Metaphors and pandemics: Spanish Flu and Coronavirus in US newspapers. A case-study

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Abstract

The international outbreak of Coronavirus has challenged the stability of our contemporary societies. However, this is not the first time that humanity is facing a global pandemic. The 1918 Spanish Flu pandemic led to one of the most lethal pandemics. Metaphors play a fundamental role in influencing how we think and talk about health and illness. With an understanding of how the Coronavirus and the Spanish Flu are metaphorically represented in newspaper discourse, it would be easier to shed light on the linguistic process through which metaphors work and to understand to what extent socio-historical-cultural conditions may affect the actualisation of a metaphor. This paper shows that metaphors are consistently present in both time contexts and Coronavirus and Spanish Flu are similarly metaphorically represented. This might suggest the existence of a rhetoric of pandemics which goes beyond the specific socio-cultural and political context: a response to a threat as a pandemic is deeply related with human nature.

Der internationale Ausbruch des Coronavirus hat unser Leben radikal verändert und die Stabilität unserer heutigen Gesellschaften in Frage gestellt. Es ist jedoch nicht das erste Mal, dass die Menschheit mit einer globalen Pandemie konfrontiert ist. Die Spanische Grippe von 1918 führte zu einer der tödlichsten Pandemien aller Zeiten. Bei der Frage, wie wir über Gesundheit und Krankheit denken und sprechen, spielen Metaphern eine bedeutende Rolle. Wenn man versteht, wie das Coronavirus und die Spanische Grippe im Zeitungsdiskurs metaphorisch dargestellt werden, ist es einfacher, den sprachlichen Prozess zu beleuchten, durch den Metaphern wirken, und zu verstehen, inwieweit sozio-historisch-kulturelle Bedingungen die Aktualisierung einer Metapher beeinflussen können. Die Arbeit zeigt, dass Metaphern in beiden Zeitkontexten durchgängig vorhanden sind und das Coronavirus und die Spanische Grippe in ähnlicher Weise metaphorisch dargestellt werden. Dies könnte darauf hindeuten, dass es eine Pandemie-Rhetorik gibt, die über den spezifischen soziokulturellen und politischen Kontext hinausgeht: eine Reaktion auf eine Bedrohung in Form einer Pandemie, die tief mit der menschlichen Natur verbunden ist.

1. Introduction

On 31 December 2019, Chinese health authorities reported a cluster of pneumonia cases of unknown aetiology in the city of Wuhan (Hubei province, China). On 9 January 2020, the Chinese centre for disease control and prevention identified a novel virus relative to the family of coronavirus, first provisionally named 2019-nCoV, then changed to SARS-CoV-2, as the causative agent of these cases. On 11 February, the World Health Organisation (WHO) announced that

the respiratory disease caused by 2019-nCoV had been officially named COVID-19 or Coronavirus.

The international outbreak of Covid-19 has radically changed our lives and challenged the stability of society today causing a looming pessimism within scientific medicine and growing distrust of our neighbours. The high intensities of world population mobility have strongly impacted the spread of the virus (Yang et al. 2020), with unprecedented containment and lockdown measures being applied. At the time of writing and, despite the vaccination programme having already started in many different nations, what has been called a third "wave" of contagions is threatening many countries – the pandemic is thus still underway. This is, however, not the first-time humanity has faced an epidemic or pandemic: for example, the plague, Asian flu, Swine flu, Ebola, AIDS, Mad Cow disease, SARS, Avian flu, and Zika are some of the most famous diseases which have plagued the world (Snowden 2019). Almost 100 years ago, the 1918 Spanish Flu pandemic – or Influenza – caused by the virus H1N1, represented one of the most lethal pandemics in history. According to Walters, "it ranks with the plague of Justinian and the medieval black death as one of the three most devastating plagues to ever strike mankind" (1978: 856). The influenza occurred between 1918 and 1920 within a world still mainly interested in understanding the fate of the earth in the aftermath of World War I, infecting "one-fifth of the world's population and [killing] some 25 million people, including an estimated 600,000 American citizens" (Hume 2000: 899). There are in particular some similarities between the Spanish Flu and Coronavirus that make this comparison worth noting: in terms of similarities, according to Robinson (2020: 1), both pandemics exceeded the capacities of prevailing healthcare and public health systems of our societies, and are also both transmittable via respiratory droplets and the surfaces they land on. Additionally, there had previously been no known cure for either pandemic as the viruses causing the disease were new to the world of medicine with no proven means of complete immunity, whilst both diseases attacked people indiscriminately: wealthy and poorer people alike, people living in both city centres and suburbs; in terms of the differences between them, the viruses responsible for both pandemics belong to two different categories: the H1N1 is a subtype of Influenza A virus, whilst SARS-CoV-2 is a subtype of the Coronaviruses.

From a historical perspective, the 1918-1920 and the contemporary socio-political contexts are also markedly different, as obvious as it may be to say. On the one hand, the 1918-1920 world was still dealing with the aftermath of the terrible experience of World War I. The state of supportive medical care in 1918-20 was not as advanced as today, especially with regard to medical knowledge of virology. On the other hand, the modern world is based on an intertwining, interdependent system of relationships between countries, and a global, open infrastructure such as that this allows for a free and fast flow of goods, services and people which comes with a drastic downside: expediting the spread of a virus. In terms of age groups, young people were mostly affected by the Spanish Flu, whilst the elderly seem to be more susceptible to the coronavirus, but among these similarities and differences, one specific aspect plays an important role in emphasizing what makes comparing the two so pertinent: the differences in the press coverage given to each pandemic. The Spanish influenza is often recognised as the "forgotten pandemic" (Crosby 2003), perhaps due to its occurring during World War I, the latter of which would have had a stronger grip on the press and people's attention, given the presence of wartime censorship (Crosby 2003: 27–28; Kupperberg 2008: 61), whereas the Coronavirus has received a massive amount of devoted attention by the press (Krawczyk et al. 2020) and "appears to have largely been supplanted and displaced rather than combined and connected with the attention paid to climate change and other societal challenges" (Pearman et al. 2021: e6), taking almost all interest from the press. This notable difference between these two historical contexts is the basis of this study.

In light of the above, the way in which the two different pandemic events have been discursively represented by the press will be examined, with particular focus on the metaphorical language, as "when faced with novel scientific issues, the media relies on metaphors and commonplace images to conceptualise and communicate about them" (Ribeiro et al. 2018: 138). According to Semino (2021: 51), a metaphor consists of a linguistic and psychological process whereby a generally abstract, subjective and sensitive experience, corresponding to a target domain, is understood as a more concrete, image-rich and inter-subjectively accessible experience that corresponds to the source domain; in this case pandemics and illness (both physical and mental) are a kind of subjective, sensitive experience that tends to be talked and conceptualised. Both the media and political leaders during the coronavirus pandemic have regularly used

metaphorical expressions to represent the virus as an 'invisible enemy', as a 'tsunami on health services', and a 'marathon to be endured'. Some examples can be found in the American, English and Italian online press where military terminology is used figuratively:

- "This is like a war: view from Italy's coronavirus frontline" – (*The Guardian* – 17/03/2020)
- "On the frontline against Covid-19 in Ethiopia" – (*The Guardian* – 07/09/2020)
- "Coronavirus, al fronte di Rogoredo: diario di un medico di base che visita dietro un vetro" – (L'Espresso – 20/03/2020)
- "How Flu Shots Can Help in the Fight Against Covid-19"- (*The New York Times* – 15/09/2020)

The decision to analyse newspapers is based on the idea that we credit the press with playing a fundamental role in the dissemination of knowledge for the general public. According to Schudson (1996: 38), a news story is not reality itself but "a transcription, and any transcription is a transformation, a simplification, and a reduction". Newspapers are responsible for creating the mental worlds in which we live, rather than in the reproduction of the "real world" we relate to. Given the surge in disinformation and misinformation phenomena, including fake news (Guo/Vargo 2020; Shu et al. 2020), the role of newspapers is essential for gathering and filtering information, particularly in relation to health communication where the truthfulness is a vital aspect of for each news story.

> Since many aspects of a disease – for example, a virus and its spread – are not visible to the naked eye and difficult to understand by non-experts, media reporting is for most people the prime source of health information; through the choice of language and images the media make the invisible visible influencing imaginaries, opinions and, in turn, responses to a health crisis (Jaworska 2021: 26).

This implies that, by using certain figurative metaphorical expressions, to describe and inform people of such emotion-inducing phenomena, newspapers might affect – to a large extent – how people understand, experience and finally react to the virus. Thus, considering that public opinions are reflected in the news, and that newspapers are important influencers of people's perspectives on reality, by analysing the metaphorical representation of two different pandemics in newspapers in two different time periods, we might be able to

define to some extent how two pandemics are experienced and conceptualised. With an understanding of how Covid-19 and the Spanish Flu are metaphorically represented within newspaper discourse, it would be easier to explore the linguistic process through which metaphors work in order to understand whether the metaphors used to describe Covid-19 are unique or simply a typical feature of communication during a pandemic, as well as to understand the extent to which context might play a decisive role in triggering some specific metaphorical expressions over others. According to Taylor and Kidgell (2021), the acquisition of a historical dimension might give the opportunity to decontextualise the current discourse on the coronavirus and to distance ourselves from the data. The historical investigation of metaphors may complement cognitive insights and allow us to understand metaphors in more depth. Three research questions are thus addressed:

- How are the Spanish Flu and Coronavirus metaphorically represented?
- Which metaphors are present in both contexts, and which metaphors are unique to one context?
- To what extent may socio-historical-cultural conditions affect the actualisation of a metaphor?

In order to realise the overarching research aims, I conducted a case study focused on two US newspapers, the decision of which is based on two factors: firstly, according to Crosby (2003), the Spanish Flu might have originated in the US, and secondly the US has registered the highest number of Coronavirus infection cases, at the time of writing.

2. Social and Metaphorical representation

This work has been particularly influenced by two theoretical frameworks. The first one is the social representation theory, which explores the cultural, social and linguistic mechanisms whereby knowledge is collectively developed and acquired (Goffman 1969; Moscovici 1988). According to Jaspal and Nerlich, "a social representation consists of a network of ideas, values and practices in relation to a specific object" (2020: 4) – in this case Spanish Flu and the Coronavirus. "The key to its method of production lies in the anchoring and objectivation processes" (Moscovici 1988: 244). *Anchoring* refers to the process of changing something from unfamiliar to comprehensible by 'securing' it to something we already know about. *Objectification* refers to the process of

transforming unfamiliar objects into concrete, common-sense realities. Social representations enable individuals to understand and communicate about unknown diseases through these two social psychological processes by means of language and specifically using metaphors.

The second theoretical framework explores the critical metaphor analysis in discourse from a cognitive perspective (Charteris-Black 2004; Musolff 2006; Semino 2008), with two underlying presuppositions. The first presupposition is that metaphors are considered as creators of meaning – cognitive and linguistic tools that produce meaning and have done so ever since humans started to talk (Lakoff/Johnson 1980); they are essential for the development of language, cognition and culture (Gibbs 2002; Trim 2011). The second presupposition is that metaphors have a fundamental framing function (Musolff 2006; Kövecses 2020) and play a vital role in influencing how we understand reality.

When we use a metaphor, we are speaking and thinking of one thing in relation to another, with the metaphorical choice foregrounding certain aspects of similarity between two entities and backgrounding other aspects (Semino 2008). For example, the metaphorical mapping ARGUMENT IS A WAR foregrounds the fact that an argument (target domain) is like a war (source domain) as there are two factions confronting each other, whilst it backgrounds the fact that an argument is not like a war as opponents are not enemies intending to kill each other for survival. These foregrounding and backgrounding mechanisms pertaining to a metaphorical phenomenon are evaluative processes through which the speaker/writer and the hearer/reader assign negative or positive values on the things interpreted; they influence how we act, collectively and as individuals (Semino 2008). For example, as also discussed in Taylor (2021), the use of WATER metaphors to describe the QUANTITY of migrants coming to a nation might be interpreted positively (Salahshour 2016) or negatively (Gabrielatos/Baker 2008).

According to Musolff's work (2006), each metaphor evokes a specific interpretation of a situation and, from a discursive perspective, may activate a particular frame. The activation of a frame allows us to reason about the target domain on the basis of what we know about the source domain. In particular, the framing implications of metaphoric use have recently been studied from a cognitive perspective (for an overview see Landau/Meir/Keefer 2010). Thibodeau/Boroditsky (2011; 2013) and Thibodeau/Hendricks/Boroditsky

(2017) for example have showed that exposure to even a single metaphor can have an impact on people's opinion on how to solve social problems, and the use of certain metaphors foster structurally-consistent inferences induced by frame-consistent knowledge structures. Their work shows that people can be subconsciously influenced by metaphors when thinking about social policy because specific conceptualisations of problems can be encouraged, which could be either helpful or misleading for the aims of the metaphor user. Hart (2018) also studies the effect of metaphorical uses on reasoning: readers of texts where metaphors are used – in both language and image – favour adopting solutions in line with the metaphorical framing evoked by the source domain. In light of his findings, the use of specific metaphors to represent the pandemics and viruses might play a decisive role in influencing people reaction in a delicate situation such as a global pandemic; metaphors can covertly influence how people think, and people are not always aware that they have been influenced by a metaphor.

The implications of metaphorical use are thus important at a linguistic, discursive, and social level. With regard to public communication about pandemics, the importance of the construction of the actual discourses and of social representation of pandemic diseases by political leaders and by newspapers lies in the fact that during the pandemics, society is characterised by an extreme sensitivity, living in a situation of great distress. The spread of the virus is both a healthcare and social issue whereby a correct understanding of the problem is crucial for the management of the pandemic. In such a situation, the impact of public communication on individuals is great; the action of the individual might be strongly influenced by the information gathered from news media, social media, and politicians. Angeli states that "metaphors play a crucial role in how pandemic flu is viewed by people worldwide and perhaps how these people react to the flu, whether it is with fear, blame or acceptance" (2012: 218).

3. Metaphorical representation of pandemics in the press

A large and growing body of literature has investigated the impact of metaphorical use on talking, thinking, and acting in the context of emerging infectious diseases and epidemics within news media discourses. In addition to Susan Sontag's seminal works on figurative language and illness (1978; 1989),

in which she fundamentally argues that the way we choose to describe and narrate a disease (cancer, tuberculosis and AIDS in her works) is a tool we use to deal with its spread, its consequences, and as a means to limit its negative effects, with many other infections having been studied following her approach, such as Ebola in the 1990s (Ungar 1998; Joffe/Haarhoff 2002), mad cow disease (Washer 2006), SARS (Washer 2004), avian/bird flu (Ungar 2008; Brown et al. 2009), Zika (Ribeiro et al. 2018).

The generalisability of much published research on this issue is problematic, however previous research findings into the metaphorical representation of illnesses have consistently shown that pandemics are framed in newspaper discourse by generally giving a negative presentation of the disease. The emergence or resurgence of different diseases – epidemic or pandemic – are discursively represented by newspapers in terms of negatively polarised frames: newspapers, interpreted as repository of society's opinion (Schudson 1996), naturally feel antagonistic towards the virus as it hinders and obstructs the everyday social conduct. Infectious diseases are interpreted as a threat to public health and the economy in an increasingly globalised world as these would easily and rapidly affect the work of transnational, national and local government actors (Dingwall et al. 2013).

For example, the WAR frame is aptly used in relation to the discourse of epidemics and pandemics as the military rhetoric perfectly allows the user to demonstrate control over something that evades such control. According to Semino (2021: 51), military metaphors are particularly used for talking and thinking about illnesses and pandemic, because illness represents a kind of less tangible problem (like debt or grief), within 'problem' frame, where one of the ways through which we deal with these issues is a concrete action of opposition like conflict: "aggressive military powers and invaders are the most extreme examples of opponents, and wars are the most extreme examples of dealing with them" (Semino 2021: 51). Different studies show this frequent association and suggest that there is a kind of conventional metaphorical pattern. For example, Wallis and Nerlich (2005) investigate the representation of the 2003 SARS epidemic in UK media and identify that the media tend to refer to SARS disease in terms of two related conceptual frames. On the one hand, the disease is represented through the KILLER frame: the nature of SARS, its local and human impact, and individual responses were discussed in terms of the war-

related KILLER frame – DISEASE IS A KILLER. On the other hand, the responses elicited by the SARS were largely framed through a bureaucratic discourse of CONTROL and "a balance metaphor-dyad of controlled/uncontrolled" (Wallis/ Nerlich 2005: 2637). Similarly, Koteyko et al. (2008) investigate the Avian Flu in UK media between 2005 and 2006. They identify three major metaphor frames that structured the media coverage of avian flu in various ways: the INVASION frame, the WAR frame, and the HOUSE frame. They argue that "further along the "*path*" a virus travels and the closer it gets to its "*goal*," the more "*war*" metaphors one might find in the media coverage" (2008: 257). This work also reveals that metaphorical mappings are strongly dependent on the speaker/writer perspective on the topic discussed, accordingly with Taylor (2021: 8). Depending on whether the health crisis is seen as a national, foreign or global, there is a difference in metaphorical framing and the framing of disease management options (Koteyko et al. 2008: 257); once Avian Flu reached the United Kingdom – the HOUSE, the WAR and INVASION frame were triggered and activated, whilst before the virus reached the nation to which the speakers/writers belong, the PATH frame was predominant throughout the narrative. Nerlich and Halliday (2007) study the media representation of Avian Flu in UK media and find that the most predominant source domain mapped onto disease's domain corresponds to the DISASTER metaphor; expressions like 'epicentre' and 'impact' of the virus, or the reference to the number of cases as 'flood' evoke the natural disaster over which, arguably, neither scientists nor politicians have control. Similarly, Angeli (2012) examines press articles to understand better the metaphors surrounding H1N1 and Swine Flu. She identifies the presence of different mappings that coherently designate the rhetoric of a pandemic: WAR metaphors and DISASTER metaphor. Dobrić and Weder (2016) found the presence of the mapping VIRUS IS A NATURAL/ ENVIRONMENTAL DISASTER in their analysis of the conceptualisation of illness in a data set composed of English medical journals and newspaper texts published between 1990 and 2010. In line with the literature, they also identify that illness is consistently represented by the evoked images of 'murder', 'fugitive', 'enemy' and 'liquid', in relation to the metaphor of natural disaster. Interestingly, they found a consistency in metaphorical framing between medical journals and newspapers: they argue that medical professionals are the original source of the flu imagery media report to the general public (2016: 132–133).

With respect to the Spanish Flu, there is a relatively small body of literature concerning media and metaphorical representations of the Spanish Flu or H1N1 in the press. There are some historical studies that are more focused on the sociological and cultural aspect of the issue rather than the linguistic and metaphorical representation in the press (e.g. Crosby 2003; Kupperberg 2008; Snowden 2019). One reason for its underrepresentation might be due to the fact that the Spanish Flu, as discussed in the introduction, is often remembered as a forgotten pandemic – having occurred during WWI – and thus not highly publicised by health officials, the government and newspapers so as not to panic people (Angeli 2012: 210). In this sense, research has predominantly been focused on investigating the reasons for its being overshadowed.

For example, Hume (2000) draws on a corpus of 58 articles to find the reasons for the Spanish Flu being removed from Americans' memory and media coverage of the epidemic. Interestingly, she argues that

> the nature of epidemic itself offers clues to why it has been virtually 'forgotten'. It had no beginning or end, no definable enemies, no amplified heroes who fit an early twentieth-century male definition of the concept, and no institutionalized commemoration (Hume 2000: 910).

Her findings reveal some issues in relation to the actual project: the presumed underrepresentation of this disease might have played a decisive role in influencing its resulting presence within the press. As will be discussed later, it seems that it did not too heavily affect the presence of metaphorical mapping. Regarding the study of figurative language of the Spanish Flu, Honigsbaum (2013) conducts a study on how the regulation of emotional responses to the pandemic were governed by political and medical discourses. He studies how the political propaganda and medical discourses promoted the cultivation of stoicism over other emotions in the press to stifle the dissent and to maintain people's morale during the war by using a rhetoric style full of metaphors and stressing on the concept of stoic resistance. In my opinion, Honigsbaum's work highlights an important aspect that should be taken into consideration when studying metaphors. Even though national propaganda might influence people's perception by using well-designed rhetoric, there are other factors to consider that might define the interpretation of language and specifically metaphors: individual, cultural, social, political and also physiological. In this work, he shows that sentiments of dread and disease among the population,

due to the rise in the number of deaths, seriously challenged the credibility of the wartime propaganda. When analysing and interpreting metaphors, contextual aspects play an important role.

Regarding COVID-19, the growing number of studies that focus on analysing the use of metaphorical language in relation to Coronavirus emphasise the prominence of military rhetoric and specifically war metaphors. Semino (2021) shows that the virus has been consistently described as a 'tsunami' on health services, an 'enemy' to be beaten, and an 'invader' in the press. There are works dedicated to the analysis of the presence of metaphors in relation to Coronavirus that explore the adoption of this mapping. Similarly, Aqromi (2020) and Wicke/Bolognesi (2020) find similar results respectively in an Indonesian newspaper and in a Twitter corpus: the WAR mapping seems to be preferable over other kinds of descriptions. In general, the current literature on Covid seems to be more interested in investigating social and political implications that might be evoked by such linguistic choices (cf. Chapman/ Miller 2020; Gillis 2020; Martinez-Brawley/Gualda 2020; Sabucedo et al. 2020). Sabucedo et al. argue that using the war metaphor is problematic as although it evokes some positive imagery (resistance and heroism),

> it also dredges up others which denote conflict, like confrontation, obedience and enemy. Likewise, it is unclear why other frameworks associated with care, empathy and solidarity are not being used in a healthcare emergency (2020: 619).

Semino (2021), in line with initiatives, like the #reframecovid project, proposes that fire metaphors are appropriate and versatile for discussing pandemics as they are better for expressing the mechanisms of contagion ('virus' as 'fire'), and the measures which can be taken into consideration ('health workers' as 'firefighters').

Three important themes emerge from the studies discussed so far. Firstly, the prominence of conflictual metaphors used to speak about pandemics. Secondly, it seems that an emerging awareness of the implications in using military metaphors is present in relation to Covid-19. Lastly, given the prominence of war metaphors, it can be argued that less space has been devoted to the study of the implications of the use of the other metaphorical mappings identified.

This work thus intends to outline all the metaphors that are used to represent the Spanish Flu and Covid-19, then define to which extent the emergence of

each metaphorical mapping is dependent on the socio-political and historical context.

4. Methodology

4.1 Diachronic CADS and metaphor analysis

This work has been conducted through a critical, exploratory and comparative perspective: a quantitative analysis has revealed firstly a list of plausible metaphorical candidates, which have been subsequently analysed qualitatively and corroborated by triangulating those results with other contextual linguistic information gathered from freely available corpora. The methodology adopted for this work is a combination of Corpus Linguistics and Discourse Analysis, henceforth CADS (as discussed in Baker 2006; Partington et al. 2013; Taylor/Marchi 2018), with the tradition of Critical Metaphor Analysis (as discussed in Charteris-Black 2004; Charteris-Black 2017) – more specifically a corpus-driven, bottom-up and context-dependent approach to critical linguistic and conceptual metaphor analysis within discourse (Patterson 2018: 34). Within CADS tradition, many studies have focused on the analysis of metaphors in texts and discourse by using the methods of corpus linguistics (e.g. Deignan 2005; Semino et al. 2018; Taylor 2021). Considering that metaphors are manifest in language as subconscious associations between words (Semino 2008), and that linguistic use (also metaphorical use) is established within discourse as an increasing accumulation of individual instances of use, Corpus Linguistics provides firstly a large quantity of data that functions as empirical linguistic evidence for the identification of metaphors, and secondly useful tools for identifying patterns of metaphorical use which could not be seen by the 'naked eye' (Partington et al. 2013). A diachronic approach (McEnery/Baker 2017) is also adopted as attention is also given to a comparison of the two pandemics' metaphorical representations between two different time periods. Unlike McEnery/Baker (2017) and Taylor (2021), who both focus on the evolution of linguistic and metaphorical use over a long stretch of time (respectively 17th century and 19th and 20th century), this project explores two specific time periods that have been selected and compared. Thus, the evolution of language over time was not possible to discuss.

4.2 Data Collection

The dataset consists of two broadsheet newspaper corpora that have been specifically compiled for this work: *Flu1920* and *Covid2020*. The former is composed of articles published between January 1918 and December 1920, when the Spanish Flu took place, and gathered from the archive Chronicling America, which is freely available on the web. The latter is composed of articles from *The New York Times* covering the period from December 2019 to January 2021, and gathered from the archive LexisNexis, made available through the library of University of Padova. The corpora have been compiled specifically for the purpose of this research. On the basis of existing literature on the history of pandemics (Crosby 2003; Snowden 2019), two sets of search terms have been used in order to retrieve only the text which supposedly contained the information needed:

- 'Spanish Flu', 'Influenza', 'Flu Pandemic/s', 'Pandemic', 'Epidemic' for *Flu1920* corpus;
- 'Corona Virus', 'Coronavirus', 'Covid', 'Covid-19' for *Covid2020* corpus.

The following Table 1 summarises the information about the compiled corpora. It was not possible to indicate the number of texts as the downloading modality for each archive was different: for *Flu1920*, the retrieved file contained all the articles published daily, whilst for *Covid2020* the downloaded files contained only one document. Interestingly, the two corpora show a notable difference in terms of the number of tokens present. This can be explained by the fact that in the past fewer texts were published than are today, however this has not affected this work as we did not produce a quantitative comparison. Even more interesting is how the data reveals a strong difference between the two datasets in the TTR, or the ratio between the number of *types* and *tokens*, which is used to indicate the lexical richness and complexity of a text. In this case, this result is strongly affected by the OCR (optical character recognition) software through which these documents have been digitally converted that, as shown by different studies (e.g. Joulain-Jay 2017; Del Fante/Di Nunzio 2021a; 2021b), might play a decisive role in the correctness of the resulting documents. In this sense, considering that the actual work mainly consisted of a qualitative analysis partially assisted by a quantitative approach, this did not heavily affect the research.

	Tokens	Types	TTR	STTR
Flu1920	1.790.597	124.781	6,97	50,79%
Covid2020	20.520.628	129.200	0,63%	47,21%

Table 1: Corpora details

4.3 Metaphor Identification process

One of the main challenges of this work was the identification and retrieval of metaphor occurrences. Considering that I was focused on how the use of metaphors for describing pandemics might impact the ideal reader of newspaper articles, I was interested in frequent metaphorical expressions. I thus decided to identify metaphor candidates through collocates.

> Collocations are useful means for metaphorical identification because frequent collocates often signal an incongruity or tension between a word and its surrounding context (Deignan 2005 cited in Berber Sardinha 2006: 252).

Following Taylor (2021), collocates are understood words that have a strong connection with a node (for instance *pandemic* and *fight*) and the strength is represented by a statistically salient value. "By identifying lexical items which occur as collocates, we can assume that there is a degree of conventionalisation indicating that the metaphor was indeed part of the discourse" (Taylor 2021: 6). Thus, adapted from Steen et al. (2010: 25–26) and Taylor (2021: 6), the steps throughout the identification process can be summarised as follows.

A. Definition of a list of nodes (belonging to the *target* domain) to be searched for each corpus - 'Spanish Flu', 'Influenza Pandemic', 'Flu Pandemic/s', 'Pandemic', 'Epidemic', 'Influenza' for *Flu Corpus* and 'Corona Virus', 'Coronavirus', 'Covid', 'Covid-19' for *Covid Corpus*. I also decided to include 'influenza' in the search and to gather all the occurrences when 'Spanish Flu' was mentioned as influenza. According to Taylor/Kidgell (2021), the name whereby a disease is generally known does not necessarily correspond to the actual name whereby it was originally mentioned.
B. Analyse the context for each of the nodes in the list by calculating collocations within the corpus by using the WordSmith tools software (Scott 2020).

C. For each node, *log-likelihood* statistical measure and a five-word left/right span were used.
D. Select all the collocates that can be plausible candidates for metaphors on the basis of intuition, and triangulate those results with data from previous research, contemporary and historical thesauruses and reading sample concordance lines.
E. Categorisation of each linguistic metaphor, assigning it under the corresponding *source* conceptual frame.
F. Calculate for each *source* frame the number of *lexicalisations,* namely the number of linguistic metaphors assigned to it. Related words like 'to confine' and 'confinement' have been counted as one lexicalisation.

5. Discussion

This section presents the results of the analysis of metaphors in *Flu Corpus* and *Corona Corpus*. For each corpus, I categorised all the metaphors in terms of the *source* frame on which the *target* frame illness is mapped. All the metaphors have been interpreted after giving a close reading to the context for each example, and I collected all the metaphors for the *Flu Corpus* and for the *Corona Corpus* and then compared the metaphors found. Following Taylor's discussion (2021: 6–7) on the relationship between the number of lexicalisations per source frame and the metaphoricity of a mapping, I determined that there should be at least two lexicalisations (e.g. attack, and scourge for WAR frame) per source frame that could signal a high degree of metaphor 'animacy'. Speaking metaphorically, the number of lexicalisations may indicate that the source frame is 'fertile' in terms of the number of metaphors produced, whilst a low number of lexicalisations (less than two) may indicate that a metaphorical expression is at "the end of its 'life cycle' (Croft/Cruse 2004) and was now bleached or fossilised" (Taylor 2021: 7). In this work, I limited my analysis to only active metaphors. I also found what Reisigl and Wodak defines as *personification* to be particularly useful for the analysis:

> […] specific forms of metaphors that bring together and link two different semantic fields, one with the semantic feature [– human], the other bearing the semantic feature [+ human]. Personifications or anthropomorphisations are rhetorically used to give a human for or to humanise inanimate objects, abstract entities, phenomena and ideas (Reisigl/Wodak 2001: 58).

5.1 Metaphor of Spanish Flu

Regarding 'Spanish Flu' in U.S. newspapers, I found that the discourse of pandemics is consistently based on four main conceptual frames, as it is also displayed in Figure 1 and Table 2:

- TRAVEL
- WAR
- CONTAINER
- FIRE

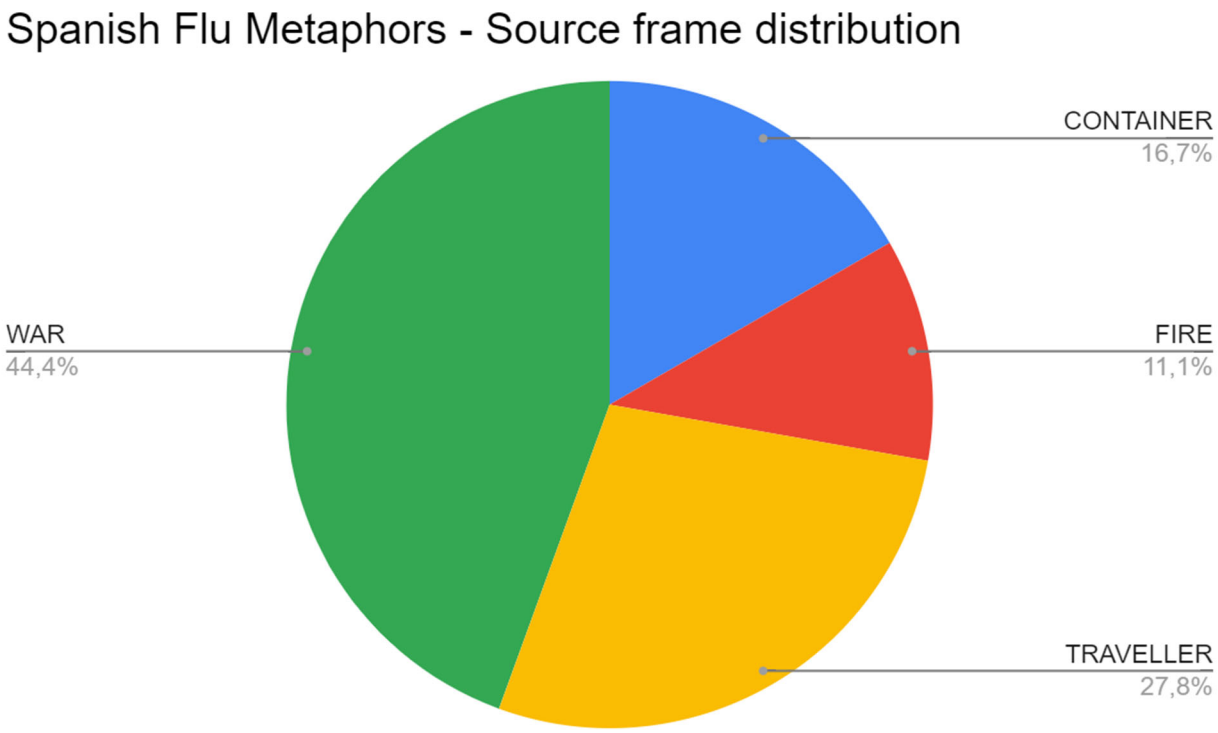

Fig. 1: Metaphors of Spanish Flu per number of lexicalisations

Source Frame	No. of Lexicalisations	Transitivity
WAR	8	Doer
TRAVEL	5	Doer
FIRE	2	Doer
CONTAINER	3	Done-to

Table 2: Source frames and number of lexicalisations

The WAR frame and the TRAVEL frame are the principal conceptual frames through which illness is represented. These frames also present a rich lexical variety in relation to the pandemic discourse in the *Flu Corpus*. The WAR frame presents eight lexicalisations, and the TRAVEL frame has 5 lexicalisations. The FIRE and the CONTAINER frame then show four lexicalisations each, with the living entity and water frames registering three and two lexicalisations respectively. The WAR and CONTAINER frames are used to represent and describe the virus as something to be solved, whilst the other frames just highlight the danger of the presence of this 'enemy'.

In general, the metaphorical representation of Spanish Flu is structured between two levels. The four metaphors mentioned above correspond to a level of representation that activates a wider NATION frame. The nation, which might indicate a community, a city or the entire nation, is opposed to the virus, whose activity is specifically represented by means of these metaphorical frames: a traveller or an enemy [+human] whether a fire [-human] which dangerously threatens the stability of the nation. Moreover, whilst the FIRE and WAR frames describe the virus and pandemic in negative and dramatic terms, the TRAVEL frame does not explicitly give a negative representation of the virus, although it decisively contributes to the personification process necessary for developing a military rhetoric and constructing the virus as a real enemy. In the following subsections I will briefly discuss each frame by reporting some relevant examples.

5.1.1 WAR in the *Flu Corpus*

The data shows that the WAR frame is the most present metaphor in the *Flu Corpus*. This frame is also linked to the ENEMY frame: the Spanish Flu is an invading enemy and its management becomes a war. The military rhetoric is particularly present in relation to the Spanish Flu. The following Table 3 shows eight lexicalisations with the indication of the relative frequency as collocates of "Spanish Flu".

Lexicalisations	Rel Freq. (pmw)	Distribution within WAR frame
Attack (of)	29,04	44,07 %
Combating	15,64	23,73 %
Fight	6,70	10,17 %
Scourge	4,47	6,78 %
Attacked (by)	3,91	5,93 %
Fighting	3,35	5,08 %
Invasion	2,79	4,24 %
Enemy	1,68	2,54 %
Strike	1,68	2,54 %
Explosive	0,56	0,85 %

Table 3: Lexicalisation of the WAR frame for 'Spanish Flu'

The lexicalisations 'attack of', 'attacked by' and 'invasion', 'combating' and 'fight' are in particular frequently used in relation to this frame, whilst 'attack of', 'attacked by' and 'invasion' are used to describe the presence or arrival of the virus in a community/place, as in the following examples (1) and (2), 'combating' and 'fight' are used to speak and think about how to deal with the virus, as in (3), (4) and (5).

(1) Influenza's latest phase. How the Recent Epidemic Differed from ***the 1918 Attack***. As far as present indications show the influenza, that has prevailed during the last few months was very different in age distribution of fatal cases from that of ***the 1918-1919 invasion***. In the world pandemic of 1918 the deaths were largely concentrated between the ages of 20 and 40 (*The Brattleboro daily reformer* – 28/04/1920).

(2) The theory that ***the strange epidemic of influenza attacked*** only those who were run down because of lack of proper food was exploded in late August when, a dispatch from an Irish port told of occurrences of symptoms of this disease among officers and men stationed at an American destroyer base (*Evening Times – Republican* – 30/09/1918).

(3) How To Fight Spanish Influenza. An old ***enemy*** is with ***us*** again, although under a new name, say various editorial observers in noting ***the epidemic of Spanish influenza*** and recalling at the same time the "grippe" that was new a generation ago (*Cayton' Weekly* - 12/10/1918).

(4) ***To combat the epidemic and to relieve the suffering*** is the aim of the relief committee. Report after report which reached the committee last night told of whole families stricken by the malady (*The Barre Daily Times* - 01/10/1918).

Interestingly, looking at (1), by making a specific reference to the pandemic as the 1918-1919 invasion, the writer seems to assume that the disease's appearances are counted in a series – akin to the characteristics of a war, which typically constitutes a series of battles. Moreover, looking at the following example (5), the comparison between the 'war' and the pandemic is even clearer: the message in the newspaper suggests fighting the enemy – being the virus – to help the World War I effort.

(5) Norwich ***may not be attacked by*** this Spanish Influenza. If it is you, each one of you can ***help fight*** this ***vital sapping disease*** and

> thus restore our full forces quickly to aid in war activities (*Norwich Bullettin* – 18/09/1918).

Lastly, looking at the following examples (6), which are both extracted from a text that informs readers of the measures to be taken so as not to be affected by the virus, the virus is explicitly compared to an armed enemy, with management by the government being described as a 'crusade' – namely, according to Oxford English Dictionary, "a military expedition undertaken by the Christians of Europe in the 11th, 12th, and 13th centuries to recover the Holy Land from the Muslims". Moreover, the metaphor alludes to the human body as the battlefield, specifically the stomach, with the diet becoming a defence.[1]

> (6) National Health Officials, in Crusade Against Possible Recurrence of Epidemic, Point Out That the Germ Still Lurks in Our Midst and Urge Every Precaution. […] His ***citadel***, when ***germs attack***, is his stomach. In that arsenal and ***fortification*** he keeps his ***arms*** and ***ammunition***. Also his troops. From that centre his ***host*** goes forth ***to battle and to die or conquer***. Diet, then, is secondary to no other measure of ***defence*** against Influenza (*The Sun* – 26/10/1919).

In relation to the agency analysis, the use of military metaphors depicts the virus as *a doer,* assigning to it the [+human] semantic feature: this metaphor defines a clear discursively image – the virus is a real enemy who requires immediate actions to be defeated. The use of this metaphor might activate different reactions and aspects related to the WAR frame in the readership, such as aggressiveness, tension, agitation, and justifies also extreme actions, the hunt for a pest.

5.1.2 TRAVEL in the *Flu Corpus*

The TRAVEL frame is the second most present in the *Flu Corpus*. The analysis shows that the travel frame is prominent within the Spanish Flu discourse, expressed by the five lexicalisations collected in Table 4.

[1] This resonates with what Honigsbaum (2013) argues about the Bovril's meat extract, which was associated with 'strength' or 'vital strength' in newspapers, and was used to influence emotions among the readership during the 1918 pandemic.

Lexicalisations	Rel freq. (pmw)	Distribution within TRAVEL frame
Visit	6,70	31,58%
Come	6,14	28,95%
Reach	3,35	15,79%
Leave	3,35	15,79%
Appear	1,68	7,89%

Table 4: Lexicalisation of the TRAVEL frame for 'Spanish Flu'

(7) Present indications are that within a few weeks, and possibly a few days, Vermont ***will be visited*** by an epidemic of the so-called Spanish influenza (*The Barbie Daily Times* – 24/09/1918).

(8) Spanish Influenza Discovered in Six U. S. Seaport Towns Surgeon General Blue Admits European Pandemic ***has reached America*** (*The New York Tribune* – 14/09/1918).

(9) If people will only take this cheap precaution at the beginning of colds, this Influenza ***would soon leave*** the town (*El Paso Herald* – 05/10/1918).

The use of this metaphor is based on the comparison between the movement of the virus and the movement of a person – a traveller. In this sense, the virus is described as a person who moves from one place to another: 'visit' somewhere, 'come' to someone's place, 'reach' a place or 'leave' a place and 'appear' somewhere, as in examples (7), (8) and (9). The virus is personified and described by means of [+human] semantic features – it is an actual traveller. In this case, contrary to the war frame, the aggressive, belligerent connotations defined are absent.

5.1.3 CONTAINER in the *Flu Corpus*

The CONTAINER frame has been identified among three lexicalisations, as Table 5 shows. The lexicalisations identified can be distinguished into two types: on the one hand the metaphors that foreground the rupture of the container like 'outbreak' and 'break', as in (10), and on the other hand the metaphors that foreground the need to reassemble or prevent the rupture of the container, like 'control' and 'check', as in (11). (12) shows the co-occurrence of both these metaphors.

Lexicalisations	Rel freq. (pmw)	Distribution within CONTAINER frame
outbreak/s	1,56	71,8
Break out	0,28	12,8
Check	0,67	30,8
control/ed	0,50	23,1

Table 5: Lexicalisation of the CONTAINER frame for 'Spanish Flu'

(10) Members of the Douglas County Medical association, at a meeting held Tuesday night, decided that the city health department should not relax ***its vigilance*** in the suppression of the Spanish "flu" ***outbrea*****k**, and they advised that the closing order should prevail until convincing evidence of an improvement in the situation is offered (Omaha Daily Bee – 18/09/1918).

(11) Health departments ***cannot control*** influenza. The people must be educated to protect themselves. It is up to the individual (*The Daily Morning Oasis* - 02/10/1919).

(12) […] The application of new principles of hygiene and protection, ***outbreaks*** of influenza ***may be controlled*** (*The Fargo Forum and Daily Republican* – 12/12/1918).

According with Taylor/Kidgell (2021), these metaphors could be understood as a personification of the virus: this strategy effects in coherently triggering two links with two other frames. On the one hand, the virus is interpreted as a fugitive criminal, which can be also related to the war frame, where the virus is

an enemy. On the other hand, the container frame could also be linked to the visitor[2] metaphor, where the virus unpleasantly visits the country by breaking the borders of the container/nation.

5.1.4 FIRE in the *Flu Corpus*

The fire frame is the least active metaphor identified within the *Flu Corpus*. It is expressed by means of two lexicalisations, as Table 6 shows: 'raging', 'raged' and 'flame'. Looking at the following examples (13) and (14), this frame decisively contributes to the creation of a dangerous, negative discursive image of the virus, as well as the pandemic in general. By metaphorically representing the Spanish Flu as fire, the corresponding frame is activated, with 'raged' and 'raging' in particular constituting 88% of metaphors within the fire frame.

FIRE	Rel freq. (pmw)	Distribution within FIRE frame
raged/ing	12,29	88 %
Flame	1,68	12 %

Table 6: Lexicalisation of the FIRE frame for 'Spanish Flu'

(13) Thus the beginning of the last pandemic in Europe and the United States has been traced to sporadic cases appearing In April, May and June, possibly even earlier in certain places, while ***the destructive epidemic raged*** during September, October and November of 1918 (*Greenwood daily commonwealth* – 30/04/1920).

(14) As to speak of the ***pandemic flame*** that, within a period of eighteen months, ***has scorched*** all the people of the world whether of Christian faith, heathen faith or no faith at all (*The Holt County Sentinel* – 24/06/1920).

[2] I want to thank the anonymous reviewer who suggested to reflect on this aspect.

Contrary to the other framings analysed, this is the only one not involved in a personification process: the [+human] semantic feature does not characterise this semantic frame, which can be interpreted as related to the frame of natural disaster.

5.2 Metaphor of Coronavirus

With regard to Coronavirus, I found the language used within the *Corona Corpus* to be highly metaphorical: the pandemic has been consistently represented through the use of metaphors. I identified in particular five conceptual source frames mapped onto the illness target domain, as displayed in Figure 2 and Table 7:

- WAR
- CONTAINER
- WATER
- TRAVEL
- FIRE

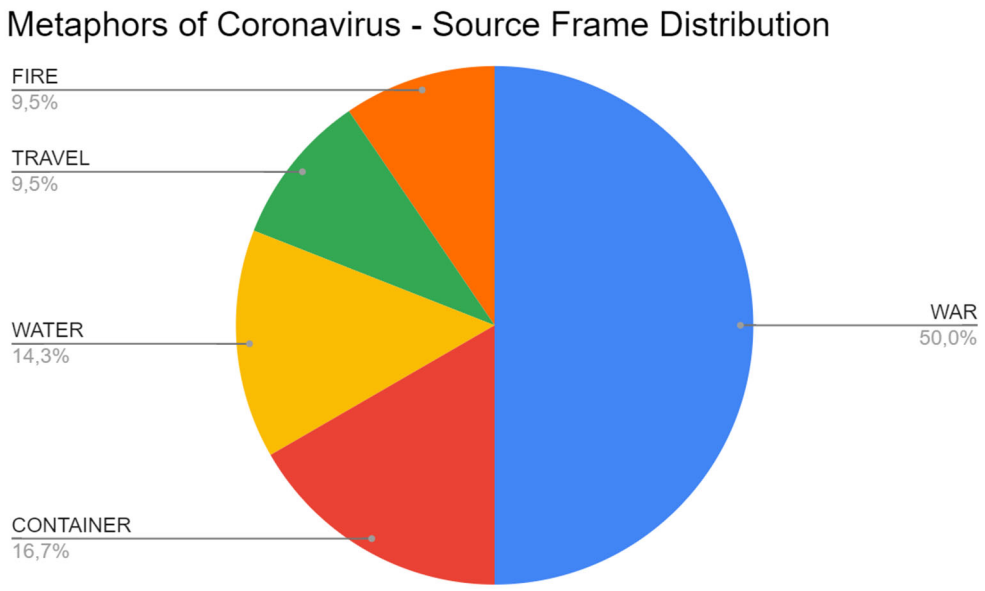

Fig. 2: Metaphors of Coronavirus per number of lexicalisations

Source Frame	No. of Lexicalisations
WAR	21
CONTAINER	6
WATER	6
TRAVEL	4
FIRE	4

Table 7: Source frames and number of lexicalisations Coronavirus

What is most notable in Table 7 is the number of lexicalisations of the war frame as it registers the highest number. This is in line with the trends identified within the literature, however the number of lexicalisations far exceeds the average results registered for the other frames, with the container and water frames also registering high numbers of lexicalisations. By also comparing these results with what has been discussed in relation to Spanish Flu, the discourse of Coronavirus can be considered as particularly rich in terms of the number of metaphors contained. The TRAVEL frame, the FIRE frame and the WEIGHT frame, which register the lowest numbers of lexicalisations in this analysis, distinctly demonstrate metaphorical activity.

In general, the movement of the virus is interpreted through the WATER and FIRE frames, which can be related to the DISASTER frame. The virus is personified as an enemy or as a traveller, both in a war context. The metaphorical representation of Covid is particularly characterised by military rhetoric, given that the war frame is expressed with 21 different lexicalisations. In line with the works of Semino (2021) and Wicke/Bolognesi (2021), this analysis likewise reveals the tendency of framing the management of the health crisis as a war. In this sense, the entire discursive image is strongly affected by this metaphorical use, and the other metaphors are – to some extent – dependent on the WAR frame. In the following subsections, I will briefly discuss each frame, showing the lexicalisations and presenting some relevant examples.

5.2.1 WAR in the *Corona Corpus*

The data shows that the WAR frame is the primary metaphorical representation of Coronavirus. Similar to the Spanish Flu, the use of this metaphor frames the discourse of Covid as a war between the nation and a threatening enemy that must be defeated to save the entire nation. The following Table 8 shows the 21 lexicalisations, indicating the relative frequency as collocates of "Coronavirus". This might prove that this type of mapping is considerably successful in relation to illness discourse, given the number of different lexicalisations, and how frequently they occur.

Lexicalisations	Rel. Freq. (pmw)	Distribution within WAR frame
Fight/ing	83,53	25,30%
Kill	55,70	16,87%
protect/ing/ed - protection/s	46,68	14,14%
battle/ing/ed	33,77	10,23%
task force	33,14	10,04%
combat/ing	31,48	9,54%
War	11,45	3,47%
strike/ing	7,55	2,29%
Beat	5,95	1,80%
Defeat	4,39	1,33%
Enemy	3,41	1,03%
undermine/ed/ing	2,97	0,90%
tackle/ing/ed	2,92	0,89%

Onslaught	1,80	0,55%
Scourge	1,41	0,43%
conquer/ed/ing	1,32	0,40%
Relentless	1,22	0,37%
attack/attacked/attacking (over the virus)	4,63	0,23
Assault	0,78	0,24%
Terror	0,49	0,15%
Devil/devlish	0,15	0,04%
Curse	0,05	0,01%

Table 8: Lexicalisation of the WAR frame for 'Covid'

The following Figures 3, 4 and 5 are concordance lines taken from the *Corona Corpus* and show the pervasiveness of this mapping within newspaper description of the pandemics: the war on Covid.

on Wednesday committed $100 million to **fight** the	virus,	partly for at-risk populations in Africa. With no cases
the nation is "rounding the corner" in the **fight** against the	virus,	and suggested that he might fire the nation's top
state leaders who fear they're unprepared to **fight** the	coronavirus.	ANNAPOLIS, Md. -- Larry Hogan was annoyed.
mesh with growing demands for digital tracking to **fight** the	coronavirus.	Hugs to this This is the plot: She developed
a reaction can help stoke the immune system to **fight** the	coronavirus.	Many vaccines contain substances called
programs. The measures being taken to **fight** the spread of	coronavirus,	specifically the orders to stay at home, are
churn out proteins that will stimulate the body to **fight** the	coronavirus.	Researchers at two Harvard-affiliated hospitals
churn out proteins that will stimulate the body to **fight** the	coronavirus.	Body The technique aims to make a person's
help with a secondary infection, but they could not **fight** the	virus.	And there was no way to know what course Cai's
them with antibiotics and antiviral drugs to try to **fight** off the	virus	and bacterial infections that they feared might
the original source of the coronavirus. "We can **fight** the	virus	better when we know everything about the virus,
2020; All Content Types: News 22. Too Broken To **Fight** the	Coronavirus	Client/Matter: -None- Search Terms: (atleast4(
Types: News 13. America Is Too Broken to **Fight** the	Coronavirus	Client/Matter: -None- Search Terms: (atleast4(
French and convince them that the only way to **fight** the	virus	was to accept social distancing. It has not been easy.
conspiring to impede the government's efforts to **fight** the	coronavirus.	Lee Man-hee, the founder of the Shincheonji
the neighborhood joint's **fight** for survival during the	coronavirus	pandemic. (PHOTOGRAPH BY JIM WILSON/
demonstrating the efficacy of masks in the **fight** against the	coronavirus.	From unconventional to expected: It is human
of New Rochelle is making "a herculean effort" to **fight** the	virus,	with drive-through testing centers and assistance
already stymied by shutdown orders enacted to **fight** the	coronavirus	pandemic. The mayor defended the decision

Fig. 3: WAR metaphors patterns

The Dakotas are hardly alone in dealing with an **onslaught** of	coronavirus	cases, hospitalizations and deaths over the past
The Dakotas are hardly alone in dealing with an **onslaught** of	coronavirus	cases, hospitalizations and deaths over the past
, there would be little room for the expected **onslaught** of	coronavirus	cases among residents. "Ultimately, what we
Likewise, who would have predicted the **onslaught** of a new	virus	that was stealthy, easily transmissible and also often
history. The hospital has treated four confirmed cases of	coronavirus	and expects an **onslaught** in the coming weeks.
gone to seed — there were dozens. The **onslaught** of the	virus	could be described as a toxic lava flow of infection that
to buttress their economies against the **onslaught** of the	coronavirus.	But the ministers dealt a blow to the bloc's
to buttress their economies against the **onslaught** of the	coronavirus,	but dealt a blow to their worst-hit members, Italy
to buttress their economies against the **onslaught** of the	coronavirus,	but dealt a blow to their worst-hit members, Italy
. As hospitals across the country brace for an **onslaught** of	coronavirus	patients, doctors, nurses and other health care
getting what they need Nurses dealing with the **onslaught** of	coronavirus	cases in California and Washington, two of the
on how long the sense of crisis lasts, the **onslaught** of the	virus	being uncertain and open-ended. The unlocking of the
to buttress their economies against the **onslaught** of the	coronavirus.	But the ministers dealt a blow to the bloc's
and encouraged timidity ever since. The **onslaught** of the	coronavirus	has revealed how dangerous it is to deliberately
they live with has delayed care since the **onslaught** of the	virus,	according to a survey last month from the Kaiser
the rest of the world convulsed amid the **onslaught** of the new	coronavirus.	But now the region is bracing to feel its full
on Wednesday, pledging to lead the country out of the	coronavirus	crisis amid an **onslaught** of attacks from
production. As the United States braces for an **onslaught** of	coronavirus	cases, hospitals and governments are
school-age children hunker down amid the **onslaught** of the	coronavirus	pandemic. I'm something of a pro when it comes

Fig. 4: WAR metaphor patterns

as his mission. "I believe that we're at **war** with this	virus,	and when you're at war, then you have to win,"
panic-driven prejudice has no place in our **war** with the	coronavirus.	Hopefully, if we all do our part now, we'll
House, called him a "deserter in the **war** on the China	virus. "	Mr. Azar insisted officials followed through on
as his mission. "I believe that we're at **war** with this	virus,	and when you're at war, then you have to win,"
coordinator for the government's **war** against the	coronavirus.	The epidemic brought an unexpected
coordinator for the government's **war** against the	coronavirus.	The epidemic brought an unexpected
leaders have equated the struggle to contain the	coronavirus	to a **war**, and have drawn parallels
House, called him a "deserter in the **war** on the China	virus. "	Mr. Azar insisted officials followed through on
months after its president declared **"war"** against the	coronavirus,	France announced Tuesday that it has
France Hastens Citizenship Path For Its Workers In	Virus	**'War'** The New York Times December 23, 2020
doesn't change the reality that in the **war** against the	coronavirus,	people who are staying home are
produced "defense services." Today's **war** against the	coronavirus	is following a closely related script, in that
doesn't change the reality that in the **war** against the	coronavirus,	people who are staying home are
produced "defense services." Today's **war** against the	coronavirus	is following a closely related script, in that
, the worldwide drop in demand for oil, because of	coronavirus	lockdowns and a price **war** between

Fig. 5: WAR metaphor patterns

Moreover, the war is also brought to a supernatural level, with Covid being defined as a 'devil' or devilish', and a 'curse', as examples (15) and (16) show.

(15) There's nothing like reaching the age of 100 to make a person want to get a grip on life, to start looking for that elusive way forward, especially when it comes during a pandemic propelled by ***a devilish virus*** that is everywhere and nowhere (The New York Times – 24/05/2020).

(16) When patients need intensive care. Its allocation must be fair. Coronavirus is ***a curse***; Discrimination makes it worse (The New York Times – 25/04/2020).

5.2.2 CONTAINER in the *Corona Corpus*

The CONTAINER frame has been realised through seven lexicalisations, which are contained in Table 9. As seen with Spanish Flu, two types of lexicalisations can be observed: on the one hand the metaphors that foreground the rupture of the CONTAINER like 'outbreak' and 'break', as in Figure 6, and on the other hand metaphors that foreground the need to reassemble or prevent the rupture of the CONTAINER, like 'control', 'check', 'halt', 'confinement' and 'containment' as in Figures 7 and 8.

Lexicalisations	Rel. Freq. (pmw)	Distribution within CONTAINER frame
Outbreak/s	262,22	61,0
Contain/ed/ing/ment/ments	78,12	18,2
control/ing/ed	54,92	12,8
halt/ed/ing	13,40	3,1
check/ing/ed	10,18	2,4
confine/ment	2,58	0,6

Table 9: Lexicalisation of the CONTAINER frame for 'Coronavirus'

sickened more people than the	**outbreak**	of the SARS virus did in the eight-month **outbreak** of 2002 and
Shaved Heads, Adult Diapers: Life as a Nurse in the	Coronavirus **Outbreak;**	Inside the **Outbreak** The
one was there. Europe's largest **outbreak** of the new	coronavirus **outbreak**	has erupted in Lombardy, the
My Family Dealt With the Coronavirus **Outbreak** The	coronavirus **outbreak**	didn't decimate my family's
what we did. Body How My Family Dealt With the	Coronavirus **Outbreak**	The coronavirus **outbreak**
sickened more people than the	**outbreak**	of the SARS virus did in the eight-month **outbreak** of 2002 and
Infected **Outbreak** RavagesTexas Nursing Home A	coronavirus **outbreak**	at a San Antonio nursing home
financially and left them ill-equipped to cope with the	coronavirus **outbreak,**	according to an analysis by
. She was already hyper-aware of germs before the	coronavirus **outbreak,**	she said, "but not like this.
York was the virus's main gateway to the U.S. The	coronavirus **outbreak**	in New York City has been the

Fig. 6: CONTAINER metaphors patterns

health experts are skeptical of China's efforts to **contain** the	virus	China's efforts to **contain** the spread of the disease by
hospitals around the country, blocked visitors to **contain** the	virus's	spread. The couple were isolated in separate
, leaders began taking extraordinary steps to **contain** the	virus.	Residents were warned to prepare for significant
community is taking extraordinary steps to **contain** the	virus.	SEATTLE — Movie nights have been canceled.
community is taking extraordinary steps to **contain** the	virus.	Body Four residents of a nursing care facility in
. The bet was that the N.H.S. could detect and **contain** the	virus	without resorting to such measures. But after new
that American colleges have used to try to **contain** the	virus.	At Manchester Metropolitan, a 33,000-student campus,

Fig. 7: CONTAINER metaphors patterns

. Body Placing faith in a leader with little **control** over a	virus	may seem irrational, but it fills a very human
: Placing faith in a leader with little **control** over a	virus	may seem irrational, but it fills a very human
, alarmed by staff shortages and the spread of	coronavirus	at the home, took **control** of the
, alarmed by staff shortages and the spread of	coronavirus	at the home, took **control** of the
results and hinder efforts to **control** the spread of the	virus.	New York City had a record number of tests on
of the pandemic, struggles to regain **control** of a	virus	that had largely been tamped down just a few
U.S. surpassed 10 million on Sunday. Experts say the	virus	is spreading out of **control** and could grow
believed him and his mouthpieces when they said that	coronavirus	was under **control** and going to

Fig. 8: CONTAINER metaphors patterns

The container represents society, whose normality has been 'broken' by a virus that should be put under 'control' as a necessity.

5.2.3 WATER in the *Corona Corpus*

I found that the water frame is realised through six lexicalisations. These metaphors are mainly used to represent the movement of the virus, as well as its arrival into society and anything related to it, such as patients or cases of infection, as shown in the examples (17), (18) and (19) and in the figure 9 and 10.

Lexicalisations	Rel. Freq. (pmw)	Distribution within WATER frame
rise/ing	45,81	39,2
Surge	41,62	35,6
wave/s	28,56	24,4
Flow	0,73	0,6
ebb/ing/ed	0,63	0,5

Upsurge	0,39	0,3
deluge/ed	0,63	0,5

Table 10: Lexicalisation of the WATER frame for 'Covid'

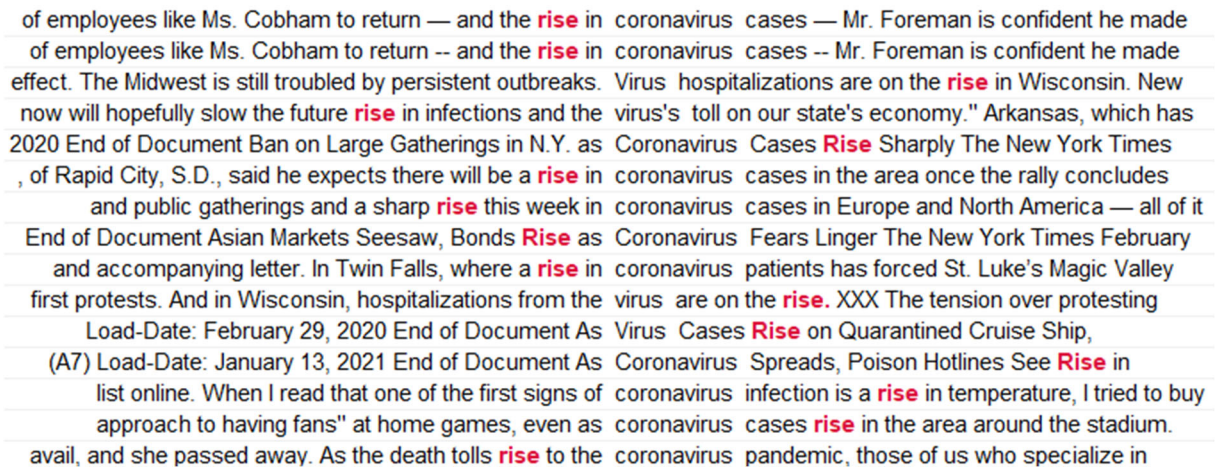

Fig. 9: WATER metaphor patterns

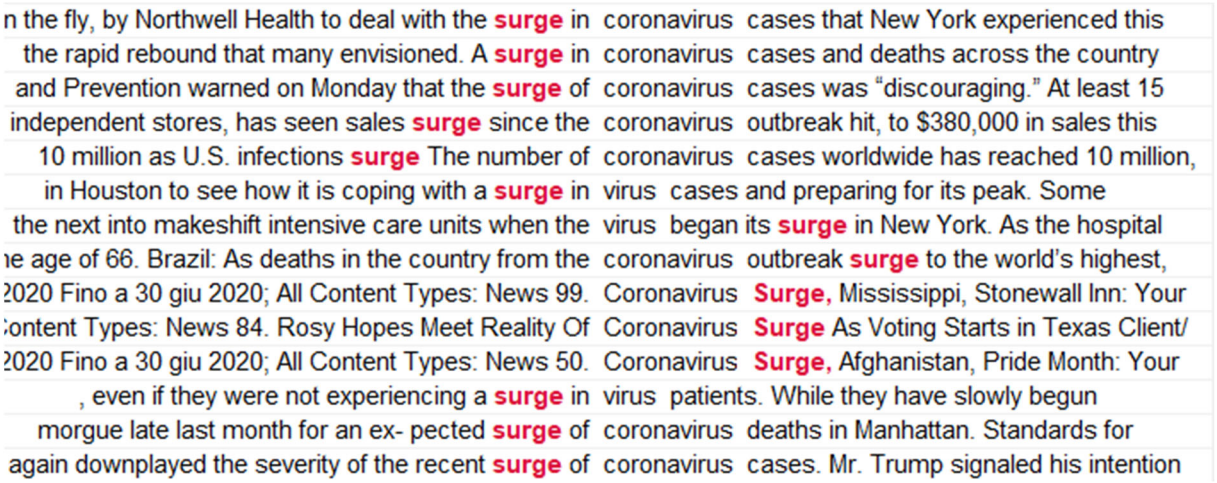

Fig. 10: WATER metaphor patterns

(17) What Mr. Uddin lacked, his family says, was adequate access to dialysis, a common treatment for impaired kidney function that was not available in sufficient quantities ***to deal with wave after wave of Covid-19 patients arriving in ambulances*** at the emergency rooms (*The New York Times* – 20/05/2020).

(18) European officials said the list would be revised every two weeks to reflect new realities around the world as nations see the virus ***ebb*** and ***flow*** (*The New York Times* – 31/05/2020).

(19) Mr. de Blasio's comments come as New York City's 911 system is overwhelmed, hospitals in the New York area are deluged with new coronavirus cases and medical staff warn of shortages of personal protective equipment (*The New York Times* – 28/05/2020).

This mapping highlights the fact that the infection occurs through unpredictable movements – as those produced by liquid. As discussed in the literature review section, the unpredictability of water/viruses corresponds with the difficulty of being controlled, thus necessitating the use of container metaphors.

5.2.4 TRAVEL in the *Corona Corpus*

The travel frame is present within the *Corona Corpus* in the form of four lexicalisations collected in Table 11. Like the water frame, this metaphor is used to represent the movement and diffusion of the virus and to liken the movement of the virus to that of a person; the travel frame is activated because the virus is described as a person who moves from one place to another and 'circulate' or 'appear' somewhere, 'reach' someone's place and 'left' a place, as examples (20) and (21) show.

TRAVEL	Freq.	Rel. Freq. (pmw)	Distribution
circulate/s/ed/ing	250	12,18	30,4
appear/s	360	17,54	43,7
Reach	128	6,24	15,6
leave/s	85	4,14	10,3

Table 11: Lexicalisation of the TRAVEL frame for 'Covid'

(20) Companies and universities — and the groups that represent them — say they are vulnerable to a wave of lawsuits if they reopen while the coronavirus **continues to circulate widely**, and they are pushing Congress for temporary legal protections they say will help get the economy running again (*The New York Times* - 13/06/2020).

(21) Schools across the country followed suit, taking similar measures to help stop the spread of the coronavirus, which began **to appear in more college** populations this weekend (*The New York Times* – 14/07/2020).

This mapping also constitutes a kind of personification as, by representing illness in terms of travel, the semantic feature [+human] is assigned to the virus.

5.2.5 FIRE in the *Corona Corpus*

The FIRE frame is expressed by means of four lexicalisations collected in Table 12. In addition to the war frame, the use of this frame contributes to the production of a dangerous and negative discursive image of illness – the pandemic being fire. Looking at examples (22), (23) and (24), the virus is described in dramatic terms as unpredictable, and as a cause for concern (22), fear (23), and its management as a struggle (24). Figure 11 below also shows the diffusion of this type of mapping in the corpus.

FIRE	Rel. Freq. (pmw)	Distribution
rage/ing	7,55	53,4
explode/ed	4,04	28,6
Flare	1,32	9,3
Wildfire	1,22	8,6

Table 12: Lexicalisation of the FIRE frame for 'Covid'.

(22) There are ***concerns***, however, that as people begin returning to work in China, ***the virus could flare up again*** (*The New York Times* – 07/02/2020).

(23) ***Fearing*** the spread of ***a virus that continues to rage*** in much of the country, school districts have shut down classrooms and standardized testing companies have cancelled numerous dates for the ACT and the SAT (*The New York Times* – 23/07/2020).

(24) As Western nations ***struggle*** with ***the wildfire spread of the coronavirus***, Singapore's strategy, of moving rapidly to track down and test suspected cases, provides a model for keeping the epidemic at bay, even if it can't completely stamp out infections (*The New York Times* – 21/04/2020).

. In late February and early March, the number of new	coronavirus	infections in the country **exploded** from a few
social distancing rules to allow crowds to attend. But as	virus	outbreaks **exploded** across Florida this summer,
city dwellers. Then there is the rest of the world. While the	coronavirus	first **exploded** in Wuhan, a city of 11 million,
a global health emergency. Their brittle unity collapsed as	coronavirus	deaths **exploded** in the United States. The
city dwellers. Then there is the rest of the world. While the	coronavirus	first **exploded** in Wuhan, a city of 11 million,
hospital because of the virus. Early last week, as the novel	coronavirus	**exploded** from state to state, a woman called
because of the virus. Body Early last week, as the novel	coronavirus	**exploded** from state to state, a woman called
and Aviva Stahl Highlight: Early last week, as the novel	coronavirus	**exploded** from state to state, a woman called
how much you give it's never enough." As the number of	coronavirus	cases has **exploded** in the United States,
doing when you add in the time factor" — that is, when the	virus	first **exploded** in a given place and what has
ago when meatpacking plants in the state **exploded** with	coronavirus	infections and the rate of positive samples
easing restrictions. And in parts of central Idaho, where	coronavirus	cases have **exploded** in recent weeks, bars
easing restrictions. And in parts of central Idaho, where	coronavirus	cases have **exploded** in recent weeks, bars
fiction movie that had nothing to do with us." And when the	virus	**exploded**, Europe, she said, "looked at us the same
a global health emergency. Their brittle unity collapsed as	coronavirus	deaths **exploded** in the United States. The
managed to keep new case levels flat or declining. As the	virus	has **exploded** in large swaths of the nation over the
. Murphy said last weekend. But many already had. As the	coronavirus	**exploded** in New York City, leaders and
. Murphy said last weekend. But many already had. As the	coronavirus	**exploded** in New York City, leaders and
"That's just extraordinary." Over the next week, Michigan's	Covid-19	numbers **exploded.** By the end of March, the

Fig. 11: FIRE metaphor patterns

5.3 Coronavirus and Spanish Flu – metaphor of pandemics

The comparison between the metaphorical representation of Coronavirus and of Spanish Flu has shown that both the Spanish Flu and Coronavirus are mainly described by using four specific source frames: WAR, TRAVEL, CONTAINER AND FIRE, with Coronavirus being additionally represented through water metaphors. The results thus show that as the two share many common characteristics, the US press has constructed the discourses of both of pandemics in a considerably similar way. Looking at this work, the virus moves according to two types of movement expressed by the other three different frames shared between Coronavirus and the Spanish Flu. On the on hand, the virus' unknown nature is made comprehensible by the use of travel metaphors which anchor it to the image of the traveller – the virus moves as a traveller. On the other hand, the virus unfamiliar nature is transformed into concrete common-sense reality by the use of WATER and FIRE metaphors which objectify it as water and fire – the virus movements are interpreted as those of fire and water, namely dangerous and unpredictable. The use of container metaphors is more focused on the description of the consequences of the virus on society: its arrival is seen

as the rupture of a container, the upheaval of our daily routine. In addition to these frames, the pervasive presence of war metaphors, which are the most used in terms of lexicalisations and number of occurrences, decisively contribute to the definition of a specific social representation: the virus is an enemy which dangerously proceeds towards the nation as a traveller, which during a war is likely to be interpreted as an enemy or an invader, and its arrival is compared to the break a container because it is dangerous as an uncontrolled amount water or as fire.

6. Conclusions

The aim of this paper has been to examine the metaphors used within the discourse of pandemics. I was specifically interested in discovering which source frames are used to talk about pandemics so as to define the extent to which socio-political and historical contexts might affect the actualisation of metaphors. In this sense, the study has identified that the Spanish Flu and the Coronavirus have been metaphorically represented in a similar way. This similarity that I have identified therefore might assist in the understanding of the role of the context in triggering specific metaphorical representations: it seems that the object of representation has played a significant role in determining specific metaphorical mapping. The results of this paper suggest that the existence of rhetoric of pandemic goes beyond the specific socio-cultural and political context and it might be theorized the existence of 'natural' response pandemic which is deeply related with human nature.

According to Nerlich/Halliday (2007: 62), newspapers, as well as various government officials are crucial participants in the production of awareness. The media can amplify the message that the scientists want to convey. This emergent rhetoric of fear in an atmosphere of uncertainty has consequences for the relation between science and society, the public understanding of science and for the policy-making process. The representation of the virus as an enemy might be useful in the first phase of the emergency, but not at later stages.

Several questions still remain to be answered. A natural progression of this work would be to analyse different socio-cultural and political context or to compare different linguistic contexts. Otherwise, the study should be repeated using bigger datasets or less corrupted. In fact, even though the quality of the OCR scan used is high, there still is the possibility that the OCR related errors

of *Flu Corpus* might have slightly affected the quality of the text and the number of metaphors which have been retrieved. Therefore, an additional post-processing error correction process (Del Fante/Di Nunzio 2021a; 2021b) to enhance the readability of the text composing the *Flu Corpus* is welcomed.

7. References

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8. Corpus

- Excerpt 1 – "This is like a war view from Italy's coronavirus frontline": https://www.theguardian.com/world/2020/mar/17/this-is-like-a-war-view-from-italys-coronavirus-frontline
- Excerpt 2 – "On the frontline against Covid-19 in Ethiopia": https://www.theguardian.com/world/2020/sep/07/on-the-frontline-against-covid-19-in-ethiopia-a-photo-essay
- Excerpt 3 "Coronavirus, al fronte di Rogoredo: diario di un medico di base che visita dietro un vetro": https://espresso.repubblica.it/attualita/2020/03/30/news/coronavirus-medici-di-famiglia-1.346360
- Excerpt 4 "How Flu Shots Can Help in the Fight Against Covid-19": https://www.nytimes.com/2020/09/14/well/live/how-flu-shots-can-help-in-the-fight-against-covid-19.html
- Corpus 1 – *Flu1920*

All the texts for the *Flu1920* corpus have been gathered from the free-access archive *Chronicling America.* A list of all digitized newspapers can be found here: https://chroniclingamerica.loc.gov/newspapers/.

List of newspapers used for the present study:

- The Brattleboro daily reformer – 28/04/1920
- Evening Times – Republican – 30/09/1918
- Cayton' Weekly - 12/10/1918
- The Barre Daily Times - 01/10/1918

- Norwich Bullettin – 18/09/1918
- *The Sun* – 26/10/1919
- The Barbie Daily Times – 24/09/1918
- *El Paso Herald* – 05/10/1918)
- Omaha Daily Bee – 18/09/1918)
- The Daily Morning Oasis - 02/10/1919
- The Fargo Forum and Daily Republican – 12/12/1918
- Greenwood daily commonwealth – 30/04/1920
- The Holt County Sentinel – 24/06/1920
- Corpus 2 – *Covid2020*

All the texts for the *Covid2020* corpus have been gathered from the archive *LexisNexis*, made available through the library of the University of Padova: https://advance.lexis.com.