



An inevitable collision: health, biology, and security in times of pandemic

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Abstract

For more than two and a half years now, experts and scholars around the world have been unanimous about one thing: the COVID-19 pandemic is the greatest challenge of our times. Since the SARS-CoV-2 first emerged in the Chinese province of Wuhan in December 2019, more than 560 thousand millions of confirmed cases were documented and approximately 6,3 millions of deaths were recorded throughout the world. Its extreme virulence and lethality, combined with its devastating consequences, prompted states leaders and international actors to frame the disease as a threat to their national and international security. In other words, the COVID-19 was securitized by actors in position of authority who presented and labeled the issue as an existential security threat. While the COVID-19 is not the first health-related issue to be securitized, the case of the COVID-19 revealed a security rationale that was not present in the previous securitizations. Indeed, many scientists and field experts have noted the relevance of another aspect that was brought up by the securitization of the COVID-19: the vulnerabilities of states toward biological threats as a whole, and not only infectious diseases. The COVID-19 was therefore not only presented as a security threat because of its high morbidity/mortality rates and the consequences it had on the world economy, but also as a biological threat. Consequently, experts have argued that the COVID-19 significantly renewed the debates around the concept of biosecurity and shed light on the complexity to assess the ‘protect or proliferate’ dilemma that lies at the heart of the concept. The controversies around the origins of the SARS-CoV-2 reinvigorated the attention given to the significant role of laboratories and biological research in the fight against catastrophic outbreaks of infectious diseases and the impact they can have on the prevention and control of pathogenic threats. Indeed, while these human practices are vital to the maintaining of biosecurity, they can nevertheless foster the threats and contribute the emergence of viruses and bacteria outside of their environment

of study. The dual nature of the biosecurity practices is precisely what the securitization of the ongoing pandemic revealed and what made it singular in its own terms.

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Introduction

In 1918, the world was struck by an unprecedented public health crisis, considered today as one of the worst outbreaks in history. The Spanish influenza pandemic lasted from 1918 and 1920 and was estimated to have affected around one third of the entire world population, through three waves of contamination (Maas 2020). In addition to provoking a severe recession, it is estimated that the outbreak caused the deaths of approximately 25 to 40 million people, making one of the darkest episodes in public health history.

The Spanish flu pandemic is one of many instances that testify to the destructive potential of health-related issues, especially regarding infectious diseases. Outbreaks of naturally occurring infectious diseases have been numerous and a succession of epidemics and pandemics have marked the field of public health throughout the XXth century. While some might think that infectious diseases became a concern of the past due to advancements in science and the improvements in hygiene and general living conditions, the 2000's and 2010's were marked by a rise in the spread of infectious diseases, which rapidly became one of the leading causes of mortality throughout the world (National Intelligence Estimate 2000). Indeed, since the early 2000s, several outbreaks of infectious diseases have been documented throughout the world, including the 2009 H1N1 virus, the MERS-CoV outbreak in 2012, the 2014 Ebola epidemic in West Africa and the 2016 Zika virus outbreak, to name a few. While the consequences generated by infectious diseases and other health related problems are often disastrous, both on the human and societal/socioeconomic levels, large scale outbreaks were, traditionally, rarely considered as security threats and were managed from a public health perspective, testifying to the rigid relations between the fields of health and security.

Yet, more recently, one specific public health event significantly impacted the dynamics between the fields of health and security. In December 2019, a case

of pneumonia with an unknown etiology was reported in the Chinese city of Wuhan. A few days later, the World Health Organization (WHO) reported the discovery of a novel coronavirus, a virus that easily spreads from human to human through air and physical contact with secretions or contaminated objects (Institut Pasteur). The virus responsible for the infectious respiratory disease COVID-19 was officially named SARS-CoV-2. Due to its unprecedented spread and transmission rate, the outbreak was declared a Public Health Emergency of International Concern on January 30th, 2020 and later declared a global pandemic on March 11th by the WHO. Since then, the vast majority of the world's countries has been affected by what could be qualified as an "amorphous, evolving, and invisible adversary" (Faber 2021), which severely disrupted the international system. As a highly transmissible infectious disease by nature, more than 530 million of cases have been confirmed worldwide, as well as around six million of deaths, as of June 2022 (Kantis, Kiernan, Bardi *et al.* 2022).

The sudden outbreak of this coronavirus acted as a stark reminder of the vulnerability of the international community in the face of health-related issues, especially when it comes to infectious diseases with epidemic and pandemic potential. Indeed, this unprecedented outbreak reaffirmed the existence and the persistence of pathogenic threats and their potential to affect the vast majority of states and their populations, regardless of their level of development and economic power. This pandemic showed that, more than a hundred years after the 1918 Spanish flu pandemic, also known as the world's deadliest influenza outbreak, emerging and re-emerging infectious diseases remain a significant threat to global health but also to international security (Institut Pasteur, 2018).

Because of its rapid transmission, high morbidity and mortality rates as well as its toll on the world economy, the COVID-19 pandemic was rapidly labeled as a threat to national and international security, significantly altering the dynamics of the relationship between the fields of health and security and their reciprocal

implications. Yet, the COVID-19 pandemic is not the first public health crisis to have been treated as a security threat. Indeed, a few public health issues have also been advanced as security threats by national and international actors, such as the 2014-2016 Ebola outbreak in West Africa. But while the labeling of certain public health issues, also known as the “securitization” process, is not a new phenomenon, the case of the COVID-19 pandemic revealed a specific security rationale that directly affected the fields of both health and security, significantly impacting the way these two policy worlds interact with each other. The common ground where the two policy worlds accidentally collided is the field of biosecurity, a security component essential in the prevention and control of infectious disease outbreaks but which has been considered with little attention and met with less material and financial resources as other security issues, deemed more urgent. Indeed, if biological threats, also known as biothreats, can generate consequences as deadly as the ones generated by international conflicts and terrorism, they were often minimized by international security actors and rarely found their way onto the international security agenda as they were not caused by what was considered as traditional security threats. The securitization of COVID-19 significantly disrupted this line of thinking and brought public health concerns to the top of the security agenda, as it shed light on the need to address and consider biological threats not only as public health issues but also as threats to national and international security.

The overall objective of this paper is therefore to question the extent to which the current pandemic has reignited the debates on the concept of biosecurity and impacted how the international community apprehends biological threats as a whole, i.e. naturally occurring outbreaks of infectious diseases and the intentional misuse of the biological pathogens. In an attempt to answer this guiding question, the paper will be divided into five main chapters. The first chapter of the thesis will discuss the foundations of the methodology and research design that will be used in this paper to address the guiding question, this thesis will draw upon a comparative case study design through a comparison

of two infectious diseases' securitizations, where the first case, the 2014-2016 Ebola outbreak, will operate as a sort of benchmark to highlight the findings of the second case, i.e. the securitization of the COVID-19. The following chapter will address the theoretical framework used to make sense of the prevailing argument and explain how the theory will be applied to the two case studies. The history of the theory of the securitization as well as its main tenants will be reviewed in detail, while shedding light on the framing of health issues in security terms. The third chapter of the paper will be dedicated to providing the reader with contextual and background information on the relation and dynamics between the fields of health and security through an extensive literature review. The following chapter will focus on the practical aspects of the argument and will be dedicated to the comparative analysis of two case studies, as mentioned in the second chapter. The case of Ebola will be utilized to advance the particularities of the securitization of the COVID-19 and lay the foundations for the next chapter. The fifth and final chapter of this paper will discuss the effects of the securitization of the COVID-19 pandemic on the assessment of security threats, through a renewal of the biosecurity debates, initiated by the controversies around the origins of the SARS-CoV-2. This section will aim to address the challenges around the current biosecurity concept and its security implications and how they impact and are integrated into the fight against pathogenic threats. Ultimately, this paper will try to address the gap in the existing literature on the indirect consequences generated by the securitization of COVID-19 on security and biosecurity debates at the international level.

Chapter I. Methodological Framework

This present chapter discusses the foundations of the methodology and research design that will be used in this paper. The overall objective of this paper is to question the extent to which the current pandemic has reignited the debates on the concept of biosecurity and impacted how the international community apprehends biological threats as a whole, i.e. naturally occurring outbreaks of infectious diseases and the intentional misuse of the biological pathogens. Such a question directly implies the analysis of the dynamics between the fields of health and security and the implications they have for their own practices and debates. While the main tenets of the securitization theory and its concrete application will be further discussed in detail in the second section, this first chapter will lay the methodological foundations of the research, outline the modalities of the chosen research design and address the structure of the paper, which will be based on a comparative case study analysis. This section will also provide justification for the choices of the case studies' subjects.

It seems important to note here that the application of the securitization theory to health-related issues is not a new phenomenon as it has already been studied and analyzed numerous times by experts and researchers. The securitization of health issues, especially infectious diseases, is therefore not the main focal point of this paper, as it has been extensively researched and documented. Indeed, there have been many articles and papers written on the direct consequences of the securitization of the pandemic such as the implementation of containment measures to stop the spread of the virus. However, one could note that there is only little existing literature on the indirect consequences generated by the securitization of COVID-19 on security and biosecurity debates at the international level. It is in this particular gap that this dissertation aims to position itself. In an attempt to demonstrate the impact on the securitization of the COVID-19 pandemic on the biosecurity debates, the present paper will

therefore be conducted according to a comparative case studies design. Crowe, Cresswell and Huby *al.* (2011) define a case study as a “research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context”. The added value of this qualitative research methodology is therefore to allow the researcher to capture the significance and comprehensiveness of existing phenomena (Yin 2014).

While the literature related to qualitative methodologies is rich and diverse, Yazan (2015) however stresses the fact that there has been no clear consensus on the way a case study should be designed and conducted, making the field of case study methodology a “contested terrain” (p. 134). Along with other scholars, she nevertheless identifies three main methodologists, Robert Yin (2014), Robert Stake (1995) and Sharan Merriam (2009), who have made significant contributions to the field and offered theoretical and practical guidelines on how to utilize the case study design method. Yin’s work is often cited as one of the most prominent in the field. Following a post-positivist stance, he understands case study research design as “a form of empirical inquiry” (Yin 2014 cited in Harrison, Birks & Franklin *et al.* 2017) which allows the scientist to study one specific phenomenon through the questions “how” and “why” (Yazan 2015). Yin (2014) proposes a typology of case studies according to the number of cases to be studied and the number of units of analysis to be conducted in the design. He differentiates between what he calls single-case and multiple-case designs. Depending on the number of units of analysis, the case study can be holistic, i.e. the phenomenon is studied as a whole, or embedded, where only sub-units from the case are being studied, generating a multilevel analysis (Yin, 2014; Oyelami & Olivier, 2015).

While Yin’s work is rooted in a positivist approach, Stake’s and Merriam’s contributions follow an interpretivist/constructivist stance as they both believe that reality is not a given rigid object but rather the result of interactions and continuous exchanges between different social spheres which render reality a

fluid and dynamic constructed entity (Mishra 2021). One of the main points of Stake's (1995) approach to case study research is the special focus given to what he calls a "specific case" (Stake 1995 cited in Mishra 2021) to shed light on a particular issue, therefore identifying three types of cases study: intrinsic - the case study is conducted to explore a specific phenomenon within one and unique case -, instrumental - the case study is conducted to understand a general event within a particular environment and provide the scientist with a comprehensive comprehension of the phenomenon -, and what he calls the collective cases, which follows the same design as the instrumental case but based on multiple cases rather than a single one.

Merriam (2009)'s approach to case study research appears to be relatively similar to Stake's in the sense that she draws much from his work (Mishra 2021). Yet, Harrison, Birks and Franklin *et al.* (2017) argue that while her work is based on a constructivist stance just as Stake's, she nevertheless follows a pragmatic approach when she emphasized the importance given to methodological frameworks to interpret the collected data and counter the abstract nature of the information. Like Stake, she identifies three types of case study, including one that is also intrinsic and instrumental. The other two are historical and observational as well as multisite case studies.

The literature related to qualitative case study research is diverse and rich of contributions from various different epistemological stances. For the sake of this argument, this paper will however follow Yin's understanding of the case study research design, following a holistic multi-case design. As this dissertation aims to study the impact of the securitization of the current pandemic on the biosecurity debates, it will therefore answer one of Yin's guiding questions, i.e. the "how" question, drawing on a comparative case study analysis.

The present argument will be structured following a comparison of two infectious diseases' securitizations, the first case operating as a sort of benchmark allowing the findings of the second case to be better highlighted.

The first case study will be dedicated to the securitization of the Ebola Virus Disease (EVD) and the specific 2014-2016 outbreak that occurred in West Africa. The second case study will focus on the securitization of the SARS-CoV-2 and the COVID-19 disease. The latter can appear evident at this point as this paper focuses on the impact of the ongoing pandemic on the biosecurity debates, but further explanation is needed to justify the former.

While, for some, Ebola may not appear as an intuitive choice for this argument, similarities between the 2014 EVD outbreak and the current pandemic have been highlighted by experts and researchers, especially regarding the public health and socio-economic impacts. Indeed, Reddy (2021) argues that the experience of the current pandemic bears “striking similarities” with the previous Ebola epidemic. Similarly, May and Brown (2022) draw parallels between the two outbreaks and argue that, out of the ten guiding questions that their analysis was based on, seven revealed positive outcomes between the two crises, including “the damaging effects of public mistrusts of health officials on disease transmission, negative impact of slow-country level responses, the introduction of lifelong morbidities in patients, disproportionate disease impacts on vulnerable populations, and the positive impact of governmental research funding on the pace of vaccine development and distribution” (p. 114). Just like Reddy, they conclude their argument by asserting the presence of common factors that similarly influenced the outbreaks “dynamics” and the “disease burdens” of the two viruses.

Moreover, both outbreaks were declared a “Public Health Emergency of International Concern” (PHEIC) by the World Health Organization (WHO) under the International Health Regulations and considered by the international community and the United Nations (UN), a threat to national and international security because of their significantly high morbidity and mortality rates and in view of the devastating consequences

Thus, despite substantial differences in the epidemiological profiles of the Ebola virus and the SARS-CoV-2 and in the proportions of their outbreaks - the former being an epidemic and the latter being a pandemic -, the two infectious diseases were chosen as the objects of the cases study that will be conducted in the next sections.

The research question will therefore be based on the application of the securitization to the 2014-2016 Ebola outbreak and the current COVID-19 pandemic and the impact of the latter on the biosecurity debates. Regarding this last point, the term “debate” is here understood as the set of discussions on a specific subject, here biosecurity, in which interlocutors, i.e. individuals and groups of people, share their opinions and thoughts (Centre National de Ressources Textuelles et Lexicales). The debates that will be studied will be the ones that took and/or are currently taking place within the international community, which commonly refers to the members of the General Assembly of the United Nations (Chomsky 2002). It is important to note here that while the term theoretically entails the entirety of the members of the UN, one cannot deny the significant influence occidental states hold on international decision making processes and agenda-setting, which ultimately put them in the “driving seat” of the debates that take place at the international level. In this sense, the biosecurity debates discussed in this paper are, for the most part, initiated and led by experts and scientists from occidental countries, such as European countries, United States and Australia, not only because they are the ones contributing the most to the subject both academically and practically but also because they are considered to be the states most likely to influence the global agenda as they hold major positions in the main international institutions of the field, such as WHO.

In an attempt to answer the research question, the argument developed in this paper will be based on multiple sources of information and a mixed method of analysis as both quantitative and qualitative data will be collected and utilized

to examine the repercussions of the current pandemic on the biosecurity debates. The basis of the argument will be derived from secondary sources and mainly textual materials which will be the source the majority of the information. Resources found in the scientific, biomedical and public health literature will be extensively used, as well as institutional, national and international reports and legislation on prevention of infectious diseases, preparedness and control. Opinion pieces will also be taken into account as they greatly influence the ongoing debates. In this point, it seems important to mention one of the main limitations of this study. As this subject will touch upon some relatively sensitive information, such as the origins of the SARS-CoV-2 and the gain-of-function research, great care was taken in the selection the sources of information, especially regarding utilization of the scientific papers in order to avoid including biased, non-objective and scientifically unfounded pieces. At a time when misinformation campaigns are raging and incorrect and misleading contents are circulating on platforms accessible by all (Monnier 2020), it was therefore crucial to confront the sources and their findings with one another to verify the scientific accuracy and veracity of the advanced facts.

Chapter II. Theoretical Framework

The second chapter of the paper will provide the reader with detailed knowledge on the theoretical framework and lay the foundations of the study. The aim of this section is therefore to offer a clear and sound understanding of the securitization theory through the provision of background information, in order to contextualize the theory in its environment. The main tenets of the theory will be outlined, as well as its strengths and weaknesses. While the securitization theory is often considered one of the most prominent concepts in its field, it is nevertheless important to note that it has been subjected to its fair share of criticism, which will be addressed at the end of the section.

The end of the 1990s witnessed many changes and transformations in the field of security studies and international relations more globally. The collapse of the USSR and the Soviet bloc in the beginning of the 90s, the end of the Cold War that had polarized the world for more than four decades and the fading of the nuclear threat's obsession completely shifted the understanding of security on the international stage. The emergence of a new world order was supplemented by a global dissatisfaction with the current understanding of the security term and a desire to break away from the traditionalist conceptions and their underlying ontological foundations rooted in the realist theory which only conceived security in narrow terms, strictly limited to the use of force against the sovereignty and integrity of the state, with an "inherent military focus" (Charrett 2009, p. 9). Under the umbrella of the field of critical security studies, the advocates for the widening of the security agenda argued that the majority of threats that were prevalent at that time were not of military nature but emanating from multiple sources that were not falling under the scope of the traditionalist understanding of security, such as transnational crimes, identity concerns and environmental issues (Buzan, Waever & de Wilde 1998, p. 3).

To the argument of widening the definition of security, traditionalists have reaffirmed the prevalence of military issues and the importance of deterrence and use of force as the cornerstone of security (Buzan, Waever & de Wilde 1998). They further argued that an abused allocation of “security tag[s]” (McInnes, 2006, p. 7) to nontraditional issues would inevitably lead to the term’s deprivation of its essence (Waever 2004, cited in Taureck 2006, p. 8). It is in this context that the theory of securitization emerged within the field of international relations as a “viable middle position” or “third way” (Waever 2004, cited in Taureck 2006), as it sought to incorporate both elements from the traditionalist and widenist views by not restricting the security agenda to only military threats but to many different kinds of threats while guaranteeing the “intellectual coherence” (Buzan, Waever & de Wilde 1998, p. 4) of the term security and avoid turning it into a mishmash term. In other words, the securitization theory appeared as a “compromise between traditional (neo)realist military security analysis and Aberystwyth School scholarship that advocated widening the definition of security” (Howell & Richter-Montpetit 2020, p.5).

Theorized by the three main scholars of the Copenhagen School, Barry Buzan, Ole Waever and Jaap de Wilde in their work “Security: A New Framework for Analysis” (1998), the project aims to provide “a comprehensive new framework for security studies” (Buzan, Waever & de Wilde 1998, p.1) and seeks to answer the basic yet fundamental questions of *what is security* in international relations (Waever 2004, p. 9) and *how are security threats constructed* (Baysal 2020) through the lense of the securitization theory. Stritzel (2007) places the theory into a larger framework of innovation corpus which openly challenge the accepted realities of the security field and defines Buzan’s, Waever’s and de Wilde’s work as “one of the most important and controversial contributions to this theoretical discourse” (p. 2).

In their work, the authors hence define securitization as labeling a particular issue as “an existential threat, requiring emergency measures and justifying the actions outside the normal bounds of political procedure” (p. 23), constructing their argument on the existence of a spectrum, which ranges from non-politicization to securitization via politicization. By seeking to explore the underlying logic of security throughout a continuum, they therefore advance the securitization category as an extreme version of politicization (p. 24). They provide an effective framework to answer the question as to why some issues specific non-conventional issues reach the security agenda and not others by arguing that presenting an issue as an existential threat moves it from the sphere of normal political discourse to the security realm (McInnes 2006).

The main tenets of the securitization theory can be numbered at three elements, or, in Stritzel (2007) words, a trilogy which comprises of a speech act, also described as the securitizing move, given by a securitizing actor in position of authority (usually through their professions), through which a particular issue is advanced as an existential threat. The speech is given in front of a targeted audience that has to either accept or reject the securitizing move, i.e. the speech act. Through the speech act and a combination of semantic and syntax closely chosen to reflect the sense of urgency, the securitizing actor aims to convince the audience that the advanced issue represents a threat that cannot be counter within the area of “normal politics” but needs to be transferred within the sphere of “emergency politics” (Taureck 2006), calling, and thereby justifying, the implementation of extraordinary measures to protect and preserve the integrity and sovereignty of the referent object, which is often the state. It is at this point that Buzan, Waever & de Wilde (1998) argue that securitization is the “extreme version of politicization” (Buzan, Waever & de Wilde 1998, p. 23).

To sum up the process, Buzan (1998) identifies three “facilitating” conditions in regards to the speech act, i.e. the securitizing move. As indicated above, the linguistics used in the speech must follow the accepted grammar of security,

must be given by an actor in a position of security and relevant to speak about security, and finally, must present the object as threatening to a particular audience.

Within the securitization process, “security” is therefore an “illocutionary” act (Buzan, Waever & de Wilde 1998) as it is through the wording and labeling of the securitizing actor that the threat is designated as an existential threat or, in the words of McDonald (2008), through the “linguistic representation that positioned a particular issue as an existential threat” (p. 566). Ciuta (2009) goes even further and argues that the actual use of the word “security” is not necessary to frame an issue as such and for a speech act to be interpreted as a securitizing move but the use of other but closely related words, like “threat” or “survival” can be used as substitutes as they are linked in essence and have the same effects on the audience.

Based on these remarks, not only is the securitization process subjective since the labeling as such is at the discretion of the securitizing actor, but it is similarly inter-subjective in nature as a successful securitization of a particular issue depends on the acceptance of the audience (Balzacq, 2010). In this sense, Baysal (2020) argues that the securitization theory is based on a constructivist ontology as the representation of the issue as a security threat is not objective but constructed and semantically labeled as such by particular actors (p. 8).

The securitization theory is often designated as one of the most prominent concepts in the field of security studies mainly due to its methodological strength and the “clear set of steps and standards” it offers for understanding how certain issues threatening referent objects are labeled as security problems (Howell, Richter-Montpetit, 2020, p. 4). However, as prominent as it is, the securitization theory has had its fair share of criticism throughout the years, mainly based on theoretical and ethical motives. One of the main limitations of the theory is intrinsically linked to its very nature and the consequences that it generates, which is the notion of exception it conveys. As explained above, the

theory rests on a dichotomy between politics/security, where politics refers to the order of “normal politics”, whereas the realm of security conveys a sense of urgency and emergency, which ultimately implies a sense of exceptionality. Indeed, when an issue is presented and accepted as an existential security threat, it exits the world of “normal politics”, understood here as the “norm” and enters the realm of security, of the exception, as it cannot be tackled at the public level (Howell & Richter-Montpetit 2020). The labeling of the issue as a threat and elevation of its elevation into the realm of security thus legitimize the implementation of “extraordinary measures”, measures that often bypass the usual political and constitutional framework, as they may impede on individual and collective rights and freedoms in the name of the fight against the security threat. As pointed out by Kirk and McDonald (2021), the securitization of issues acts as leverage for governments and bodies of sovereign power to expand their power without a significant degree of constraint.

Another criticism that has been attributed to the theory stems indirectly from Baysal's (2020) point on the constructivist ontology of the securitization theory. Indeed, one could understand that security issues do not exist as such but are constructed, through the speech act of the securitization actors, as existential security threats which need to be fought against with extraordinary measures. The construction of such issues is therefore totally subjective to the actors' own predispositions and assessments (McInnes & Rushton, 2013). In this sense, it has widely been argued that the securitization theory is “European and Western” centric as the securitization of specific issues almost always result from Western and high-income countries which, through their position within the international community, benefit from a privileged access to the global security agenda, which is often to never the case for developing and lower middle-income countries. In this sense, one could argue that securitization only allows for a specific type of actors label issues as security threat (Bowman 2018) and therefore only emphasizes issues that concern and affect the global North, while disregarding more pressing issues that threaten the stability of global South

states, as they do not impact their own security (DeLaet 2014). Drawing from the fact that Western nations have privileged access to the security agenda, one could argue that there is an underlying colonial dimension to the securitization theory in which European and North American states can easily voice their interests and concerns, while undermining and disregarding the interests of developing states (Bowman 2018). Howell and Richter-Montpetit (2020) go even further when they advance that the securitization theory is constructed on racist foundations as it only addresses the security of white and Western political classes at the expense of the security and stability of people of color.

The securitization dynamics, while being subject to a share of fair and founded criticism, have undeniably molded a broad variety of policy areas, from terrorism and immigration to health (DeLaet 2014). On that last point, Filder (2007) argues that the labeling of health-related issues as security threats is ideal to illustrate the diversification of the security agenda in the post-Cold War era, characterized by the securitization of non-traditional issues. Kirk and McDonald (2021) corroborate this stand by stating that the securitization framework provides a suitable lens to study this phenomenon. The application of the securitization to health issues will be developed in detail in the following section.

Chapter III. Literature Review

This present chapter will provide the reader with an extensive overview and historical background on the relation between the fields of health and security, which is often considered as the result of a complex history. After examining the concrete application of the securitization theory to health-related issues and analyzing its strengths and weaknesses, the section will outline the evolution of the power dynamics and relation between the two fields. Fidler (2007) describes this evolution in three different phases, each fostered by the political and socio-economic conjunctures of their times. This contextual overview will allow the reader to understand how the two fields went from distant strangers, as they were traditionally conceptualized in diametrically opposed ways, to the sudden renewed interdependence of the two fields, generated by the ongoing crisis.

Throughout the years, securitization has become a “commonplace terminology” (p.278) used to emphasize the effects of the security realm on the public health policy world and reflects the diversification and inclusion of non-traditional issues onto the security agenda, which characterized the post-Cold War order (D’Arcangelis 2017). While the theoretical foundations of the securitization framework were thoroughly detailed in the previous section, the following lines will be dedicated to the application of the theory to the public health world. For Kelle (2005), the securitization of public health stems from the influence of the security realm and its effects on practices and knowledge specific to the public health field. In other words, it involves applying security concepts to the public health area (Fidler 2007) and “to lend it a sense of urgency, and to seek some of the overriding political interests and superior financial resources associated with more traditional military concepts of security” (Selgelid & Enemark 2012, p. 42)

Practically speaking, the securitization of public health happens when a securitizing actor declares and labels a specific health issue as an existential security threat, in front of a targeting audience which accepts the securitization move and therefore justifies for the implementation of extraordinary measures (Bowman 2018). To put it bluntly, health securitization is what happens when “the worlds of health and security collide in international politics” (Elbe 2011).

The securitization of public health first appeared to be a positive development in the security realm. Indeed, it allowed for particular challenges related to disease and sanitation to be included within the global security agenda and to be recognized as threats to both individual and collective security. In other words, the inclusion of disease and health-related issues into the security realm allowed to shed light on crucial issues that were easily dismissed in the past in favor of issues deemed more urgent. The securitization of public health issues also facilitated and justified significant allocations of financial and material resources to tackle and fight those health challenges identified as existential threats and to effectively protect and mitigate the vulnerabilities of the societies that are particularly at risk from infectious diseases (Heymann 2015). Indeed, when an issue is labeled as a security threat, it shifts from the realm of “normal” to “extraordinary politics” and efforts to address and tackle the issue are therefore greater since states are less reluctant to allocate more funding to health issues if they are labeled as existential threats to security rather than public health issues (Kargbo 2018)

However, as did the securitization theory itself, the securitization of public health raised many controversies and opposition and is subject to criticisms which mainly resonate with the ones made in the previous section. Echoing criticisms of the theoretical and practical underpinnings of the theory, health security has been criticized for only addressing the health challenges that affect Western and high-income countries. Indeed, as the securitization theory is understood as a self-referential practice and subjective in nature, the

international health agenda is therefore defined by states that are in position “of power” through their key role and influence on major international organizations, in that case, the WHO (Davies 2008). In this sense, when Western and high income states frame specific health issues as security threats, they seek to protect the health of their own populations, which ultimately results in the WHO securitizing those particular issues as its health agenda is dominated by the main donor states, i.e. Western states which therefore enjoy a significant influence over the organization (Davies 2008.). As a result, two main public health issues have been advanced as the most important issues on the health agenda in the last decades: HIV/AIDS and specific infectious diseases such as MERS, SARS and Ebola (Rushton 2011). Paradoxically enough, but not surprisingly when taking into account the criticism made above, the securitized issues do not always appear to be the most challenging and pressing for the global community, as they often do not account for the highest morbidity and mortality rates, which can suggest that the mainstream securitization of public health follows a narrow definition of what constitutes a health security threat (Rushton 2011). This can be interpreted as the result of the extensive influence from the industrialized countries on the delimitation of what constitutes a health security threat and is usually done at the expense of other health issues that actually account for highest rates and casualties. Indeed, when funding and resources are allocated to specific issues, they are naturally diverted from others and this logic can be efficiently applied for the public health domain as it traditionally tends to operate with more limited financial and economic resources than other policy worlds (DeLaet 2014). As a result, an important number of health issues that are of specific concern to the countries of the Global South are partly or completely overlooked by the international community and particularly Western states as they traditionally have not impacted their own security and affected the health of their citizens. Emerging infections and neglected tropical diseases such as cholera, measles, guinea worm diseases and leprosy have received little to no attention and financial resources from Western

states to fund research or implement prevention strategies and countermeasures (Davies 2008).

The topic of infectious diseases and (re)emerging infections is particularly pertinent to analyze through the security lens and the current epidemiologic context clearly attests of the risks posed by outbreaks of infectious diseases, especially when they reach catastrophic levels in the case of epidemics and pandemics, and the extent to which they can potentially represent a major threat to national international security (Albert, Baez & Rutland 2021). With the alarming resurgence of infectious disease, the security-health nexus became an essential narrative in international politics (Wenham 2019). Indeed, a growing number of countries of developing countries are reporting more and more cases of measles, smallpox and yellow fever which can be explained in part by a decline in the vaccination coverage but also by an increasingly intense globalization which contributes to a rapid rate of transmission and favors pathogenic exchanges (Roucaute 2022). The latest and ongoing monkeypox outbreak illustrates the global nature of risk associated with diseases that know no boundaries in their transmission as shown by the growing number of monkeypox cases in non-endemic countries (WHO 2022).

This current increase in infectious diseases renders particularly pertinent the concept of “health security” defined as “the activities required, both proactive and reactive, to minimize the danger and impact of acute public health events that endanger people’s health across geographical regions and international boundaries” (WHO n.d.) as well as reiterating the risks to national and international security associated with particular health issues. Indeed, the combination of disrupting factors such as urbanization, environmental deterioration, globalization and the growing rate of pharmacological resistance ultimately trigger the outbreaks of infectious diseases, which not only impact the individual and collective health and strain health systems but also can cause economic, societal and social consequences which can ultimately threaten the

security and stability of a state or an ensemble of states in the case of a pandemic, as shown by the current outbreak of SARS-CoV-2. Measures, systems and frameworks must be implemented and efficiently working both at the national and international level to counter the spread of the viruses and mitigate these potentially devastating consequences.

While the relationship between health and security seems clear in the light of current events, it has not always been so in the past and can be considered as the result of a complex history, as the two policy worlds have traditionally been conceptualized on totally different, and some would even say, diametrically opposed spectrums. Fidler (2007) describes this relation in three phases that will be described below.

As stated right before, health and security are based and have been traditionally thought of on diametrically opposed theoretical foundations, which led Fidler (2007) to refer to them as “distant strangers” throughout the XX century. This detachment can be seen as the result of the concretization of the dichotomy “high” versus “low” politics, a fundamental element to understand how states operate within national and international politics. As states are restrained in their material capabilities and financial means, they cannot allocate the same levels of resources, focus and attentiveness to all issues simultaneously and issues are thus categorized within the politics sphere and hierarchized according to their saliency and emergency nature (Yonde 2016). Issues that are not deemed urgent in the immediate/short term or do not align with the political interests at the moment are categorized as “low” politics and consequently, receive fewer financial resources and less attention from the policymakers. On the contrary, issues that are considered essential to the state’s survival in the sense that they represent a concrete threat to the existence of the state are categorized as “high” politics, thus requiring urgent and prompt attention and important financial and material resources (Yonde 2016.). Topics such as war and terrorism traditionally fall under the umbrella of the latter category while public and global health

challenges are usually perceived through the “low” politics lens (Albert, Baez & Rutland 2021). This hierarchisation results directly from the different theoretical foundations of the two fields, between realism and functionalism. Indeed, the topic of security is a central component of the realist theory which describes international relations as anarchic, where states engage in a constant struggle between each other for power and survival, which can only be achieved through the exertion of a strong material power, and especially through the display of strong military capabilities (Fidler 2007). The realist theory thus gives a central position to the question of security which defines it as the security of a state through the maintenance and display of military but also economic and technological power against threats that are usually derived from other states’ military and material power (Fidler 2007). As realism is considered as one of the most prominent theories in the international relations field and gives a central position to the question of security, it is therefore easy to understand how security is positioned among the “high politics” arena.

In contrast to this theoretical conceptualization of security, Fidler (2007) argues that the domain of public health has traditionally been conceptualized through the lense of the functionalist theory which states that “inter-state cooperation on technical, nonpolitical issues could, over time, transform international relations and end dangerous violent competition for power” (p. 285). The conception of public health means that, unlike the realist conceptualization of security, public health only deals with nonpolitical issues that did not score as high as security issues on the political agenda as they only entailed technical issues that can be dealt through diligent cooperation between actors, therefore belonging to the “low politics” arena. Public health threats, such as chronic illnesses and infectious diseases, were therefore not considered under the security lens as they were not believed to be likely to affect the military and material capacities of another state (Fidler 2007).

When one has in mind the differences in the theoretical frameworks of the two fields, it is therefore not complicated to understand why Fidler referred to them as being “distant strangers” as they are theorized on diametrically opposed spectrums. There was however one specific issue on which the two areas could have converged during the Cold War era. Defined as “disease-causing organisms and toxins that are designed to harm or kill humans, livestock or crops” (Center for Arms Control and Non-Proliferation), the issue of biological weapons brought together elements from both fields as it consists in the weaponization of pathogenic organisms to cause mass casualty. During the Cold War, both the US and the USSR developed biological weapon (BW) programs as part of their deterrence strategy, which included research, development and production of malevolent organisms. Nevertheless, the US unilaterally abandoned its BW program at the end of the 1970s and no major biological events occurred between the two powers within the course of the Cold War. (Center for Arms Control and Non-Proliferation.). One biological-related event however occurred in September 1984 when followers of the Rajneesh cult poisoned ten salad bars in The Dalles, Oregon with the bacterium of serovar, *Salmonella typhimurium*, causing a large salmonellosis outbreak in the community and affecting more than 700 people. This attack was later reported as being the “first documented bioterror incident in the United States”, even though the hypothesis of a bioterrorist attack was only slightly considered at the beginning of the investigation (Homeland Security Digital Library). However, it is important to note here that even though the use of biological weapons appeared as the most evident area where the two policy worlds could have eventually converged, states kept addressing the biological weapon question strictly through the security lens and without strengthening their bio-deterrence strategies with public health elements (Fidler 2007). This strict distinction, which prevailed for most of the XX century, progressively crumbled in the late 1990s due to a series of different factors that directly impacted the way the two fields interacted with each other.

As mentioned in the previous section, the end of the Cold War and the waning of the nuclear threat allowed for a broadening and deepening of the definition of what constituted a security threat, while simultaneously causing a shift in the perception of the role that the public health field could potentially play in maintaining security. The early 2000's were pivotal for the evolution of the dynamic relationships between the two fields and one event in particular triggered the convergence between the worlds of security and public health in what Levy and Videll (2011) qualified as a "remarkable moment" for the development of the security-health nexus.

Shortly after the terrorist attacks of the September 9th, 2001, the United States fell victim to a series of biological attacks via the dispatch of envelopes laced with the *Bacillus anthracis*, a bacterial agent responsible for the infectious disease anthrax which mainly affects livestock but can infect humans if inhaled or if they come in contact with a contaminated surface or material (Center for Disease Control and Prevention, CDC). The letters containing powdered anthrax spores were sent to various locations, including congressional buildings, news outlets and postal offices and reinforced the sense of terror previously generated by the 09/11 attacks that hit the US just a few weeks before (Bock 2022). In total, seventeen people got infected through inhalation or contact with the envelopes and five people died from inhaling the bacteria, making their deaths the first ever US fatalities linked to what will be later qualified as a bioterrorist attack (Deziel 2008). This tragic series of attacks renewed the debate on bioterrorism, defined as the "deliberate release of viruses, bacteria or other agents used to cause illness or death in people, and also in animals or plants" (CDC), which policymakers only paid little attention to until this specific biological event (Koblentz, 2011). The perception of the biological risk diametrically changed after the 2001 attacks and triggered an unprecedented attention from policymakers and financial funding to the question of biological defense and the use of living organisms and pathogens as weapons (Fidler 2021). It is however important to note here that, while the 2001 anthrax attacks

galvanized national and international efforts to prevent specific biological threats, concerns were already being raised by the scientific community regarding bioterrorism before 2001 but were given only little support (George 2021).

The words of Dr. Friedlander, scientist at the US Army Medical Research Institute of Infectious Diseases, perfectly summarize the realization of the concretization of the biological threat: “The horrendous possibility of using microbes to intentionally cause disease was realized” (Friedlander cited in Bock 2022) as well as the need to develop health-related countermeasures to this national security threat.

This unprecedented attention given to bioterrorism led to a new articulation of the security-health nexus in which living organisms and pathogens were equally framed as conventional terrorism (D’Arcangelis 2017). As states realized that they were not immune to the pathogenic risk, security threats were no longer solely understood in terms of military and material power but also possibly stemming from viruses, bacteria and other pathogenic agents. This redefinition of what could constitute a security threat strongly impacted the way the public health field was regarded by the security community. Indeed, it was no longer considered as a field only able to deal with technical and nonpolitical issues but as an essential component to ensure security in regards to its function prevention and disease control. Public health therefore “moved from the backwaters of international diplomacy and the realms of the technocratic and apolitical, to a prominent place on the international policy agenda” (Younde 2016, p. 162).

This reassessment ultimately resulted in the reorientation of the security and public health practices to address and counter the threat of disease-causing organisms as a whole, as well as efforts to minimize the risks related to the biological threat (D’Arcangelis 2017; US Department of Health and Human Services n.d). This is known as the field of biodefense, which encompasses a large variety of activities, specific to both the health and security practices, such

as “biosurveillance, threat monitoring and awareness, biological arms control and nonproliferation, counterterrorism, biosafety and biosecurity, the development of medical countermeasures, medical planning and preparedness [...]” (US Department of Health and Human Services n.d.). Furthermore, scientists were encouraged to work and develop their research on specific organisms, such as highly lethal pathogens that could be potentially weaponized and used for malevolent purposes, to be as prepared as possible in the event of a large-scale biological event (D’Arcangelis 2017). These efforts aimed at minimizing the biological risk were supplemented by an unprecedented allocation of material and financial resources to biodefense programs and activities. Throughout the first decade of the 2000’s, the US government allocated more than 50 billion of dollars to the departments responsible, and especially the Department of Health and Human Services, for addressing and dealing with the biological threat and reducing the risks associated with the pathogenic threat (Levy & Videl 2011). It was during those years that the issues of biodefense and biosecurity gained prominence on the international scene, linked to an increasing awareness of the vulnerabilities of states *vis-à-vis* large-scale biological events and biological warfare (Deziel 2008)

In a sense, one could say that the early 2000’s witnessed a change in the security landscape, caused by a significant convergence between the health and security fields where elements of the latter were factored into the former and vice-versa. Nevertheless, it is important to mention that the convergence between health and security was not only prompted by the unprecedented, and quite radical, awareness of the biological issue and the new perception of what constituted a security threat that resulted from it. Indeed, the 2000’s witnessed a rise in the spread of infectious diseases, quickly becoming one of the leading causes of mortality, accounting from 25% to 33% of the total deaths in 1998 (National Intelligence Estimate 2000). Yet, these numbers countered the common vision that was, towards the end of the XXth century, tacitly accepted by the international community and stated that infectious diseases, here defined as

“illnesses caused by germs (such as bacteria, viruses, and fungi) that enter the body, multiply, and can cause an infection¹” (National Center for Emerging and Zoonotic Infectious Diseases, 2017), were eradicated and that the “battle against infectious diseases had been won” (Snowden 2008, p. 9). Indeed, the epidemiological situation presented at the dawn of the new millennium did not at all reflect this optimistic vision as the first decade of the XXIst century witnessed multiple severe outbreaks of infectious diseases, which all led to significantly high mortality and morbidity rates in numerous countries all over the world (Baker, Mahmud & Millet *et al.* 2022). In 2000, the National Intelligence Estimate documented the reemergence and rapid diffusion of twenty diseases known to humans, such as malaria, tuberculosis and cholera, as well as the identification of more than thirty unknown pathogenic agents since 1973, among them HIV and hepatitis C. Moreover, States, whether developing or developed, were also faced with a wave of epidemics and pandemics, which plagued the world throughout the 2000s-2010s. Whether it was the Severe Acute Respiratory Syndrome (SARS) coronavirus epidemic between 2002 and 2003, the “first global flu pandemic in forty years” (Council on Foreign Relations) with the novel influenza A H1N1 virus between 2009 and 2010, the outbreak of the Middle East Respiratory Syndrome (MERS) in 2012 or the epidemic of the Ebola virus between 2014 and 2016, infectious disease outbreaks with catastrophic proportions have been numerous and have had devastating long-term consequences on all sectors of society.

When documenting the emergence and rise of infectious diseases in the first decade of the XXIst century, one must also mention the complex web of external factors that worsened the outbreaks and facilitated their spread. Indeed, a number of factors have played a pivotal role in the persistence and

¹ “Some infectious diseases are contagious (or communicable), that is, spread from one person to another. Other infectious diseases can be spread by germs carried in air, water, food, or soil. They can also be spread by vectors (like biting insects) or by animals” - National Center for Emerging and Zoonotic Infectious Diseases 2017.

intercontinental transmission of these naturally occurring infectious diseases. Fidler (2007) proposes a non-exhaustive list of these factors, mainly centered around the recurrence of armed conflicts leading to poverty, famine and disastrous health conditions, advances in technology and human behavior as well as the constant “microbial adaptation” (p.227) of pathogens and the proliferation of organisms resistant to antibacterial compounds (Shang, Li & Zhang, 2021).

Of all of the factors, the evolution of transportation through the relatively-recent and recurrent use of rapid and intercontinental means of transportations, such as planes, facilitated the spread of infectious diseases at an international scale, and made travelers “[...] traverse the globe in less time than it takes for many infectious agents to incubate and produce symptoms” (Cecchine & Moore 2006, p. 7).

In light of this situation, it seems fair to say that the battle against infectious diseases had, in fact, not been won and one might even argue the opposite. It is important to note that this observation “does not only apply to newly emerging infectious diseases, like MERS and HIV/AIDS, but also known diseases that have reemerged, such as tuberculosis and dengue” (Cecchine & Moore 2006, p. 1).

The growing concern about the resurgence and rise of infectious diseases progressively connected with notions of national and international security as policy and decisionmakers started to recognize the significance of the link between health and the stability and security of a state (Singh 2019). Indeed, Fidler (2007) argues that infectious diseases were increasingly considered as security threats to national and international security by experts and scholars throughout the 2000s as their outbreaks could potentially affect and weaken a state’s integrity and stability. Beyond the purely medical consequences of the diseases on the health of the populations and the increases in the mortality and morbidity rates, catastrophic outbreaks can also have devastating effects on all

sectors of society, from disrupting the economy and the global trade to producing social vulnerabilities and societal inequalities. If the measures implemented to constrain the curb of the pathogenic agent are not efficient, the outbreak could potentially “directly hurt national security by [...] harming economic performance and stability, eroding governance capacities and undermining a population’s confidence and trust in political leadership and system” as well as “indirectly harm national security by causing political and economic damages in countries in which a state had vital security, foreign policy and trade interests” (Fidler 2007, p.135). The impact of diseases on security will be further discussed in detail in the following section.

Taking into account the increased awareness of the bioterrorist risk as well as the rise in infectious disease outbreaks, one can easily substantiate the stand according to which the fields of health and security became intertwined throughout the first years of the 2000’s and the formation of a new paradigm based on the synergies that existed between security and public health policies (Fidler 2021). The revised 2005 International Health Regulations (IHR) clearly attest of this ambition to link security and public health as the IHR both controls the recourse to weapons of mass destruction as well as setting obligations and requirements on how states should react and respond to disease outbreaks (Vennis, Boskovic & Blejis 2022). Similarly, policies and measures that are implemented to prevent and react to a bioterrorist attack, such as epidemiological surveillance and stockpile vaccines, can also be efficient in case of an outbreak of a naturally occurring infectious disease and *vice-versa* (Fidler 2021). Fidler (2007) cites the Pandemic and All Hazards Preparedness Act, adopted by the US Congress in 2006, as a clear illustration of this increasing interconnection between health and security as it seeks to “improve the Nation’s public health and medical preparedness and response capabilities to emergencies, whether deliberate, accidental, or natural” (US Department of Health and Human Services). While the US is often mentioned within this section as it was directly affected by a bioterrorist attack, it is important to note

here that the efforts to connect security and health are not only confined within the American borders but are also shared in and by the global community. This can be shown through the 2004 UN Secretary High-level Panel Report on Threats, Challenges and Change which, while deploring the lack of coordinated policies and synergies between the two fields, argue that there is a significant need for the UN Security Council to monitor any suspicion of outbreaks of infectious diseases through the WHO as there is an important “potential international security threat posed by the intentional release of an infectious biological agent or by an overwhelming natural outbreak of an infectious diseases” (p.44). This newfound recognition of the biological threat, whether caused naturally through the outbreak of a disease or as a result of a bioterrorist attack, translated into the establishment of a tacit understand among members of the international community, and especially between highly industrialized countries, that states should consider factoring public health components into their security policies and *vice versa* as the well as the need to develop their health security frameworks (McInnes & Lee 2003).

The gradual incorporation and factoring of public health elements into security strategies and policies has therefore been driven by a combination of two factors: a change in the perception of the bioterrorist risk and a rise in infectious diseases (Fidler 2007). Efforts to counter these two threats materialized the need to apprehend these specific issues as two sides of a same coin, while leading to the theoretical blurring of “low” versus “high” politics that characterized international politics throughout the XXth century. Yet, the sought synergies between the fields of security and public health were not sustained and efforts were gradually refocused towards countering other more conventional threats deemed more urgent, such as terrorism, considered as the biggest security issue states are facing in the XXIst century, thus overshadowing the security potential of health-related issues (Albert, Baez & Rutland 2021). Fidler (2021) particularly regretted this depletion of momentum and the reorientation of the two policy fields back to their traditional areas of concerns, as well as the

disengagement from the early, yet limited, efforts of the early 2000's to engage towards concerns of not only biodefense but also, and most importantly, biosecurity.

It is nevertheless important to note that efforts to frame health issues were and are still being undertaken and infectious diseases continue to be securitized, without however going beyond the issue of morbidity/mortality and the material consequences (e.g. economic, societal, social) an outbreak of catastrophic proportions can have on a society. This is the case of the securitization of the Ebola outbreak in 2014, which will be studied in detail in the following section.

Yet, the sudden outbreak of SARS-CoV-2 in late 2019 renewed the debate on the reciprocal implications of health on the security domain and *vice-versa*. Indeed, while the Covid-19 was framed as an existential threat, its security considerations went beyond the strictly medical and material aspects as described above to include biological considerations, an exclusive dimension that was not present in the previous disease securitization, which directly impacted the way states, and Western states in particular view and approach biosecurity concerns, therefore renewing the debate on biological vulnerability that was first initiated in the early 2000's. This unique security rationale embedded in the securitization of Covid-19 represents the heart of this paper and will be further studied and discussed in the following section.

Chapter IV. Cases study

The aim of this chapter is to provide the reader with a comparative analysis of two cases study on the securitization of different infectious diseases. The cases of Ebola will be used as a benchmark to advance the particularities of the securitization of Covid-19. Indeed, unlike other infectious diseases, the framing of Covid-19 as a threat to national and international security went beyond issues related to morbidity and mortality to encompass responses and awareness of biological to large-scale biological events, which was not the case with Ebola, as it will be demonstrated in this section.

A. The 2014-2016 Ebola Virus Disease outbreak

In December 2013, a first case of hemorrhagic fever was reported in the forest region of southeast Guinea in West Africa, which was later diagnosed as the first case of what would become an Ebola Virus Disease (EVD) outbreak in the country. While the virus first emerged at the end of the 1970s, it nevertheless caused less than 2500 cases globally until it reached epidemic proportions in 2014 and spread to Guinea's bordering countries, Liberia and Sierra Leone. The 2014 outbreak proved to be the most destructive to this point, not only in terms of case-fatality ratio (more than 400 infected individuals died as of June 2014) but also in regards to its territorial spread (Enemark 2017).

The Ebola Virus is significantly threatening as it can affect both humans and animals and constitutes a "uniquely terrible virus" (Broadwin 2014). The virus is considered particularly deadly as it directly attacks the immune system of the infected individual.

On August 8th, the outbreak was declared a Public Health Emergency of International Concern (PHEIC) by the WHO under the International Health Regulations as it constituted “an extraordinary event that may constitute a public health risk to other countries through international spread of disease and may require an international coordinated response” (WHO 2005). By labeling the Ebola outbreak a PHEIC, the international community recognized the threatening nature of the virus and emphasized the need for rapid and coordinated actions to effectively curb the spread of the virus, mainly affecting already economically strained countries with fragile and unbalanced health systems (Enemark 2017).

For many observers, this international response came far too late and contributed to the emergence of a “human tragedy” that could have been avoided if better anticipated and more seriously considered by states and institutions that dominated the international health agenda, i.e. Western and Global North states (Fortin, Vroh Benie Bi & Soulimane 2017). Several experts and scholars have argued that the delay in the international response could be explained by the fact that Western states did not consider Ebola as a security threat until the fear of seeing the virus reaching their borders manifested (Calain & Sa’Da 2015). This remark echoes one of the main criticisms that has been addressed to the securitization of health in the previous section and shows its practical manifestation. This reinforced the already very present idea that Western states were the ones defining and identifying what constituted a global health security threat at the international level and the “conceptions of risks” (Global Health Watch 2017, p. 330).

It is important to note here that the securitization of the Ebola outbreak was initiated at the local and regional level, and advanced as a security threat by national health security authorities. Indeed, national health authorities and infrastructures became rapidly overwhelmed with the rapid transmission of the

virus and the exponential rise in the number of infected individuals. Moreover, Guinea, Liberia and Sierra Leone have ones of the poorest health systems in the world, which resulted directly from the long lasting political struggle and instabilities that have been affecting the countries (Shoman, Karafillakis & Rawaf 2017). Health systems were suffering from severe healthcare workforce shortages, lack of hospital beds, supplies and medications as well personal protective equipment. Health systems and infrastructures were therefore not able to efficiently provide for the patients as they lacked the “primary essential elements required to control an outbreak” (Shoman, Karafillakis & Rawaf 2017).

But the ramifications of the outbreak went well beyond the collapse of health structures and the impossibility to manage infected patients. It was the fabric of societies that was being affected, families were being decimated and political unrest rose in the most affected countries, potentially amounting to what Western observers qualified as “state failure” (Sagan 2015).

The combination of the increasing political instability as well as the massive spread of the virus well beyond the West African territory was what turned a regional public health crisis into an international security threat (Shoman, Karafillakis & Rawaf 2017). When drawing similarities between the proclamation of the PHEIC by the WHO and a war declaration (Evans 2020), one can consider WHO-Director General Margaret Chan’s address to the UN Security Council as the first component of the securitization theory, i.e. the speech act in which a specific issue is presented as an existential threat to a particular referent object. In her address, Chan presented the situation as “the greatest peacetime challenge that the United Nations and its agencies have ever faced” and referred to this outbreak as not only a public health crisis but as “a social crisis, a humanitarian crisis, an economic crisis, and a threat to national security well beyond the outbreak zones” (WHO, 2014). Chan ended her speech

by emphasizing the transnational nature of the virus and the risk the EVD could pose to non-endemic countries due to the importation of cases from affected countries through international air travel.

For McInnes and Roemer-Mahler (2017), the Médecins Sans Frontières (MSF)'s special briefing to the UN given by its International President, Dr. Johanna Liu, also constitutes a speech act. Through her address, Dr. Liu similarly emphasized the transnational and intersectional nature of the Ebola outbreak and called on the member states' responsibility to utilize their material and biological capacities to control the epidemic and mitigate the devastating "social, economic and security implications" of the Ebola crisis (MSF 2014).

The adoption of Resolution 2177 by the Security Council (SC) consecrated the speech act mentioned above and was interpreted as the acceptance of the securitization move by the audience. The Resolution 2177 demonstrated the commitment of Western states to finally address the issue as a security threat and determined that "the unprecedented extent of the Ebola outbreak in Africa constitutes a threat to international peace and security" (/RES/2177, 2014). It is important to note here that even though the UNSC had been engaging on health-related issues in the past, especially in regards to HIV/AIDS, the contributions and responses brought by the Council were considered as fairly limited as they remained a sort of plea for action rather than a concrete request to act (Eisemann 2015). In this sense, the Resolution 2177 marked a turning point in the implications of the SC on health-related issues, as "it constitutes a decisive step forward in that it qualifies, for the first time, a health problem as a threat to

international peace and security, thus paving the way for possible binding measures”² (Eisemann 2015, p. 9).

The existential nature of the security threat that presented the Ebola outbreak justified the development and implementation of extraordinary measures. The day following the adoption of the Resolution 2177, the first emergency health mission was established by the UN, the UN Mission for Ebola Emergency Response (UNMEER), with the aim to “scale up and coordinate the international response to the epidemic after the initial failure of national authorities and the WHO to bring Ebola under control” (World Peace Foundation 2017). Beyond the boundaries of UN actions, several states contributed to the battle against the disease by deploying their national armies in affected countries, responding to Dr. Liu’s call. In total, more than five thousand foreign military personnel were deployed after September 2014 in Sierra Leone and Liberia. Coming from France, Germany, China, the United States, United Kingdom and Canada, the troops were deployed on the ground to support national authorities in coordinating international aid, train healthcare workers and contribute to the construction of Ebola treatment centers (Guilbert 2015). The recourse to foreign military forces to fight the virus strongly contributed to the “militarization” of the Ebola crisis (Global Health Watch 2017).

Two and a half years after the first case was reported, the three most affected countries, Guinea, Liberia and Sierra Leone, were finally declared Ebola-free and the 2014-2016 outbreak was declared as the deadliest in history, accounting

² “[E]lle constitue une avancée décisive en ce qu’elle qualifie, pour la première fois, un problème sanitaire de menace contre la paix et la sécurité internationales, ouvrant ainsi la voie à d’éventuelles mesures contraignantes”

for 28 600 cases and 11 325 deaths (Lupel & Snyder 2017). Numerous observers agreed on the fact that the securitization of the 2014 Ebola outbreak was pivotal for the development of the health-security nexus and was even considered as the “symbolic culmination” of the practical application of the theory to health-related issues (Burci 014). Combined to its rapid transmission rate, the EVD was labeled as a security threat in regards to its high mortality and morbidity ratios as well as the material consequences it entailed for affected countries. The collapse of health systems, the rise of political unrest, the destruction of the fabric of society as well as the socio-economic consequences led the international community to securitize this specific disease. The framing of the EVD as an international security threat was unprecedented in the two fields of health and security and scaled up to the magnitude of the outbreak, as well as the devastating consequences it had on national and international stability.

B. COVID-19 pandemic

For more than two and a half years now, experts and scholars around the world have been unanimous about one thing: the COVID-19 pandemic is the greatest challenge of our times. The timeline of the crisis is well known but it appears important to remind it here as it clearly shows the magnitude of the outbreak.

In December 2019, an unknown case of pneumonia was detected in the Chinese city of Wuhan. Connections were later made with the Huanan Seafood Wholesale Market. Days later, the WHO recognized the emergence of a novel coronavirus, first referring to the virus as 2019-nCoV and then SARS-CoV-2 permanently, responsible for the infectious disease, COVID-19. In the weeks following the emergence of the virus, China recorded its first COVID-19 related death and Japan, South Korean and Thailand reported the first cases on their

national territories at the end of January 2020. Due to the rapid spread of the virus beyond Chinese borders, the SARS-CoV-2 was declared a “public health emergency of international concern” (PHEIC) on the 30th of January 2020, as the circulation of the virus constituted a “public health risk to other countries through international spread of disease” which could ultimately “require an international coordinated response” (WHO 2005). The month of February witnessed the first deaths of COVID-19 occurring outside of Chinese territory. On March 11th, the WHO declared the SARS-CoV-2 outbreak a global pandemic, i.e. “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people” (Last cited in Heath 2011, p. 540). Following this announcement, the majority of states began to implement exceptional measures to stop the spread of the virus within national borders. National lockdowns were announced around the world, travel bans were implemented, and surgical masks have emerged as one of the most essential barriers to virus transmission.

What first emerged as an unknown case of pneumonia quickly became an unprecedented health crisis turned into a global pandemic, within a time frame of less than six months. No country, whether developed or developing, has been spared from the wrath of the pandemic. In the year 2020 alone, more than five million confirmed cases were reported globally, and 90 000 deaths were caused by the virus.

The severity of the virus resides in its strong virulence and lethality, meaning that “its effects were of a different order than the normal seasonal flu, to which it was often inappropriately compared” (Freedman 2020, cited in Albert, Baez & Rutland 2021, p. 90). Moreover, its rapid transmission through aerosolized respiratory droplets combined with its incubation period through which the

virus may continue to be spread without the knowledge of the infected person makes it a particularly dreadful virus (Albert, Baez & Rutland 201).

SARS-CoV-2 was presented as a threat as soon as the pandemic was declared by the WHO in early March 2020 as the consequences of the pandemic went well beyond the high morbidity/mortality rates. In addition to causing a “dramatic loss of life” (WHO 2020) - as of June 2022, more than six million people have died of the disease -, the pandemic triggered an unprecedented economic crisis, causing by one of the worst labor crises since the 1930s. National measures established to curb the spread of the virus, such as lock downs, have progressively shut down the economy, leading to job cuts and reduction of working hours (International Federation of the Red Cross and Red Crescent 2021). In that regard, the WHO (2020) estimated that more than 3 billion workers were at a significant risk of losing their jobs and their sources of income, leaving individuals and households unable to ensure their livelihood. In the US, more than ten million of individuals were filing for unemployment after being let go by their employers by the end of March, making it the largest unemployment wave since the early 1980’s (Taylor 2021). The consequential decline in purchasing power has had a strong impact on the global economy and led to the “worst economic downturn since the Great Depression” leading to a significant increase in mass poverty as well as a severe deterioration in material living conditions (Ivanov 2021).

Food systems and food supply chains were put under stress, simultaneously impacting production sites, processing factories, supervision, logistics and transportations (OECD 2021). All over the world, health systems were strained and completely overwhelmed by continuous waves and significant rises in

cases. Many argue that healthcare infrastructures were not prepared to deal with this “unpredictable, large-scale health challenge” (Deloitte 2020). Care structures were suffering from severe health workers shortages, personal protective equipment was lacking in every country and the hospitals’ bed capacities and ventilators could not meet the needs (Badalov, Blackler & Scharf 2022).

Davies (2013) argues that the consequences of an outbreak are usually greater when they are caused by a novel pathogen as countries are not prepared to face a virus with an unknown epidemiological profile. The COVID-19 pandemic was no exception to this rule, leaving many countries, whether developed or developing, weakened, disrupted and destabilized.

States leaders rapidly framed the pandemic as a threat to their national and international security. The recourse by many national figures and international institutions to martial vocabulary clearly illustrated the global willingness to insert the pandemic within the security discourse and turn what began as a public health issue into an international security challenge. As early as March 2020, state leaders referred to the situation as being “at war” with the virus. French President Emmanuel Macron, when declaring the first national lock down in March 2020, repeatedly stated that the country was “at war” against an “enemy [...] invisible, elusive” (Elysée 2020). China’s President, Xi Jinping declared a “people’s war” on the virus, US President Donald Trump referred to himself as being a “wartime president” and the UK Prime Minister de facto considered its citizens as “enlisted” to fight the virus (Serhan 2020). The recurrent recourse to war metaphors clearly demonstrated the intention of states to portray the pandemic as an existential threat to national security to individual citizens but also the population as a whole. At the international level, UN-Secretary General Antonio Guterres presented the outbreak as posing “a

significant threat to the maintenance of international peace and security - potentially leading to an increase in social unrest and violence that would greatly undermine our ability to fight the disease” (Guterres 2020). These several addresses to either national populations or international audiences can be interpreted as speech acts made by actors in positions of authority who labeled the disease as an existential threat to securitize the health crisis,

Therefore, labeled as an urgent and significant threat to national and human security, states were in position of implementing extraordinary measures to control the spread of the infection and mitigate the devastating consequences the pandemic was generating. As soon as the outbreak was declared a global pandemic, containment measures were put in place to reduce human contact and consequently the transmission of the virus. As prophylactic treatments were not immediately available at the start of the pandemic, states ultimately resorted to non-pharmaceutical interventions (Duarte & Valença 2021). Lockdowns are one of these containment measures that were the most widely used throughout the world in the early days of the pandemic. Lockdowns are here defined as “a set of measures aimed at reducing transmission of Covid-19 that are mandatory, applied indiscriminately to a general population and involve some restrictions on the established pattern of social and economic life” (Haider, Osman & Gadzekpo *et al.* 2020). By mid-April 2020, more than half of the world population was under lockdown and 3.9 billion individuals were confined in their homes to reduce human contact and stop the spread of the virus (Sandford 2020). The obligation to wear a surgical mask in enclosed spaces, the restrictions of global travel as well as the closing of international borders were also some examples of the emergency measures that were implemented to flatten the curve of the pandemic.

The labeling of the pandemic as an existential threat to security was therefore consecrated with the implementation of extraordinary measures, which were put in place throughout the globe. The respect and adoption by the national populations of these containment measures can be therefore demonstrated as the tacit form of acceptance of the targeted audience, i.e. those subjected to these measures as individuals radically changed their ways of living to contribute to the fight against the virus.

Although the mortality and morbidity rates of the SARS-CoV-2 are lower and less alarming than Ebola's, the virus remains a major threat when one takes into account all of the devastating consequences it had throughout the world within a time frame of less than three years. The words of Albert, Baez & Rutland (2021) perfectly illustrate the singularity of this "epidemiological storm" due to "its structure and peculiar biology of infection, comparatively high contagion rates, lengthy incubation period, early and sustained viral load, existence of asymptomatic or mildly symptomatic contagious carriers, long term viral shedding and propensity towards respiratory distress and death in up to five to ten percent of cases" (p.91). The COVID-19 has had devastating consequences on every pan of society, deteriorating the living conditions of thousands of millions of people.

Almost two and half years after the outbreak was declared a global pandemic, the COVID-19 crises shined a klieg light on the vulnerabilities and weaknesses of the states and international community to rapidly and efficiently respond to a large-scale public health issue. Similar to the securitization of the Ebola outbreak previously described, the COVID-19 pandemic was advanced as a security threat in regards to its high mortality and morbidity ratios and the grave economic, social, financial and societal consequences it generated. Yet, the securitization of the current pandemic shed light on a security rationale that was

not present in the previous securitizations of infectious diseases and did not receive the same attention and media coverage as did the previously mentioned consequences of the disease. Indeed, many researchers and experts in relevant fields have noted the relevance of another aspect that was brought up by the securitization of the COVID-19: the vulnerabilities of states toward biological threats as a whole, and not only infectious diseases.

While the ongoing pandemic is to this day “certainly not over” (UN News 2022) as stated by WHO Director-General Dr. Tedros Adhanom Ghebreyesus, it has been widely argued that the states and the international community were not prepared to face an infectious disease outbreak of this proportion, despite the occurrence of several public health emergencies and catastrophic outbreaks during the last decades (e.g. Ebola, MERS, SARS, etc.) (Bollyky & Patrick 2020). What should have been preparing the international community to efficiently face this outbreak ultimately proved to be an “an illusion - but not the reality- of preparedness” (Bollyky & Patrick 2020). As recalled by Moodie, Gerami et D’Alessandra (2021) and echoing the point made by Albert, Baez & Rutland (2021) in the previous section, states have traditionally prioritized spending funds on what could be considered as hard security threats, despite the increasing factoring of public health elements into security strategies. The world was therefore ill-prepared to face a threat that it did not consider as a viable threat to international peace and security. And yet, the COVID-19 proved to be “the most challenging crisis we have faced since the Second World War” (Guterres 2020).

However, as Ivanov (2021) noted, the pandemic forced the international community to rethink its conception of threats and called for a “fundamental change in our security priorities”. Indeed, considered as a “generation-defining moment with an impact even more varied and profound than 9/11” (Counter

Terrorism Preparedness Network 2021, p.1), the COVID-19 crisis brought back to the forefront questions related to biological threats as a whole and their potential to severely impact the international security, as well as to revive the debates on the concept of biosecurity, debates which were already initiated in the 2000's following the anthrax attacks but quickly faded for more conventional threats (Fidler 2007). This will be further discussed in the following section.

Chapter V. Discussion

The fifth and final chapter will address the most salient point of the paper. Indeed, it will discuss, based on the information provided by the previous sections, how did the securitization of the COVID-19 renew the debates on the significance of biosecurity. In an attempt to answer this question, the section will first define what is understood by the term “biosecurity”, an essential step as there is currently no consensus on one chosen definition. Furthermore, this chapter will draw extensively on the controversies surrounding the origins of the SARS-CoV-2 to illustrate the necessity of addressing biosecurity and biosafety questions as an essential component of the fight against infectious, both from a public health and security perspectives.

The COVID-19 pandemic has been disrupting the international community for more than two years now and no country has been spared from the devastating social, economic and societal consequences the crisis generated. As mentioned in the last section, the pandemic shed a new light on the relation between the fields of health and security but not only in relation with its high mortality and morbidity rates and the direct impact the virus had on the aforementioned implications. Walking on the footprints left by the first efforts initiated in the aftermath of the 2001 anthrax envelope attacks, the ongoing pandemic forced the international community to recognize that “biology has the ability to topple governments and to create instability in the entire global pandemic” (Kerr 2022) and acknowledge their vulnerabilities in the face of large-scale biological events. It is in this sense that this paper argues that the global securitization of the current public health crisis uncovered a security rationale that may be considered as quite unique and unprecedented compared to the EVD and past health issues securitizations. Indeed, the ramifications of the securitization of the pandemic by state leaders and authority figures revealed the occurrence of

what Hummel, Burpo & Hershfield *et al.* (2022) called a silent but steady “biological revolution” (p. 1), which triggered a global reconsideration of the biological threat as a whole, i.e. not only as the result of an outbreak of a naturally occurring infectious disease but also in the event of an intentional or accidental release of a harmful biological agent outside of its contained environment. This recent and abrupt reassessment, which will be analyzed more in detail in the next paragraphs, strongly contrasted with the implicit inertia and lack of engagement from the international community in regards to the biological threat that have been characterizing the security landscape for the past years and only resulted in the implementation of temporal and minor institutional changes (Price-Smith 2008).

It has been argued that the COVID-19 acted as a “catalyst” for the biological threat by rendering it concrete (Counter Terrorism Preparedness Network 2021, p. 1), consequently unveiling the status quo that surrounded the perception of the biorisk. It also inevitably triggered the collision of the two fields of health and security, a collision between two opposite realms that crystallized in the re-emergence of the biosecurity question and an increased concern for the apprehension of the global biorisk (Fidler 2007; Lentzos, Koblenz & Rodgers 2022).

To approach the concept of biosecurity can be considered as a challenging task or, in the words of Fidler and Lawrence (2007), a “conceptual and practical minefield” (p.6). Indeed, the term is often referred to as being “nebulous” (Albert, Baez & Rutland 2021, p.88) as there is no clear and unique definition on which the community agrees on. Instead, the academia is filled with several definitions of the term which, while incorporating similar elements, differ according to their scope of application. For example, the agricultural approach to biosecurity is mainly concerned with animal and plant health and the

protection against “plant pests, animal pests and diseases and zoonoses” (UN Food and Agricultural Organization 2001 cited in Koblenz 2010, p. 105). While acknowledging the variety of definitions, for the sake of this paper, this paper will employ the definition advanced by the National Academies of Science, considered as the most holistic and complete definition (Koblenz 2010). This definition understands biosecurity as the “security against the inadvertent, inappropriate, or intentional malicious or malevolent use of potentially dangerous biological agents or biotechnology, including the development, production, stockpiling, or use of biological weapons, as well as the outbreaks of newly emergent and epidemic disease” (National Academy of Sciences Press 2006, p. 32, cited in Deziel 2008). This definition is particularly relevant for the present argument as it addresses the two dimensions of the biological threat, blending in perfectly well within the evolution of the security and biological landscape (Koblenz 2010; Hummel, Burpo & Hershfield *et al.* 2022). This definition can be seen as part of a broader defining framework given by Fidler (2007), which understands biosecurity as the “society’s collective responsibility to safeguard the population from the dangers presented in pathogenic microbes” (p. 121).

It is important to note here that the term “biosecurity” is often articulated or used interchangeably with the term “biosafety” (Koblenz 2010). However, it is important to note here that while the latter is commonly used in the specific context of laboratory work and relates to the measures put in place to reduce and contain the risks that can result from the processing and handling of pathogenic agents in containment laboratories (Public Health Emergency, 2017), the former addresses the more general and comprehensive framework related to the protection against the pathogenic threat, which includes biosafety.

If there is a general consensus that biological-related issues are becoming more and more prevalent in today’s increasingly globalized world (Waage & Mumford 2008), the biosecurity question was nonetheless not receiving the

same amount of attention as the one given by policymakers to security issues deemed more conventional such as terrorism and the nuclear threat (Albert, Baez & Rutland 2021). This lack of engagement and commitment from the international community is precisely what revealed the COVID-19 crisis, concretely illustrating the long-lasting disregard for key biodefense and biosecurity questions, a disregard that materialized into the poor preparation and response of the international community to the current health crisis (Gerstein & Giordano 2020).

This exposure of the international community's weaknesses in handling a large-scale biological event therefore triggered a global reconsideration of the biological vulnerability that was first initiated in the early 2000's and brought "epidemiological concepts to the forefront" of the global security agenda (Loeb 2021), including biosecurity.

Questions around the origins of COVID-19 played a huge, if not crucial, role in the renewal of the biosecurity debates. More than two years after the discovery of the virus, a proper consensus has not yet been reached among the relevant actors regarding the emergence of the SARS-CoV-2 and the coexistence of two distinct theories that clash on both scientific and politic levels turned the origins of the virus into a "hotly debated and heavily politicized" issue (Lentzso, Koblentz & Rodgers 2022, p. 23).

When investigating the origins of the virus, two theories were advanced by the scientific community: the zoonotic approach and the accidental release approach. These two scenarii resonate strongly with an article written by Cheng *et al.* in 2007 that was already warning of the risk of a coronavirus outbreak of catastrophic proportions, resulting from either an animal or a laboratory source (Ruiz-Medina, Varela-Ramirez & Kirken, Robles-Escajeda 2021). The stakes in identifying the origins of the virus are significantly high as it will allow the

international community to understand how to better anticipate and minimize the risk for future outbreaks (Bloom, Chan & Baric *et al.* 2021).

The first approach, regarded as the most scientifically plausible, finds its roots in the Huanan Seafood Wholesale Market in Wuhan, China and is based on what is called a “zoonotic transmission”, through which viruses, parasites, bacteria and fungi can be passed on from vertebrates animals to humans and *vice versa* (Rahman, Sobur & Islam 2020). Today, zoonotic diseases represent a major public health risk, which is exacerbated by the close proximity between humans and animals in agricultural, environmental and domestic settings (WHO 2020). According to Woolhouse and Gowtage-Sequeria (2005), out of the 1400 recognized human pathogens, around 60% are of zoonotic origins. However, only a small part of those microorganisms has the potential to cause outbreaks of catastrophic proportions such as epidemics and pandemics. In the case of the SARS-CoV-2, scientists advanced the scenario according to which the virus first emerged in wild animals, most likely bats, and infected humans through an intermediate host, most likely through pangolins at the wet market of Wuhan (Vinodh Kumar, Ramkumar, Pruthvishree, Pande, Sinha, Singh, Dhama, Malik 2020). If the 2020 China-WHO joint research established that a zoonotic spillover was “likely to very likely” the prevalent mechanism behind the transmission of the SARS-CoV-2 to humans, evidence were not considered as solid enough to properly announce the zoonotic transmission as the sole explanation for the emergence of the virus in the human population (Dyer 2021). Indeed, numerous experts were dissatisfied with the preliminary findings of the WHO mission as they noticed that the dynamics of the virus did not “correspond to the spill over model” (Frutos, Gavotte & Devaux 2021, p. 1) as well as incompatibilities regarding the manner through which the sequence of the virus evolved to infect humans (Courtier & Decroly 2021). These observations were quickly shared by an important part of the scientific community and reaffirmed by WHO virologist Marietjie Venter who, while agreeing with the WHO report, admitted that “the precursor viruses that have been identified in bats are

definitely not close enough to be the virus that spilled over into humans.”(Taylor 2022). Indeed, after more than two years of intensive research, the causative agent has still not been found in animals (Bardeau 2021). These incompatibilities, combined with the lack of concrete and compelling evidence made it difficult to draw firm and satisfying conclusions on the origins of the COVID-19.

Faced with the lack of solid evidence supporting the zoonotic theory, an alternative scenario rapidly emerged within the scientific community challenging the prevalent zoonotic spill over theory. Centred around the Wuhan Institute of Virology (WIV), one of the largest maximum-containment laboratories currently operating and located in the Jiangxia district in Wuhan, this scenario is based on the “lab-leak” theory according to which the pathogen accidentally or intentionally escaped from the WIV where it was being studied at the moment (BBC 2021; Courtier & Decroly, 2021). The close proximity of the WIV with the Huanan wet market as well as the nature of the work undertaken at the laboratory are the two main elements on which the proponents of the lab-leak theory draw their arguments. These two elements collided and crystallized into a simple question: “what are the odds?” (Engber 2021). Indeed, what were the chances that the place of origins of a global outbreak was located less than ten miles from the largest biosafety level four (BSL-4), known to handle and conduct research on coronaviruses with epidemic potential (Courtier & Decroly 2021; Wade n.d. cited in Engber 2021)? If this theory was at first considered irrational and founded on conspiratorial arguments, the reflection behind did not appear irrelevant or unsubstantiated as it reflected a certain logic, as emphasized by Andrew Read, professor of biology. Indeed, he stated that “if we had a pandemic that was sourced near to a BSL-4 lab in the U.S., the first thing you would be asking is if they were working with that pathogen in that lab” (Chow 2021). Furthermore, it was known that WIV researchers were conducting research on bat coronaviruses, including one specific virus which drew particular attention from the proponents of the lab-leak theory and allowed

them to confirm their suspicions (Courtier & Decroly 2021). Indeed, the RaTG1 bat virus, firstly documented in 2013, presented a similarity in its genetic sequence of more than 95% with the SARS-CoV-2 (Irfan 2022).

It is important to note here that if the majority of the people who conceive the possibility that the virus leaked from the Wuhan laboratory base their reflections on circumstantial evidence, some advanced that the virus was in fact knowingly bioengineered in the WIV to either disrupt the international order, reduce the number of the world population or demonize and downplay China's sphere of influence in the world. The proliferation and dissemination of these theories, which may well be considered as conspiratorial, have been facilitated by the ongoing "infodemic", which flourished in parallel with the pandemic, characterized by misinformation campaigns and continuous waves of falsified and misleading news (Pertwee, Simas & Larson 2022). While it is important to note that the scientific legitimacy of this theory is constantly questioned, especially due to its conspiratorial affiliations, the WHO recently admitted that the organization was not in possession of all the key evidence needed to establish the original sources of the virus and that it would "remain open to any and all scientific evidence that becomes available in the future to allow for comprehensive testing of all reasonable hypotheses", including the lab theory (CBS News 2022).

Identifying a virus' original locus is considered a time-consuming task as it requires the availability of data and materials that may take several years to collect, such as serum and serological samples and specimens, international cooperation between national and international health authorities and transparency (Tong, Liu & Liu, *et al.* 2021). For instance, more than forty years after the virus was first documented in 1976, scientists have still not identified with certainty the animal host that transmitted the Ebola virus to humans, (Chow 2021). Due to the demanding and lengthy nature of this process, Fidler does not

expect scientists to obtain the necessary data to firmly establish the origins of the virus in the human populations in the near future (Maxmen 2021).

While the mystery may remain unsolved for many more years, the controversies around the origins of the SARS-CoV-2 reinvigorated the attention given to the significant role of laboratories and biological research in the fight against catastrophic outbreaks of infectious diseases and the impact they can have on the prevention and control of pathogenic threats. While research activities and lab experiments are essential to preserving biosecurity, they are not entirely risk-free since they can, directly or indirectly, foster and contribute to the spread of viruses and bacteria by creating “windows of vulnerabilities” (Gerstein & Giordano, 2020). It is precisely the indirect impact that securitization had on the awareness of the existence of these windows of vulnerability that this paper seeks to demonstrate.

Biological research is a crucial component of biosecurity as it seeks to provide knowledge on living organisms, such as bacteria, viruses and parasites, and study their development through their interactions with the environments in which they evolve. Biological research is therefore a vital tool in the efforts to address, prevent and tackle pathogenic threats as it allows the scientist to “detect deadly zoonotic threats, track antimicrobial resistance, and discover new pathogens that could jeopardize human health” (CDC 2021). Due to its ability to work with all types of microorganisms, including highly lethal and hazardous ones, biological research typically falls under the scope of the “dual-use” denomination, which concerns life science research that is conducted for “legitimate purposes that generate knowledge, products, and technologies that have both beneficial and harmful applications” (Lim 2021). In other words, dual-use research is “life sciences research [...] that can be applied to provide knowledge that could directly be misapplied to pose a significant threat with

broad potential consequences to public health and safety [...] or national security” (National Institute of Health). To further emphasize the last component of the definition, i.e., the potential misuse of the knowledge generated by the research, the US government added “of concern” to the general label (Ienca & Vayena 2018). Due to its dual nature, this particular research generates many controversies and there is currently no consensus among the scientific community on its added value, making it a sensitive and thorny area to regulate, both scientifically and ethically speaking (Selgelid 2016).

One specific experiment perfectly embodies this “hotly debate” (Selgelid 2016, p.927) surrounding dual-use research. In 2012, the release of two experiments on the avian H5N1 influenza virus constituted a major milestone for the area. Through their research, two scientists, Ron Fouchier and Yoshiro Kawaoka, successfully altered the strain through a “combination of genetic engineering and serial infection of ferrets to create a mutant H5N1 virus that can be spread among ferrets without direct contact” (Roos 2012), therefore modifying the transmissibility of the virus so it could spread among mammals. These findings prompted a massive controversy among the scientific community. While the proponents of the research argued that the experiments ultimately allowed the scientists to get a better understanding of the epidemiological profile of the virus and therefore to develop effective medical countermeasures such as vaccines and overall treatments, many decried the disastrous consequences if such a virus were to escape the laboratory in which it was altered, potentially triggering a massive outbreak in the human population (Kaiser 2019). Due to its strong double-edged nature and the potential harm it could cause as opposed to its benefits, Kawaoka and Fouchier’s experiments were put under the label of “gain of function” research (GOF), a subset of the dual use research which deals with “experimentation that aims or is expected to (and/or, perhaps, actually does) increase the transmissibility and/or virulence of pathogens” (Selgelid 2016).

This specific type of research on highly lethal pathogens cannot be conducted in just any laboratory as it requires an extremely high level of biosafety due to the associated risks with a potential accidental or intentional release of the microorganisms outside of the facility (Koblentz & Lentzos 2021). According to the degree of the lethality of the microorganism under study, laboratories are classified into four categories of biosafety levels (BSL), ranging from BSL-1 which deals with infectious agents that do not cause disease to the human population to BSL-4, designed to conduct research on pathogens responsible for life-threatening diseases for which no treatment has been developed (Public Health Emergency 2015). Only BSL-4 labs, i.e. maximum containment laboratories, conduct sensitive dual use and GOF research. There are currently 59 known BSL-4 labs in the world, located mainly in North America, Europe and Asia which scope of work touches upon “diagnosis of suspected infections, scientific research to better understand the properties of pathogens, and development of new and improved vaccines, therapeutics and diagnostics” (Global BioLab Project 2021). When researching on life-threatening pathogens such as Ebola and Marburg, scientists must devote significant attention to health and international security as the data and findings generated within BSL-4 labs are extremely sensitive, which could have catastrophic consequences if they were to be accidentally or intentionally leaked, stolen and repurposed for malevolent uses, such as a bioterrorist attack or biocrime by a rogue actor or for the unregulated development of a biological warfare program (Global BioLab Project 2021). The 2001 anthrax letters attack is a perfect example to illustrate how scientific research can be repurposed and weaponized to serve malevolent interests.

Governing and regulating research that involves high-risk microorganisms therefore appears as a complex and sensitive task, mainly because it acts as a “double-edged sword” (Selgelid 2016, p. 4), especially when it involves pathogens of pandemic potential (PPP), such as the research conducted on bat coronaviruses at the WIV. One of the main obstacles to the governance of such

research lies in the vagueness of its definitions. Indeed, Warmbrod, Montague and Gronwall (2021) argue that there is currently no consensus on what dual use and GOF research actually entail, and this lack of proper definition significantly impedes on the implementation of overseeing mechanisms, especially regarding the degree of regulation that is required. An overly broad definition of the term “would impose regulatory burdens unnecessary and potentially limit the ability of the research community to conduct vital research” (p. 3) while an excessively narrow understanding could “potentially allow truly concerning research to proceed without oversight” (Warmbrod, Montague & Gronwall 2021). Furthermore, life science research is, by nature, unpredictable and the outcomes and findings of such research can hardly be predicted unless properly developed and conducted, which makes it difficult to conceive oversight mechanisms and regulatory policies (Vogel, Ozin & Suk 2015). Most importantly, such regulations could not only be considered an infringement on scientific freedom but also restrict and bias the experiment: this is known as the Collingridge dilemma (Selgelid 2016).

Whether or not the SARS-CoV-2 escaped from the Wuhan lab or not, the current pandemic and the controversies around the origins of its causative agent concretely demonstrated how intricate, yet vital, it can be to address biothreats from a comprehensive approach. It also clearly illustrated the “protect or proliferate” dilemma that lies at the heart of the biosecurity concept (Enemark 2017) as well as the need to rethink its understanding in light of the current situation and an increasing biologic threat in a foreseeable future (Gerstein & Giordano 2020). Indeed, the COVID-19 pandemic triggered a significant increase in research activities and financial investments related to infectious diseases and coronaviruses especially, as both public and private laboratories reoriented their strategies to produce massive data on the disease (Sorell & Fisher 2021). This momentum in research resulted in significant progress in life

sciences such as “the identification of neutralizing monoclonal antibodies as therapeutics, general surveillance to rapidly characterize variants of concern, and immunogens that aim to elicit lasting protection against the disease” (Munsunri, Sandbrink & Monrad 2021). While these findings are vital to the global response effort and are conducted in a genuine legitimate purpose, numerous experts have pointed out their dual-use nature and warned of the associated risks that came with it, not only related to potential leaks of the studied microorganisms outside of the lab but more generally in regards to the massive sharing and open access to sensitive knowledge that could potentially be repurposed and weaponized for malevolent use (Munsunri, Sandbrink & Monrad 2021). Lentzos and Koblenz (2021) deplored the lack of consideration for both biosecurity and biosafety implications that characterized the proliferation of pandemic research in the first months of the pandemic. Two concrete examples perfectly illustrate the lack of scrutiny for dual use consideration, not only stemming from the urgent nature of the current situation and its sense of emergency but also from a long tradition of scientific freedom.

On January 29th, 2021, an article titled “Engineering SARS-CoV-2 Using a Reverse Genetic System” published on Nature Protocols outlined how scientists can bioengineer and synthesize variants of the causative agent. The article generated radically opposite reactions and while some scientists noted the added value of the research as it provided knowledge on the evolutionary potential of the virus and its mutations, others deplored the publication of the report as it could constitute a “recipe”, a blueprint for rogue actors to bioengineer and weaponize the pathogen for malevolent uses (Lim, 2021). Similarly, Lentzos, Koblenz and Rodgers (2022) highlighted the increasingly frequent use of preprint servers, which allow scientists to post their research and experiments without subjecting their findings to the peer-review process, consequently eliminating one of the most important steps used to check the dual-use nature of the findings before disseminating it. Since the beginning of the pandemic, about fifty percent of the publications related to the SARS-CoV-2 went through

preprint servers, in comparison to the past outbreaks of infectious diseases where less than five percent of research were posted on this type of servers (Lentzos, Koblenz & Rodgers 2022)

This spike in sensitive research was accompanied by an urge to build more facilities to conduct these experiments. Indeed, since the onset of the outbreak, five countries, Russia, Taiwan, Philippines, India and the USA, presented their projects to build nineteen new maximum containment laboratories, consequently increasing the risk of biological accidents (Lentzos, Koblenz & Rodgers 2022). The current proliferation of BSL-4 laboratories is not exclusive to the current situation as similar efforts were already noted following the anthrax attacks in 2001, a period that was characterized by the proliferation of biodefense activities and programs (Atlas & Reppy 2005). Consequently, experts noted the correlation between biological preparedness and pandemic response and a growing demand for BSL-4 labs. Koblenz and Lentzos (2021) argue that the rise in infectious diseases these last decades, as well as the global trauma left by the anthrax letters, stimulated the need for high-security laboratories. This proliferation of BSL-4 labs is not devoid of risks, as “no lab is perfect, and even well-run facilities suffer breaches” (Eaves 2020). Indeed, lab accidents are a reality and even if they remain rare, they do occur, as they did in the past. While notifications of most accidents are not released, biosafety and biosecurity accidents are documented every year throughout the world (George 2021). This important proliferation is even more concerning as the majority of countries hosting BSL-4 labs do not have effective biorisk mechanisms and regulatory procedures that oversee the research conducted inside the facilities. Indeed, according to the Global BioLab project (2021), only six countries out of the 23 possess comprehensive biosecurity and biosafety policies, scoring high on the Global Health Security Index, leaving the remaining countries without proper biorisk management. Furthermore, the

project revealed that the majority of the hosting countries do not have regulatory frameworks on dual-use research and overseeing procedures that assess the potential risks associated with GOF research on pathogens with epidemic potential.

If no incidents related to BSL-4 have been documented in recent years, the risk is not likely to decrease over the coming years as “there will soon be thousands of laboratories around the world capable of producing bugs with awesome lethal potential” (Fidler 2007, p. 137). While this additional technical expertise and resources significantly strengthen biological preparedness and foster advances in public health by producing knowledge to better anticipate the next pandemic, it also increases the risk of intentional or unintentional outbreaks of infectious diseases. Indeed, the more infrastructures capable of genetically altering microorganisms are built, the greater the possibility of accidental or intentional leakage, as “more access means more risks” (Ebright & Connell 2002).

If scholars deplored the lack of oversight mechanisms and regulatory procedures at the national level, they also pointed out the lack of regulations at the international level. Indeed, while it exists an international treaty that addresses biotreats, the Biological and Toxins Weapons Convention on on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC) under which all hosting countries reported their BSL-4 labs, there is currently no supranational body attached to the Convention that oversees and standardize national and international biosecurity and biosafety norms (Global BioLab Project 2021), which forces the Convention to only rely on confidence-building measures (CBMs) (Saunders 2021). It has therefore been argued that the BWC is no longer able to address the current biotreats and one of the most common criticism when it comes to hazardous biological agent work is the lack of a supranational entity specially mandated to oversee and collect biosecurity and biosafety data at a global level, while ensuring that minimum safety protocols

are being respected and enforced in high-security labs (Global BioLabs Project 2021). In the absence of international oversight and cooperation, biorisks will not be able to be adequately mitigated as “a failure in biosafety or biosecurity anywhere in the world could have repercussions around the globe” (Lentzos, Koblenz and Rodgers, 2022, p. 26), not only in terms of public health but also regarding national and international security, as demonstrated by the ongoing pandemic.

The securitization of the COVID-19 pandemic revealed a security rationale that was not present in previous securitizations, as demonstrated by the analysis of the 2014-2016 Ebola outbreak. If the outbreak of the virus was firstly labelled as an existential security threat because of the devastating socio-economic implications it had on the majority of the countries, the global awareness triggered by the controversies around the origins of its causative agent compelled governments and authoritative figures to consider the threat through a biological lens. This formal recognition of the significance of the biothreat has been substantially initiated and levered by the fact that the human factor was involved through the WIV, in comparison to the Ebola outbreak, whose origins have not been subject to these types of controversy. The indirect labelling of the COVID-19 pandemic as a biological threat significantly renewed debates around biosecurity and how to effectively and adequately address pathogenic threats. The momentum in dual use research as well as the uncontrolled growth in maximum containment labs clearly illustrate the irony of the “protect or proliferate” dilemma that is at the heart of biosecurity (Kerr 2022). While one could argue that the issue is unique to the current situation due to its urgent character caused by the rapid transmission of the virus and the devastating socio-economic consequences affecting the majority of countries, numerous experts have been raising the alarm about the proliferation of unregulated

biological research and biodefense activities (Fidler 2007). Furthermore, the biological landscape is rapidly evolving, not only due to the spike of naturally occurring infectious disease outbreaks but also because of the recent advances in sciences and rise in synthetic biology and the way biosecurity is thought of today is not suited for what the future holds regarding pathogenic threats. To face the degradation of the biological environment, debates must not only be renewed but biosecurity needs to be rethought in order to propose a new comprehensive approach to mitigate the windows of vulnerability that are induced by human practice. While the current pandemic is still ongoing, the next large-scale biological event is closer than one may think (Smitham & Glassman 2021), it essential to improve the global understanding of biosecurity in order to adequately address “the full range of biological threats that humankind and the global environment will face in the future” (Gerstein & Giordano 2020).

Conclusion

This paper aimed to address the extent to which the current pandemic has reignited the debates on the concept of biosecurity and impacted how the international community apprehends biological threats as a whole, i.e. naturally occurring outbreaks of infectious diseases and the intentional misuse of the biological pathogens. In an attempt to answer this research question, one of the most prominent theories of the international relations' areas, the securitization theory, was utilized and applied to two relevant cases study. The first case, dedicated to the study of the 2014-2016 Ebola Virus Disease outbreak in West Africa, served as a "benchmark" to highlight the singularities of the securitization of the second health issue, the SARS-CoV-2 current outbreak. Indeed, the COVID-19 crisis was not the first health challenge to be securitized and labeled as a security issue. The 2014-2016 EVD outbreak was similarly advanced as a threat to international peace and security due to the massive spread of its causative agent, its high mortality ratio, and the increasing political instability it generated in the affected countries. The securitization of the EVD appeared evident as soon as cases began to be documented outside of the endemic African countries, especially in the US. The demonstrated securitization of the EVD made it a compelling case study to analyse the singularity of the securitization of COVID-19 not only as both were clearly advanced as existential threat to peace and security by national and international authorities but also because the two outbreaks possessed similarities in their epidemiological features and dynamics.

The focal point of this paper was therefore centred around the current COVID-19 pandemic, and the manner through which it was presented and labelled as a security issue. The sentence "We are at war", used repeatedly by state leaders and authoritative figures in early 2020, perfectly summarizes the securitization

of the ongoing COVID-19 pandemic, caused by the SARS-CoV-2 virus. Unlike previous infectious disease outbreaks, the current coronavirus outbreak, the largest-ever recorded, has been portrayed as a significant security threat since the very beginning of the onset. Indeed, in addition to the high morbidity and mortality rates generated by the robustness and rapid transmission of the virus, the pandemic generated devastating social and economic consequences, affecting the vast majority of the countries across the globe. The novel and unprecedented nature of the ongoing crisis is perfectly captured in Milani's words (2020), when she highlights the "worldwide anthropological experience of fear and death in such a short span of time. Covid-19 has expanded as a security threat that is essential in scope", reaching "individuals in direct, palpable and conspicuous ways. It has touched everyone's neighbourhood, families and many households" (Milani, 2020 cited in Albert, Baez & Rutland 2021, p. 144).

One could say that the international community was caught off guard by the rapid spread of the virus and was therefore not prepared to face and deal with an outbreak of these proportions. Health systems of even the most developed countries have been significantly weakened to the point of collapse due to the endless flow of affected patients, lack of appropriate medical supplies such as surgical masks and ventilators and shortage of healthcare workers. In many countries, the COVID-19 pandemic acted as a revelator and precipitator of the public hospital crisis that has plagued public healthcare systems for years (Freyssenet 2022). Furthermore, the pandemic negatively impacted the economic power of the majority of the countries by significantly perturbing their import and exports flows, affecting stock markets and economic gains. This economic downturn, considered the worst recession since the Great Depression, triggered a major labour market crisis, with millions of people losing their jobs and daily sources of incomes, significantly deteriorating their socio-economic conditions. According to estimates produced by the World Bank, around 120

million people were pushed below the poverty threshold during 2020 (Klobuscista 2021). In light of the devastating implications of the virus, the pandemic was therefore labelled as an existential threat by state leaders and supranational institutions, revealing unprecedented dynamics between the fields of health and security and marking a significant turning point in the imbrications of two policy words that were traditionally thoughts of as “distant strangers” (Fidler 2007).

The comparative analysis between the two cases of securitization of infectious diseases allowed to illustrate the particular indirect consequences that the securitization of the COVID-19 pandemic generated. While the two securitizations bear similarities, the framing of the COVID-19 as a threat to national and international security went beyond issues related to purely medical aspects, such as the high mortality and morbidity rates caused by the virus. Indeed, it revealed a new rationale, located at the exact intersection between the fields of health and security. The field of biology and scientific research in general, which one may think confined to scientific considerations, abruptly came under the spotlight when theories around the origins of the SARS-CoV-2 began to emerge, including one founded on a potential leak of the virus outside of its containment environment and the direct involvement of the Wuhan Institute of Virology, one of the largest high-security labs currently operating in the world. While none of the theories is confirmed as of today due to the lack of solid scientific data and evidence, the controversies around the emergence of its causative agent significantly renewed the debates around the concept of biosecurity and the need to address pathogenic threats as a whole, and not only from a scientific angle. Indeed, the ongoing pandemic urged states and international authorities to recognize the fact that “biology has the ability to topple governments and to create instability in entire global systems” (Kerr 2022, p. 12) and showed that biological, either naturally occurring or man-made, do constitute real and concrete threats.

The renewal of the biosecurity debates generated by the securitization of the pandemic specifically touched upon biological research and laboratory practices and the role they play in the prevention, control and fight against pathogenic threats. If these activities are vital to preserving biosecurity, they cannot be considered risk-free. Indeed, there is no such thing as a zero risk when conducting research on some the most dangerous and lethal pathogens, even if these experiments are carried out in high-security environments, i.e. BSL-4 laboratories. While such experiments are essential for the advancement of science, they nevertheless contribute to the proliferation of “windows of vulnerability”, directly fostered by human practice (Gerstein & Giordanano, 2020). On this point, experts have argued that the most concerning point of all of this is that most of these activities and experiments are conducted within a poor regulatory framework, which prevents the implementation of comprehensive oversight mechanisms and international scrutiny needed to minimize and mitigate biorisks (Koblentz & Letzos, 2021). The rapid proliferation of scientific papers on coronaviruses and other pathogens of pandemic potential coupled with the recent growth in BSL-4 laboratories demands perfectly illustrate the complexity of addressing effectively and comprehensively the “protect or proliferate” dilemma advanced by Enemark (2017) that lies at the heart of the biosecurity concept. Yet, it is essential for states and international actors to find an effective balance between these vital components and, more importantly, to mark a rupture with the practices of the past, which significantly disregarded key biosecurity issues (Gerstein & Giordano 2020). As the biological landscape is evolving rapidly, national and international security standards must be able to keep up in order to address the “full range of biological threats that humankind and the global environment will face in the future” (Gerstein & Giordano 2020.). This last point is particularly important as experts and researchers are unanimous on the fact that the question is not longer *if* an outbreak of catastrophic proportions will occur but *when* it

will occur (Relman 2021). According to Kerr (2022), the next pandemic is likely to be caused by an influenza virus and might occur sooner than later. While experts have claimed that states, and the international community as a whole, were ill-prepared to face a deadly outbreak, national and international actors must now capitalize on the COVID-19 experience to better prepare, anticipate and control the future pathogenic threats.

If “biosecurity is the lesson we need to learn from the coronavirus pandemic” (Gerstein & Giordano 2020), policymakers must now integrate the biosecurity reflexions generated by the debates around the origins of the SARS-CoV-2 and commit to address pathogenic and more globally biological threats, whether naturally occurring or man-made, in the same way as they address other conventional threats, such as terrorism (Albert, Baez & Rutland 2021). The current situation shows that the policy worlds of health and security have ultimately collided to shed light on the significance of the biosecurity debates, but numerous experts have claimed that these reflections are useless if they are not integrated into the global security agenda (Kerr, 2022).

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