the so-called re-education camps targeting the Uyghurs in the Xinjiang province (November 2019)[53] considered by the French Minister of Foreign Affairs, Jean-Yves Le Drian, as "unjustifiable practices that run counter to the universal principles enshrined in the major international human rights conventions"[54], and lastly, after Beijing's reactions to the demonstrations in Hong Kong (started in June 2019) and then the imposition of a new National Security Law on Hong Kong (30 June 2020) that was in direct conflict with international law and the 1997 handover agreement between the UK and China. In other words, framing Covid-19 as a direct consequence of China's violation of an international environmental agreement has participated in the growing public perception in France that China was not respecting international law and its commitments to them.

Additionally, it might be argued that the frame that shapes Covid-19 as a direct consequence of China's violation of international environmental protection creates a link between Covid-19 and multilateralism. Indeed, it underlines that when countries do not play the "multilateral card", namely in the case of Covid-19, when they do not align with multilateral treaties (CITES), consequences can be firstly negative for them,

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[50] "En Chine, la difficile fermeture des marchés d'animaux sauvages", *La Croix*, 19 April 2020.
[51] "Une fois le coronavirus oublié, l'appétit des Chinois remettra le pangolin sur les tables", *Le Monde*, 25 February 2020.
[52] "COP25 : ces pays qui refusent (encore) de prendre des engagements pour le climat", *Le Monde*, 15 December 2019.
[53] "Data leak reveals how China 'brainwashes' Uighurs in prison camps", *BBC*, 24 November 2019.
[54] "Ouïghours en Chine : la France propose des observateurs indépendants sur place", *Le Parisien*, 28 July 2020.

but also for the international community. In this context, defending the significance of multilateralism to deal with transnational issues can be considered as a potential incentive behind such framing. Multilateralism has been attacked and questioned by major countries such as China and the US these last years, and strongly defended by the EU, especially France and its President E. Macron, who has repeatedly emphasized the necessity to work multilaterally and to respect multilateral treaties to be able to respond to contemporary challenges.

Covid-19, Lockdown and Positive Environmental Impacts

After China decided to lock down the population of Wuhan, a positive frame linking Covid-19 – or more exactly responses to this disease – to the environment appeared in the French newspapers, namely a frame that put forward the benefits of this decision on China's air pollution level. It was underlined that the cessation of industrial activity and circulation restrictions, mechanically purified the air. Indeed, at that time, in Shanghai, the rate of fine particles 2.5 (less than 2.5 µm in diameter) averaged 100 $\mu g/m^3$ in February 2020, compared to 135 $\mu g/m^3$ in February 2015, the rate of particles 10 (less than 10 µm in diameter) drops to 36 $\mu g/m^3$ in February 2020, compared to 61 $\mu g/m^3$ in February 2015, and the NO_2 rate drops to 9 $\mu g/m^3$ for 19 $\mu g/m^3$ in February 2015.[55] To illustrate better such a significant decrease in air pollution in Chinese big cities, colorful comparative satellite pictures were published in the French newspapers. Then, between February and mid-March 2020, articles highlighting such a link in China but also in Italy where the lockdown of the population was also decided (8 March 2020) and where waters in Venice were depicted as clear again (with colorful pictures to convince the reader), were episodically published in the French media.

Between the day France started the lockdown of its entire population (17 March 2020) and its end (11 May 2020), articles framing the lockdown as positive for the environment in China, in Europe, and then in France mushroomed (36 articles during that period). Thus, if news about the beneficial environmental impact of lockdown in China, India, Italy, or abroad, in general, continued to be mentioned, progressively articles also focused on France and the environmental consequences of its lockdown. Thus, the lockdown in France was presented as beneficial for the return of birds in French cities[56], for the improvement of air quality in Paris[57] and in many other French cities which also participated in the saving of human life in Europe estimated around 11.300 people[58], for offering a break to the flora as well as the wild animals in France[59]

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[55] "Coronavirus : la Chine, sous cloche, respire... beaucoup mieux", *Le Parisien*, 18 February 2020.
[56] "Coronavirus : treize bonnes nouvelles pour garder le moral", *Le Monde*, 22 March 2020.
[57] "Coronavirus à Paris : La sensation de respirer un air plus pur, depuis sa fenêtre, est bien réelle", *Le Parisien*, 24 March 2020.
[58] Coronavirus: la baisse de pollution aurait permis d'éviter plus de 11.300 morts en Europe", *Les Echos*, 30 April 2020.

which have then also appeared in some cities – with the symbolic pictures of two deers wandering in a deserted street in Boissy-Saint-Léger, on the outskirts of Paris –, for reducing air and noise pollution in the living zones close to airports where planes were stock on the ground, but also for the regeneration of marine wildlife thanks to the reduction of the fishing for fishes and shells, for the increase of exotic animals reproduction in zoo which were not disturbed by visitors[60], for reducing digital pollution as confined people had more time to clean up their mailbox, computer and smartphone to reduce the environmental impact of their digital activities[61], or for contributing to the set back of three weeks of the *Earth Overrun Day*[62]. Some newspapers even relayed the idea about imposing a lockdown every year in France and beyond to reach climate objectives (COP21).[63]

Framing interpretation

Such a frame and the repeated publication of articles supporting it have created the conviction that the political choice to impose a lockdown on the part of or on the whole population remain an "extreme" decision difficult for the affected citizens, it had an undoubtedly positive impact on the environment. The effects of this frame have been twofold. First, it brought some positive prospects to the confined population. Indeed, after several days and then weeks of lockdown, during which the spread of the Covid-19 continued for some time and questions about the economic impact of the lockdown were raised, French people started to have more and more difficulties to accept this "new normality" and questioned then the relevance of such decision that had no equivalence in the French history. As articles supporting this frame recognized, these "good news" or "good surprises" came to "keep the moral up"[64], to bring "a slim prospect to hold on to"[65], or "to boost morale after a month of confinement"[66]. The preservation of the mental health of the French people can be interpreted as a potential motivation behind this frame.

Simultaneously, and this is the second effect, this frame also supported the political decision taken by the French President and its government to confine the

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[59] "Coronavirus : la nature a (un peu) profité du confinement", *La Croix*, 18 May 2020.

[60] "Douze bonnes nouvelles pour se remonter le moral après un mois de confinement", *Le Monde*, 18 April 2020.

[61] "Coronavirus : Profiter du confinement pour réduire sa pollution numérique, ça vaut le coup?", *20 Minutes*, 22 April 2020.

[62] "Coronavirus : Le « jour du dépassement de la Terre » recule de trois semaines", *20 Minutes*, 5 June 2020.

[63] "Pollution : un confinement tous les ans pour atteindre les objectifs climatiques", *Les Echos*, 19 May 2020.

[64] "Coronavirus : treize bonnes nouvelles pour garder le moral", *Le Monde*, 22 March 2020.

[65] "Coronavirus : quels effets sur le climat et la pollution?", *Libération*, 17 March 2020.

[66] "Douze bonnes nouvelles pour se remonter le moral après un mois de confinement", *Le Monde*, 18 April 2020.

whole population in France, and then, it represented a significant instrument to ensure collective acceptance of such societal choice. This was even more useful as this decision was also intensely criticized in France. Indeed, several negative impacts of the lockdown were defended in the media, including its impact on the national economy as economic activity in France was highly reduced, on unemployment as companies were forced to dismiss people by lack of economic activity, on mental health as confined people do not have much social interactions and activities, on domestic violence as long-term promiscuity is not always a simple thing for a couple or family members, or on inequalities as social services for the disadvantaged and old people were deeply reduced. Finally, the lockdown was pursued in France despite all of these critics and it cannot put aside that the positive framing of the lockdown for the environment was motivated by the inclination of some newspapers to support the implementation of the government strategy to respond to Covid-19 while no other options were considered as efficient.

3.4 Germany: Covid-19 and the Dynamics of Climate Mitigation

On 27 January 2020, Germany recorded its first coronavirus case, near Munich. While the majority of cases in January and early February are related to a single company, at the end of February, multiple cases were reported across Baden-Württemberg. Eventually, Covid-19 arrived in Germany with a large cluster outbreak in Heinsberg. In mid-March 2020, when first restrictions on public life were implemented, media reports focused on the spread of the virus in Germany, leaving little space for non-Corona related news. Only a few articles discussed the effects of the virus outbreak on the environment.[67] After first reports about clearing skies in China due to lockdowns and closures of factories, discussions about consequences on local air quality and climate mitigation efforts were raised in Germany. In March 2020, several articles linked industry shutdowns with the country's climate mitigation goals.[68] It must be noted that – well before the Covid-19 outbreak – the German government set itself the ambitious goal of achieving the energy transformation (Energiewende)[69] to become largely greenhouse gas neutral by 2050.[70] As part of its strategy, Germany plans to shut down its nuclear power plants by 2022 and massively expand renewable energies while

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[67] "Diese positive Folgen hat Corona für das Klima und die Umwelt – kurzfristig", *Welt*, 20 März 2020
[68] "Deutschland kann Klimaziele 2020 doch noch erreichen", *Zeit Online*, 16 March 2020; "Deutschland schafft Klimaziele für 2020 – doch gut ist das nicht", *t-online*, 21st March 2020
[69] The term *Energiewende* refers to the transition from the unsustainable use of fossil fuels - including nuclear energy - to a sustainable energy supply based on renewable energies.
[70] Interim greenhouse gas emissions reduction goals should help to assess progress: -40% in 2020, -55% in 2030, -70% in 2040 and -80 to -95% in 2050 (based on the year 1990).

reducing primary energy consumption. Besides promoting decarbonization to combat global warming, one goal of energy transformation is also to improve public health.

At the end of 2019, one could read across major news outlets that Germany – once a proclaimed climate mitigation leader – would very likely fail to achieve its 2020 climate goals. In January 2020, just before the coronavirus started to sweep throughout Europe, the German government passed a bill to phase out coal-fired power plants by 2038.[71] However, it no longer received the approval of the Bundestag due to the Covid-19 outbreak – a major blow for the energy transition. The virus outbreak changed the realities of the energy sector fundamentally but also created new narratives.

Based on the fact that the industry is Germany's largest consumer of electricity, the shutdown of large industrial plants for several weeks – due to the coronavirus outbreak – led to a significant drop in energy demand. News reported that the country's greenhouse gas emissions would probably be 40 to 45% below the 1990 level.[72] And suddenly, the federal government's target of -40% was achievable. Additionally, it was emphasized that people would benefit largely from improved air quality. In this respect, the coronavirus was framed to help Germany to achieve its aspired targets. In March 2020, a series of news articles proclaimed that "thanks" to the Corona-outbreak, Germany would be able to reach the 2020 targets.[73] By framing the comprehensive lockdown measures as beneficial for the climate as well for people's health and well-being some pressure was taken from the government. In early April 2020, the news reported that from January to March an average of around 52% of electricity consumption was generated with wind, sun, hydropower, and other regenerative energy sources (a year earlier the rate was at about 44%).[74] For the government, this could be sold as a success. However, this achievement was based on a combination of factors: First, it was supported by the storm-related wind in February, followed by a March with an exceptionally high number of hours of sunshine. Second, electricity consumption fell because of the weak economy and last but not least the decline in industrial production due to the corona crisis in the last week of March. According to calculations by the energy company E.on, between January and June 2020, around 126 billion kilowatt-hours of electricity from renewable energies were fed into the grid, 7% more than in the same period last year. Third, the priority for renewables to be fed into the grid and the closure of power plants at the end of 2019, resulted in reduced feed-in of conventional energy.[75] While green electricity production has increased, the production

[71] "Kabinett beschließt Kohleausstieg bis 2038", *Zeit Online*, 29 January 2020
[72] "Deutschland schafft Klimaziele für 2020 - doch gut ist das nicht", *t-online*, 21st March 2020
[73] "´Dank´ Corona: Deutschland erreicht seine Klimaziele", *FAZ*, 21st March 2020
[74] "Rekordanteil von Erneuerbaren Energien", *FAZ*, 1st April 2020,
[75] Ibid.

of coal-fired electricity has fallen. In general, news articles proclaimed that besides the ongoing crisis there is hope that the energy transformation is doable and beneficial.

When workplaces were closed and people were sent to home-office, commuter traffic decreased sharply, but at the same time, the electricity consumption of private households increased. Soon, news reports started to investigate the effects of increased home office and digitalization of workplaces on the environment. [76] During the lockdown period, many people realized they had nothing else to do but stream movies and series, play online games, or skype. Netflix, Amazon Prime, and video conferencing platforms recorded enormous growth rates during the lockdown phase. The second-largest network node in the world, the DeCix in Frankfurt, reported significant changes in user behavior. [77] According to reports, average data traffic increased by 10% in mid-March due to the tightening of public measures to combat the spread of the Covid-19 virus.[78] According to news reports, data traffic related to video conferencing even increased by 50% within seven days.[79] Importantly, it was not spared out that every click, every Google search operation, and every stream causes CO_2 establishing a link between increased digitalization efforts and higher CO_2 emissions - as electricity generation is still heavily fossil-fuel-based. People could read that the global digital industry was responsible for about 4% of greenhouse emissions (pre-Covid) and that digitalization, if it were a country, matches the emissions of the industrial power of Germany. [80] At the same time, news reports announced how Covid-19 was boosting digitalization efforts across many business sectors. As a consequence, discussions about urgently needed decarbonization re-emerged in the public sphere. Upholding the overly optimistic picture of lockdowns providing essential support in combating global warming could not last forever, as public attention shifted towards the negative aspects of shutting down whole industries.

In March, news suggested a positive change in transportation patterns as people would travel less by car - not only in the short but also in the long term. However, it did not take long for German car manufacturers to publish their nightmare scenarios (drop in sales, lay-off of workers, global competitiveness).[81] Only little was mentioned that the German automobile industry – not really well known for its involvement in climate mitigation efforts – was in trouble already before that since it completely miscalculated the global drive for e-mobility.

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[76] "Der Stromverbrauch sinkt in Deutschland", *FAZ*, 3 April 2020,

[77] See https://www.de-cix.net/.

[78] See DE-CIX, https://www.de-cix.net/de/about-de-cix/media-center/press-releases/internet-exchange-operator-de-cix-sees-a-strong-change-in-internet-user-behavior.

[79] "Corona: Schlecht für die Menschen, gut für das Klima?", *Handelsblatt*, 21st March 2020,

[80] See https://theshiftproject.org/en/article/unsustainable-use-online-video/.

[81] "Alle deutschen Automarken brechen ein – bis auf eine", *t-online*, 5 March 2020

In April, public attention was directed towards the benefits of cheap energy prices for heating and gasoline. Articles indicated that Covid-19 reduced the costs of heating oil and lowers energy costs in general drastically.[82] While electricity prices increased, the focus was laid on the sharp drop in gasoline prices and heating oil prices.[83] A drop in the average total costs of 6% (year-on-year) for heating, electricity, and fuel was reported. Consistently, in May 2020 news outlets hailed the low inflation rate in Germany, mainly because of low energy prices. While experts agree that the transformation of the energy system requires a sharp price hike on fossil-based fuels, media coverage continued to focus on negative consequences from possible future electricity prices hikes due to eco-levies.[84] When the German government laid out its climate package in June 2020, it included a surprise that could lead to a paradigm shift but only a few media outlets raised concerns. According to the government plan, subsidies for renewable energies will no longer be automatically and conveniently debited to the consumer's electricity bill (EEG levy). Instead, the Minister of Finance will pay part of the costs of green electricity from tax revenues. However, under this stipulation, the costs of the green energy transformation will become the subject of the annual budgetary distribution battles. Only some German media questioned the move, though this would increase the risk for green electricity producers.[85] They stressed that particularly in times of economic downturn it would enable the government in Berlin to divert parts of the money away from renewable energy investment towards promoting economic recovery.[86] Accordingly, Germany's energy transformation could be slowed down. However, for achieving a climate-neutral economy it will not be enough to phase out coal-fired power and install renewable energy sources.

Hydrogen as New Hope

In late June 2020, the government announced its plans to invest €9bn in the development of hydrogen technology. In the media, Berlin's hydrogen strategy was presented with two major benefits - supporting climate mitigation and boosting the economy. With a strong focus on the latter. Stories quickly spread proclaiming that Germany wants to turn to the "number one in the world" in hydrogen technologies, and the benefits of the new strategy were praised.[87] Germany's steel, chemical, and cement industries need to reduce CO_2 emissions, and hydrogen technology should help to achieve this. The sudden hype about hydrogen in the mainstream news mostly

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[82] "Was der Öl-Crash fürs Tanken bedeutet", *Bild*, 21st April 2020
[83] "Diesel teilweise schon unter 1 Euro!", *Autobild*, 28 April 2020
[84] "Warum Strom teurer wird", *FAZ*, 15 May 2020; "Der Strompreis steigt trotz der Corona-Krise", *Augsburger Allgemeine*, 8 June 2020
[85] "Beim CO2-Preis droht ein Debakel mit Ansage", *Süddeutsche Zeitung*, 9 June 2020
[86] "Jetzt wird der Ökostrom-Irrtum korrigiert", *Welt*, 5 June 2020
[87] "Bundesregierung beschließt nationale Wasserstoffstrategie", *Zeit Online*, 10 June 2020

overlooked that hydrogen is produced by electrolysis of water, a process that requires huge amounts of energy. And Germany will not in the position to generate it soon.[88] Though Germany's automobile industry lags behind years in the development of hydrogen automobiles, the idea of emission-free driving on German roads emerged in the news.[89] According to the new overall narrative, the country lays the way for its future export success by investing in hydrogen now.[90] Interestingly, while media coverage mainly pointed to the economic potentials of a hydrogen economy, health and environmental aspects received much less attention.[91]

Framing Interpretation

Between February and June 2020, we observed a drastic shift in the public discussion about coronavirus and the environment. Due to Corona, climate-related policies needed to be readjusted as the realities in mid-2020 look very different from how they did at the end of 2019. The virus outbreak caused massive distortions for the energy sector in Germany. Covid-19 has worked as an accelerator of developments but also created new narratives and frames. Over the examined period, news reports used both negative and positive framing to create linkages between Covid-19 and the energy system. By covering intensively the negative aspects and hardships provided by Covid-19, news articles framed the crisis as a challenge that can only be addressed by unified attempts and working all together. However, while the challenges were immense, the public discussion in Germany included optimistic features: The lockdown cleaned the air and made climate targets reachable. And the potential establishment of a hydrogen economy served as the new hope for a greener future. Framing the crisis as a massive disaster first, then pointing to the potential environmental gains, and later providing concrete plans on how to transform towards a more sustainable economy may have brought the country closer to achieve its climate neutrality target. After all, a path that was nearly unthinkable in pre-Covid-19 times.

4 Conclusion

From this comparative study of the "environmental health frame" of Covid-19 in mainstream newspapers in four European countries, namely Austria, Belgium, France, and Germany, several conclusions can be drawn. First, it should be underlined that the newspapers in all these four European countries have emphasized through a large

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[88] "Der Wasserstoff der Zukunft wird auf dem Meer erzeugt", *Der Spiegel*, 10 June 2020
[89] "Bundesregierung beschließt nationale Wasserstoffstrategie", *Zeit Online*, 10 June 2020
[90] "Jetzt beginnt in Deutschland die Wasserstoff-Ära", *Welt*, 5 June 2020; "Megatrend im Check: Was am Wasserstoff-Hype dran ist – und wie Sie mitverdienen können", *Focus*, 25 June 2020
[91] "Wunderwaffe für Wirtschaft und Klima? Deutschland läutet nach Krise Wasserstoff-Ära ein", *Focus*, 26 June 2020

number of articles the link between Covid-19 and the environment. Indeed, this study identifies five major frames constructed in these European newspapers:

- Frame #1: Reduction of human activities due to Covid-19 and its positive effect on the environment and climate change (Austria, Belgium, France, and Germany),
- Frame #2: Covid-19 as an opportunity for reshaping urban mobility in Europe to reduce air pollution (Austria and Belgium)
- Frame #3: Covid-19 as a consequence of the destruction of ecosystems and biodiversity by human activities (France)
- Frame #4: Post-Covid-19 period as a unique occasion to trigger an ecological transition towards a sustainable economy (Belgium, Germany)
- Frame #5: Covid-19 as an effect of the violation of multilateral environmental agreements (France)

Interestingly, while some frames have been common to at least two of the four studied European countries, some have been more specific to national situations. Different factors explain the strength of these frames linking Covid-19 and the environment. The frequent publication of newspaper articles promoting a particular frame has been one of these factors since it has allowed making a specific framing loudest within the public sphere (Frames #1, #2, #3, #4, and #5).

Second, the emphasis on benefits and positive outcomes (gain-framed), or in terms of costs when an emphasis on its disadvantages or negative effects has been used to talk about the link between Covid-19 and environment (loss-framed) within the construction of these frames has also contributed to their audibility within the targeted audience in Europe (Frames #1, #2, #3, #4, and #5). Furthermore, the level of credibility of their sources, especially for the frames that have been constructed and spread by scientists active in ecological transition or experts in environmental health is also an important factor of the success of some of these frames (Frame #3 and #4).

Finally, their resonance with consensual values and strong beliefs with the society where they come from represents a non-negligible factor of their strength (Frame #3 and #5).

 To conclude, this study has confirmed that, in the four European countries studied, framing of Covid-19 as an environmental health issue has represented a process that has selected certain aspects of one specific issue and makes them more prominent, to draw the audience's eyes towards specific issues (agenda-setting) and, sometimes, to propose certain solutions. The study has also confirmed that framing did not appear in a societal vacuum and is generally "produced" by specific actors that have the interest to

construct an issue in a certain way to spread a particular message. In regards to the effectiveness or impact of these frames on the public in the countries, some events have revealed that they had affected either the public's understanding and reaction to a specific issue (Frames #3 and #4) or had shaped some policy decisions (Frames #1 and #2). However, it remains too early to evaluate the long-term impact of such frames on the societies of the four European countries studied, especially because the Covid-19 is still spreading in Europe and the post-pandemic recovery plans remain to be launched concretely.

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