An ethical framework within which to uphold epistemic standards during a public health crisis
Lessons learned from COVID-19

Introduction

Most individuals wouldn't find any difficulty in identifying the ethical disaster that a racially discriminatory slur represents, let alone one spoken by the head of a state. In many countries, such an act would represent the end of any political career. Yet, when it comes to science, the complexity of the epistemic claims being made often makes it hard to identify the ethical boundaries that should determine what is acceptable to say by someone in a position of power; and by extension, what epistemic standards to enforce in political conversations and what measures to adopt to combat the spread of misinformation on platforms such as traditional and social media. Currently, there are no ethical frameworks within which to determine these boundaries, and this has led to ethically problematic events, which became especially apparent during the COVID-19 pandemic. In Madagascar for example, scientific evidence on Artemisinin was wrongly portrayed, politicised and even commercialised to sell soft drinks which were promised to "cure" COVID-19 by the president himself (Finnan, 2020); whilst in the USA, President Trump famously suggested injecting disinfectant to combat the virus (Clark, 2020); and in the world, vaccine misinformation has left some countries facing severe hesitancy problems (Sallam, 2021). At the same time, in cases such as the Great Barrington Declaration (GDB) (Kulldorff, 2020), scientists highly respected within their profession have been discredited and marginalised because their views do not conform to the scientific orthodoxy, which in the UK is represented by a very small and homogeneous group of experts accused of 'groupthink' by a recent parliamentary report (House of Commons, 2021).
These are just a few examples indicative of some important, but unanswered, questions:

(i) Whose opinion matters when it comes to science in a public health crisis? How can decision makers ensure that a plurality of views informs policy without allowing erroneous and ultimately harmful knowledge to shape government action?
(ii) Should every scientific claim be given a platform during a public health crisis? What should the limits to free speech and epistemic pluralism be during a pandemic? How can we distinguish between misinformation/fake news and valid claims that do not conform to a particular orthodoxy?

Literature Review

Peter Singer's "Practical Ethics" provides an important foundation on which to explore these questions and to ground the research into a solid structure of ethics, avoiding the traps of moral relativism and deontology (Singer, 2011). Furthermore, a key illustrative perspective will be drawn from his definition of the 'moral point of view': "One must give equal weight in moral deliberations to the like interests of all those affected by one's actions. The principle of equal consideration does not depend on a belief in factual equality, the belief that all people or all interest-bearers are actually equal in relevant physical and mental respects" (Singer, 2011).

In a 2017 article, John engages in an in-depth discussion regarding the ethics of science communication. He argues against 'wishful speaking', which is defined as "the communication of ill-established claims for non-epistemic ends" (John, 2017). More recently, Lohse & Beschir outlined the dangers of insufficient epistemic pluralism in evidence-based public health policy during the COVID-19 pandemic (Lohse & Beschir, 2020). Moreover, Garvin showed how "Scientists, policy makers, and the public employ scientific, political, and social rationality, respectively; and how these differing forms of rationality reflect underlying

epistemological distances from which considerable misunderstandings and misinterpretations can develop" (Garvin, 2001). Another report showed how scientific evidence is often not used by politicians as the objective tool in policy contexts that we assume it is (Stewart & Smith, 2015).

An additional interpretative framework that will be used to explore the questions presented above will be that of virtue epistemology (Stanford Encyclopedia of Philosophy, 2021). Through this approach, it will be possible to examine the virtues and vices of making epistemic claims during a public health crisis and what "epistemic injustice" might represent within this context (Fricker 2007). Relevant to this field, an article published by Meyer et al attempted to determine why mistaken beliefs about COVID-19 so prevalent and found that epistemic vice is a strong predictor of COVID-19 misinformation (Meyer et al, 2020). Another article which analysed on-line epistemic interactions during COVID-19 argued against open-mindedness when engaging with "polluted" media feeds (Battaly, 2021). Moreover, the concept of "epistemic humility" has been recently proposed in an article which analysed epistemic claims during COVID-19 and concluded that "non-knowing must be recognized explicitly as an enduring and central condition in decision-making" (Parviainen, 2021).

Although a substantial amount of research has been conducted in the fields of ethics and virtue epistemology, with some articles relevant to COVID-19, there are no currently published studies which use the COVID-19 pandemic to explore the ethical importance of upholding epistemic standards amongst all stakeholders (policy makers, scientists, the media and the public) in the context of a public health crisis in order to build a comprehensive framework to address this issue.

Aims

This study will use the overarching questions presented above as an interpretative framework to analyse COVID-19-related case studies as the main narrative context. The aim of the study will be to develop an ethical framework that attempts to determine which epistemic standards:

(a) Should be fulfilled for scientific claims to enter political conversations in the context of a public health crisis.
(b) Should be adhered to by politicians and governmental institutions when communicating science to the public during a public health crisis.
(c) Should be enforced/promoted on traditional and social media platforms during a public health crisis.

Case Selection, Materials and Methods

The first section of the study will be dedicated to defining the term "epistemic standards", which is central to this analysis. Subsequently, the ethical framework described above will be informed and built by considering these standards in the real-world context of the following COVID-19 case studies:

Ethical and epistemic misalignments within scientific communities during the COVID-19 crisis: ***The GDB*** *vs the* ***John Snow Memorandum (JSM)***

The story of these two scientist-led opposing opinions gives scope to answer the following question: do we have a strong ethical framework within which experts can effectively communicate science during a pandemic? How can we assess the validity of contradicting epistemic claims during a pandemic? What does the media and political response to these two declarations reveal about the distinction between factual equality and equal consideration? When factual equality cannot be determined, should equal consideration be given to contradicting claims? What does it mean in practice to give equal consideration to two opposing claims?

These questions will be answered by analysing dysfunctions:

(i) Between scientists: Which ethical issues arise in the case of epistemic disagreement between experts during a pandemic? How should these disagreements be resolved in the future?

⇒ ***Methodology*:** The nature of the debate was purposefully public, and exchanges between the two groups are publicly available; these will be investigated through in-depth qualitative content analysis to consider the questions presented above. Additionally, structured in-depth interviews with the key scientists from each side will be conducted.

(ii) Between scientists and the media: How did the media represent the GBD and JSM? Why was the GBD presented as a fringe view and ultimately discredited? What should the role of the media be when reporting on opposing expert-lead opinions?

⇒ ***Methodology*:** A media analysis will be conducted. Inclusion criteria will be opinion, news, and feature stories published in print or online in English on the GBD and JSM. Databases will include Ebsco Host and Google News.

(iii) Between scientists and politicians: who did politicians ultimately listen to?

⇒ ***Methodology*:** Policy reports will be analysed to determine to which extent these two stances informed policy. Additionally, structured in-depth interviews with key policymakers will be conducted.

Ethical issues with pseudoscience and misinformation amongst non-experts during the COVID-19 crisis: from politicians to the public on ***vaccine hesita****ncy and the consumption of* ***fake COVID-19 remedies***

This section will aim to answer the following questions: how should the value of free speech and epistemic pluralism in public deliberation be balanced with the need to limit the spread of misinformation? Is misinformation the price to pay for freedom of speech - i.e., are conspiracies theories and misinformation inevitable when everyone has freedom of speech? Should some views be censored and who should decide? Should censorship require a lower threshold during public health emergencies?

Chlorine Dioxide, **Artemisinin**, **Hydroxychloroquine** and **Ivermectin.** These remedies have a body of literature which provided some data on their possible use in combatting COVID-19. However, ultimately, this data was not sufficient to warrant their use. Despite this, incomplete knowledge was used by decision makers and believed extensively by certain audiences. This case study will be used to consider the following questions: To what extent do fake remedies/treatments point to blind spots in scientific understandings? When does a non-proven remedy or treatment become a fake? Who gets to decide what is fake and what is real and on what basis?

⇒ ***Methodology*:** A review of the scientific literature on these remedies will be conducted and compared to how they were portrayed in public discourse (e.g. traditional/social media, political speeches/statements). Do these portrayals reveal an incapacity (or unwillingness) to deal with scientific uncertainty? Do they reveal epistemic hierarchies and power dynamics in the use of science in policy?

Vaccine policy and hesitancy. Vaccine hesitancy is an issue that pre-dates COVID-19. However, this pandemic gave vaccine misinformation a particularly amplified platform, to the point in which vaccine hesitancy became a relatively mainstream, rather than fringe, view. Traditional and social media became platforms for both mitigating the damage of misinformation and spreading it. This case study aims to analyse the dysfunctions in how traditional and social media were used to misrepresent vaccine-related data and expert testimonials; and the role that decision makers played in these dynamics. Furthermore, it aims to consider whether the potential that traditional and social media platforms have to combat misinformation outweighs the potential damage they could cause by spreading it.
A discussion regarding the ethical issues that arise as a result of vaccine misinformation will be developed through the following subsections:

(i) Were Facebook's and Twitter's strategies to combat vaccine misinformation sufficient? Should these platforms be prohibited, allowed or obliged to censor misinformation during a public health crisis?

⇒ ***Methodology***: Facebook's and Twitter's publicly available policy on combatting vaccine misinformation will be analysed to examine the theoretical basis of their strategy to consider the ethical issues that arise as a result of the spread of vaccine misinformation. Subsequently, examples on how these policies were put into place be analysed through qualitative content analysis. These will include instances of: direct censorship, addition of "information bubbles" on relevant posts and individual "ad-like" posts aimed at vaccine education.

(ii) What were the sources of misinformation and information regarding COVID-19 vaccines used by traditional media platforms? What are the ethical implications of using these platforms? To what extent should misinformation be censored during a pandemic?

⇒ ***Methodology***: A collection of print and online-published articles which advocate vaccine misinformation will be collected and analysed qualitatively. Search engines such as Ebsco Host and Google News will be used. Key words will be "COVID-19 vaccine". Inclusion criteria will be: articles in English, published from Sep 2020 to Nov 2021 and presenting a negative portrayal of the COVID-19 vaccine. A minimum of 50 articles will be selected and an in- depth qualitative analysis will be conducted. Sources of information and misinformation for each article will be identified and their use within the narrative of the text will be examined to discuss their ethical implications.

How will this project impact current literature and society at large?

One of the key predictors of future success is the ability to learn from past mistakes. By defining epistemic standards, analysing some of the dysfunctions in the transfer and use of scientific claims during the COVID-19 pandemic and using them to create an ethical framework within which to uphold those standards during a public health crisis, I hope to start a conversation, academic and otherwise, on the importance of their formalisation. The multidisciplinary nature of the research plan proposed here aims to bring together the knowledge and perspective of humanities, social and natural sciences, creating a new kind of expertise, specifically tailored to the issues that are most relevant in today's society. Further, I believe that this project has the potential to directly influence policy in future pandemics as well as in wider issues of health and science by providing much needed guidance on how to navigate and set epistemic standards in real-world settings.

Suitability for Hubiomed

This doctoral project corresponds to the interdisciplinary dynamics of the "Biomedical Humanities" Initiative. It is more specifically part of the third research axis devoted to the ethics of biomedical research but also of the first axis devoted to the history of medical sciences and the representations of medicine. It is also strongly related to the One Health research axis.
The two supervisors will be offering the global and complementary expertise inherent in the biomedical humanities. On the one hand, Claire Crignon will provide an expert view of the philosophy of medicine and fundamental and applied ethics. She is currently working on mistrust in medicine. On the other hand Renaud Piarroux, head of the parasitology care unit at the Pitié-Salpêtrière Hospital, is a well know specialist on epidemics and strongly involved in research on the origin of pandemics and their management. He will ensure that the doctoral student has access to the field and to his team's research.

Required profile

The PHD candidate will be strongly involved in the research cluster activities : PHD seminar organisation, workshops and conferences, building international collaborations, involvement in teaching (One Health Master Degree, Minor Health and Innovation).

Supervisors, publications related to the project

Claire Crignon, *A qui appartient le corps humain ? Médecine, philosophie et droit*, avec Marie Gaille, Paris, Belles Lettres, 2004.
Claire Crignon, *Qu'est-ce qu'un bon médecin ? qu'est-ce qu'un bon patient ?* avec Marie Gaille, Paris, Seli Arslan, 2010.
Claire Crignon, *Médecins et philosophes : une histoire*, avec D. Lefebvre, Paris, CNRS éditions, 2019.
Renaud Piarroux, *La vague*, CNRS éditions, Paris, 2020.
Choléra, Haïti 2010-2018, Histoire d'un désastre, Paris, CNRS éditions